



Deutscher Akademischer Austauschdienst
German Academic Exchange Service

Wissenschaft weltoffen

Facts and Figures on the Internationalisation of
Studies and Research in Germany and Worldwide



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25 years of
Wissenschaft
Weltoffen

Nicolai Netz | Jan Kercher | Naomi Knüttgen | Inessa Fuge





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FOREWORD

The internationalisation of studies and research in Germany and around the world is making dynamic progress, with the **number of internationally mobile students and researchers growing continuously**. It is encouraging to note, firstly, that Germany is now firmly established as the most important non-English speaking host country for international students and, secondly, that international mobility among academics and researchers from and to Germany continues to rise. In the 2024/25 winter semester, for the first time, more than 400,000 international students were enrolled at universities in Germany. Moreover, the number of international academics and researchers contractually employed at universities and non-university research institutes in Germany reached a new all-time high of approximately 83,000 in 2023.

Nonetheless, it takes more than just numbers to properly evaluate the status of internationalisation in Germany and around the world. The relevant facts and figures must also be correctly interpreted and put into context. The *Wissenschaft weltoffen* publication series has been providing this service for more than 25 years. The data basis of *Wissenschaft weltoffen* is now a **central source on student, academic and researcher mobility in Germany and other major host countries and countries of origin**. Building on this foundation, the publication facilitates the continuous monitoring of relevant aspects of internationalisation. It is thus an essential framework for formulating and implementing measures at the level of the universities, research institutes and politics.

Given the highly dynamic nature of internationalisation processes, it is crucial that the concept and data basis of *Wissenschaft weltoffen* be kept up to date at all times, thereby ensuring the contents are adjusted flexibly in response to current events. In this 25th edition, therefore, the *Wissenschaft weltoffen* **data basis has been extended once again**: Chapter A now devotes two separate double pages to student mobility in the European Union and the European Higher Education Area. For the first time, Chapter B offers a detailed comparison of the new official figures published by the German Federal Statistical Office on the numbers of international and domestic students who drop out of their studies. Chapter C presents new findings on the international mobility of German students, taken from the BinHo survey conducted by the DAAD, this time looking at organisation and funding as well as virtual experience abroad. Lastly, the new Chapter F, introduced in the last edition of *Wissenschaft weltoffen*, presents data on international administrative staff at universities in Germany for the first time.

The two spotlights in this edition feature the topics of “Mobility and career plans of international doctoral students in Germany” (Chapter D) and “The state of virtual internationalisation at higher education institutions in Germany” (Chapter F).

Once again, this edition is accompanied by a number of **new features on the *Wissenschaft weltoffen* website**, which can be found as usual at www.wissenschaft-weltoffen.de/en/. Readers can download all figures presented in this publication as graphic files or data tables for their own purposes (based on a CC license). Furthermore, the website now includes additional interactive diagrams on international student mobility, showing flows to Germany and all over the world. We are delighted that researchers, universities, the media, political organisations and interested third parties make extensive use of the data published in *Wissenschaft weltoffen*.

Furthermore, as of this issue, there is an **important change in the *Wissenschaft weltoffen* editorial team**: following in Dr. Ulrich Heublein's footsteps as project head at the DZHW, Dr. Nicolai Netz has already introduced numerous revisions and optimisations thanks to his fresh perspective. Additional enhancements will be implemented gradually in future editions of *Wissenschaft weltoffen*. We would like to take this opportunity to thank Dr. Ulrich Heublein once again for his many years of exemplary and untiring commitment to the ongoing development of *Wissenschaft weltoffen*.

As ever, the **DAAD and the DZHW would like to thank** Christiane Zay and wbv Media for the graphic design and realisation of the project results. Special thanks also go to the Federal Statistical Office, the universities, funding organisations, non-university research institutes and preparatory colleges (*Studienkollegs*) that took part in our surveys, as well as other agencies who provided information and data for *Wissenschaft weltoffen 2025*. Last but by no means least, we would like to thank the Federal Foreign Office and the Federal Ministry of Research, Technology and Space, who funded this publication.



Dr. Kai Sicks
Secretary General of the DAAD



Dr. Marcus Beiner
Scientific Director of the DZHW

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To accompany this publication, further information is available online under the following address:
<https://www.wissenschaft-weltoffen.de/en>.

In the “Data” section, you can download all figures (as PNG files) and the corresponding data tables (as Excel files) in their latest edition, along with additional data tables. Moreover, you will find all previous editions of *Wissenschaft weltoffen* as linked PDF files in the “Publication” section. Relevant data tables on the various figures can be downloaded (as Excel files) by clicking the  Download symbol.

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In addition, the DZHW maintains a service point, which advises parties on using the data pool of *Wissenschaft weltoffen* according to their individual requirements. This service is free of charge for universities, academics and researchers.

Please address enquiries to: wissenschaft-weltoffen@dzhw.eu



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SUMMARY: DEVELOPMENT OF THE INTERNATIONALISATION OF STUDIES AND RESEARCH IN GERMANY AND WORLDWIDE

International academic mobility (Chapter A)

According to UNESCO, around 6.9 million students were enrolled outside their home country in 2022. Following the slowdown in mobility in 2021 due to the Covid-19 pandemic, the number of internationally mobile students rose once again by roughly 428,000 students (+7%) until 2022 and was thus even higher than in 2020 (6.6 million). Since 2012, the number of internationally mobile students has surged by roughly 2.8 million or 68%.

The US led the field again in 2022 as the key host country for international students. Following a decline in 2021 (approximately 833,000) due to the pandemic, the number of international students in the US recovered slightly in 2022 (approximately 874,000). The largest flows of international student mobility lead from China, by a clear margin the most important country of origin, to the US and the United Kingdom, along with India to the US. Overall, approximately one million students from China were enrolled at universities abroad in 2022. Compared to the previous year (2021: 1,017,208), their number increased only marginally by 0.5%. Their share of all internationally mobile students worldwide declined from the record high of 17% in 2018 to 15% in 2022.

The data situation on internationally mobile academics and researchers at host universities abroad is significantly less conclusive than that

relating to internationally mobile students. To date, there are no internationally comparable UNESCO or OECD statistics on this subject similar to those on global student mobility. Looking at the 15 host countries for which data were collected as part of *Wissenschaft weltoffen*

“ Scoring roughly 79,700, Germany is the second most important host country for international academics and researchers worldwide, ahead of the United Kingdom (74,100).

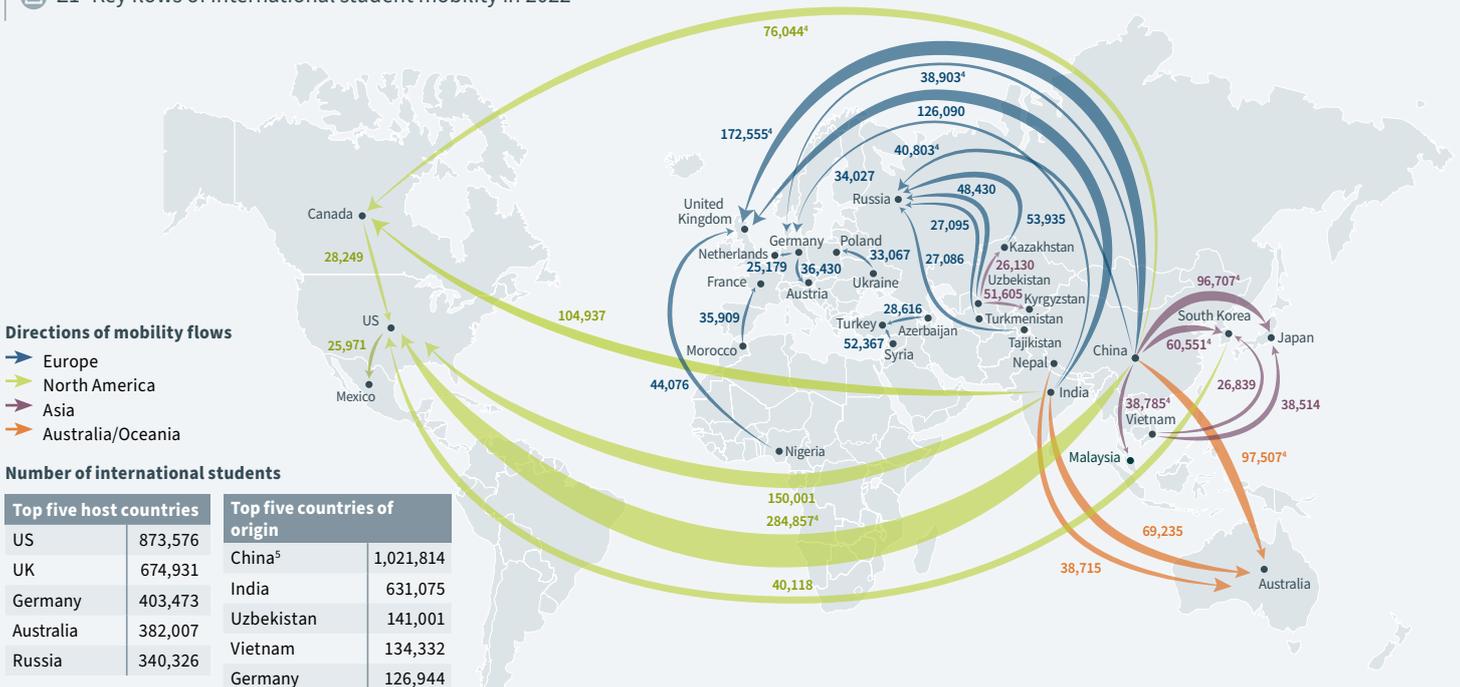
2025, the US tops the list as the key host country in the 2021/22 academic year, with around 90,900 international academics and researchers at universities in the US. Although this figure appears to have recovered after declining due to the Covid-19 pandemic (2020/21: 85,500), it is still well below the pre-pandemic level of roughly 123,500 international academics and

researchers in the 2019/20 academic year. Once again, scoring roughly 79,700, Germany nudges into second place in the host country ranking of international academics and researchers among the countries considered, ahead of the United Kingdom (74,100), with Switzerland (32,700), France (18,500) and Austria (15,000) trailing some way behind.

International students in Germany (Chapter B)

The number of international students at universities in Germany continued to rise in the 2024/25 winter semester. During this time, approximately 402,100 international students were enrolled in Germany, roughly 6% more than in the 2023/24 winter semester. They represented 14% of all students in Germany.

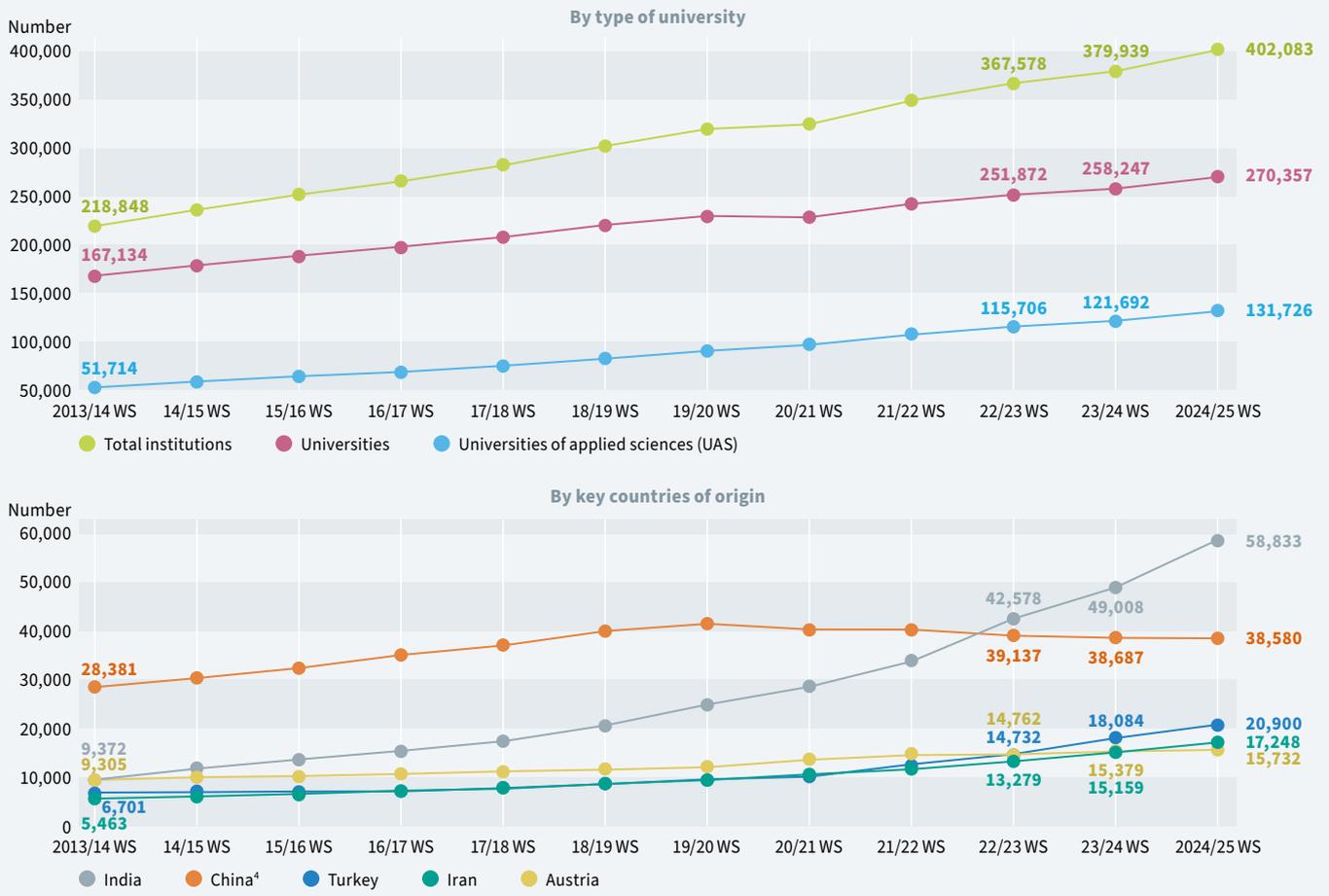
Z1 Key flows of international student mobility in 2022^{1,2,3}



Figures in absolute student numbers

Sources: UNESCO/OECD, student statistics; Universities of the Netherlands, university staff statistics; country-specific reporting periods; DAAD calculations

Z2 International students in Germany by type of university and key countries of origin since the 2013/14 winter semester⁷



Source: Federal Statistical Office, "Statistik der Studierenden"

In the 2023 academic year, roughly 116,600 international first-year students⁶ – more students from abroad than ever before – embarked on their first degree programme at a university in Germany.

“In the 2024/25 winter semester, 14% of all students at universities in Germany were international students.”

In the 2023/24 winter semester, Asia and Pacific was the key region of origin of international students with a share of 33%, followed by North Africa and Middle East (19%) and Western Europe (15%). The numbers of students from Asia and Pacific plus North Africa and Middle East have increased at a similar pace since the 2018/19 winter semester (+36% and +37%, respectively). However, the number of students from North Africa and Middle East only rose by 3% between the 2022/23 and 2023/24 winter semesters. The number of students from Eastern Europe and Central Asia also increased between the 2018/2019 and 2023/24 winter semesters (+20%), largely due to the increased enrolment of Ukrainian students at universities in Germany. India has been the key

country of origin of international students in Germany since the 2021/22 winter semester. The number of students from India shot up by 186% to roughly 58,800 between the 2018/2019 and 2023/24 winter semesters. They accounted for almost 15% of all international students enrolled in Germany in the 2024/25 winter semester. With just under 10% of all international students, China was the second most important country of origin in the 2024/25 winter semester. Since the 2018/19 winter semester, their number has dropped by 4% to roughly 38,600.

In the 2023/24 winter semester, the overwhelming majority of international students (93%) were intending to graduate from a university in Germany. Just 25,000 (7%) were visiting or exchange students. The number of international students not intending to obtain a degree thus recently plateaued slightly below pre-pandemic level.

Of the international students intending to graduate in Germany in the 2023/24 winter semester, 38% were enrolled in a bachelor's programme and 48% in a master's programme. The share of international students of all master's students amounted to roughly 26%, compared to 8% of all bachelor's students. Some 28% of doctoral students were

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international junior researchers.

At approximately 43%, the largest group of international students pursuing a degree in Germany in the 2023/24 winter semester were enrolled in engineering programmes. 25% of international students intending to graduate in Germany were studying law, economics or social sciences. In addition to engineering (21%), above-average proportions of international of all students were found in the subject groups of art and art history (17%) and mathematics and natural sciences (14%).

Students from Germany abroad (Chapter C)

In 2022, the Federal Statistical Office recorded approximately 138,800 German students abroad; this figure has declined by a good 2% (approximately 141,200 students) since 2016. Nonetheless, the number of German students abroad has quadrupled since 1991 and more than doubled since 2000. These students are predominantly, but not exclusively, seeking a degree abroad. In 2022, the most popular host countries of German students abroad were again Austria (around 37,800 students or 27% of all German students abroad), the Netherlands (22,600 or 16%), Switzerland (12,500 or 9%) and the United Kingdom (9,600 or 7%). While the number of German students abroad has gone up notably since 2019 in the first three countries, it has plummeted in the United Kingdom (-32%).

A closer look at the development in the numbers of German students abroad shows that, in the period between 2002 and 2010, in other words, during the introduction of the new, tiered study system, above-

average growth rates of 10% and more were achieved per year. During this period, the proportion of students abroad in relation to the total number of German students rose from 3.3% to 5.6%. This suggests that many students took advantage of the option provided by the new study system of following a bachelor's programme in Germany with a master's programme abroad. Since the new types of degree were introduced, however, the absolute number of German students abroad has not continued to rise. Due to the steady growth in the number of students in

“ The number of German students in the United Kingdom plummeted from around 14,100 to around 9,600 between 2019 and 2022 (-32%).

Germany up to 2015, their share of all German students even fell slightly to 5.2% in 2022.

The development was slightly different for temporary study-related visits abroad undertaken by students from Germany. Between 1991 and 2000, the share of domestic students in later semesters with temporary visits abroad shot up from 20% to 32%, subsequently stabilising at this level until 2006. Since then, however, this percentage has dwindled to 19% in the most recent survey in 2021.⁸ In contrast to the case of degree-related international mobility, the introduction of the two-cycle study system of bachelor's and master's programmes was thus not

Z3 Degree-related and temporary study-related international mobility of German and domestic students in Germany since 1991⁸



Sources: Federal Statistical Office, "Deutsche Studierende im Ausland" survey; country-specific reporting periods; DSW/DZHW, Social Surveys 1991 to 2016; DZHW, The Student Survey in Germany (2021); DZHW calculations

accompanied by an increase in temporary study-related international mobility. In fact, temporary international mobility even declined during this period and continued to do so after the introduction of the bachelor's and master's system. In comparison to degree-related international mobility, striking differences can also be observed in terms of the host countries favoured for temporary study-related international mobility. As the most popular host country, the United Kingdom accounts for almost 10% of all temporary visits abroad undertaken by students from Germany, followed by France (9%), Spain (8%) and the US (6%).

International academics and researchers in Germany (Chapter D)

In 2023, roughly 65,500 academic and artistic staff with foreign citizenship were employed at universities in Germany, including roughly 4,100 international professors. Thus, international personnel accounted for over 15% of the entire academic staff at universities in Germany, whereas international professors made up just 8% of the total professorial body. Since 2013, the number of all international academic staff at universities in Germany has grown continuously, by 32% since 2018 alone. Among international professors, this increase was 21% over the same period.

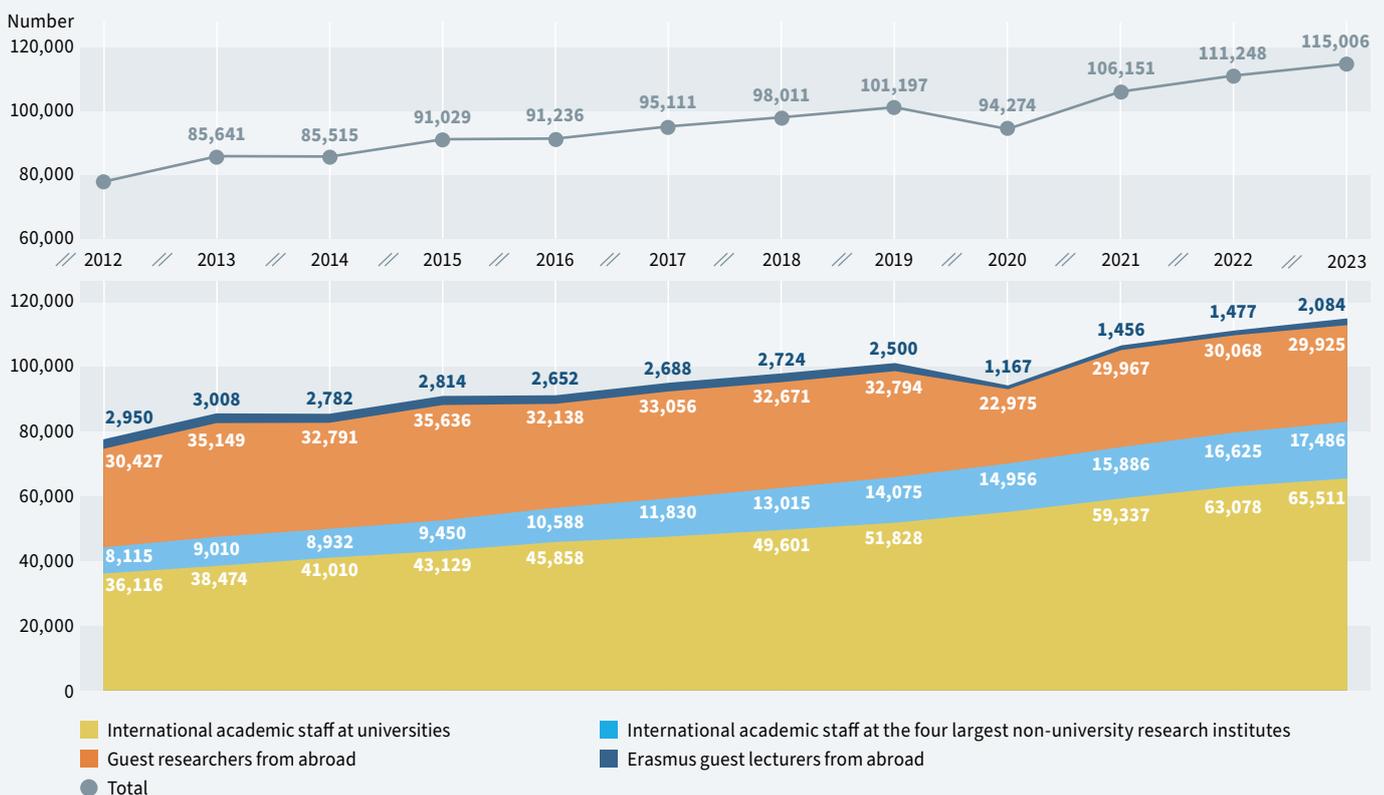
In 2023, Western Europe was again the key region of origin of international academic staff in Germany. 29% of the entire international staff and a remarkable 62% of international professors came from Western European countries in 2023. Overall, India (around 9%), China and Italy (7% each), Austria and Iran (5% each) were the key countries of origin

“ In 2023, approximately 4,100 international professors were teaching at universities in Germany, most of whom came from Austria (19%), Italy (almost 9%) and Switzerland (8%).

of international staff in Germany. Most international professors hailed from Austria (19%), Italy (9%), Switzerland (8%), the US (7%) and the Netherlands (6%).

In 2023, roughly 17,500 academics and researchers with foreign citizenship were contractually employed by the four largest non-

Z4 International academics and researchers in Germany by type of mobility since 2012⁹



Sources: Federal Statistical Office, "Statistik des Hochschulpersonals"; "Personal für Forschung und Entwicklung"; DZHW survey, data provided by funding organisations; DAAD, Erasmus statistics; DZHW and DAAD calculations

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university research institutes (NURI). Their number almost doubled between 2013 and 2023 (+94%), meaning that approximately 31% of all academics and researchers contractually employed at the four largest NURI in 2023 were foreign nationals. Almost 35% of these international academics and researchers came from Asia and 34% from EU countries. Two thirds (67%) of international academic staff at NURI were engaged in the field of mathematics and natural sciences and almost one fifth (18%) in engineering.

Besides contractually employed international academics and researchers, guest researchers from abroad also work and teach in Germany, their visits funded by domestic and foreign organisations. In 2023, the annual DZHW survey of domestic and foreign funding organisations captured some 29,900 funded guest visits to Germany. Since 2021, the number of funded guest visits to Germany has totalled approximately 30,000, thus ranging slightly below the level recorded in the years preceding the Covid-19 pandemic. Of the guest visits in 2023, 51% were funded by the DFG and 32% by the DAAD alone. With shares of 22% and 23%, respectively, Western Europe and Asia and Pacific were the key regions of origin of international guest researchers in Germany, with India (8%), China (7%) and Italy (6%) as the three key countries of origin. Moreover, NURI also sponsor guest visits to Germany by researchers from abroad. In 2023, the Max Planck Society and the Helmholtz and Leibniz Associations together funded the visits to Germany of around 10,500 guest researchers from abroad, a year-on-year increase of 21%.

Based on the findings of the National Academics Panel Study (Nacaps), the **spotlight in Chapter D** discusses the “**Mobility and career plans of international doctoral students in Germany**”. According to the analyses presented, international doctoral students at universities in Germany accounted for 25% of all doctoral students in the 2021/22 cohort. Not only did they have a strong presence, they were also responsible for a strong research performance. 63% of the international doctoral students polled indicated that they intended to remain in academia (compared to 25% of the domestic doctoral students). As this trend can be observed in most subject groups, international doctoral students may be viewed as resources of enormous scientific potential for Germany as a research location. At the same time, their long-term commitment remains uncertain: a substantial proportion (24%) plan to accept a permanent position outside Germany, while many (49%) are still undecided about whether to stay in the country.

Academics and researchers from Germany abroad (Chapter E)

Very few countries currently keep records of the number, origin and personnel group of international academics and researchers who are employed at their universities. Of the countries that collect (partly) comparable data, Switzerland has been the most popular destination country among German academics and researchers abroad for many years (roughly 9,400 German academics and researchers were recorded in 2023). Trailing some way behind is Austria (roughly 6,600 German academics and researchers in 2023), which has been in second place since 2020. The United Kingdom came in third place

in 2023, with roughly 5,100 German academics and researchers, followed by the Netherlands as a distant fourth (roughly 1,700). With regard to the number of German professors in 2023, Switzerland again led the field (around 1,300), followed by Austria (around 1,000). In these countries and the Netherlands, the proportion of German professors of all international professors was higher than the share of German academics and researchers of all international academics and researchers (corresponding data are not available for the United Kingdom). In 2023, German professors made up the highest share of all international professors in Austria, at just under 69%, with Switzerland reporting 42% and the Netherlands over 27%.

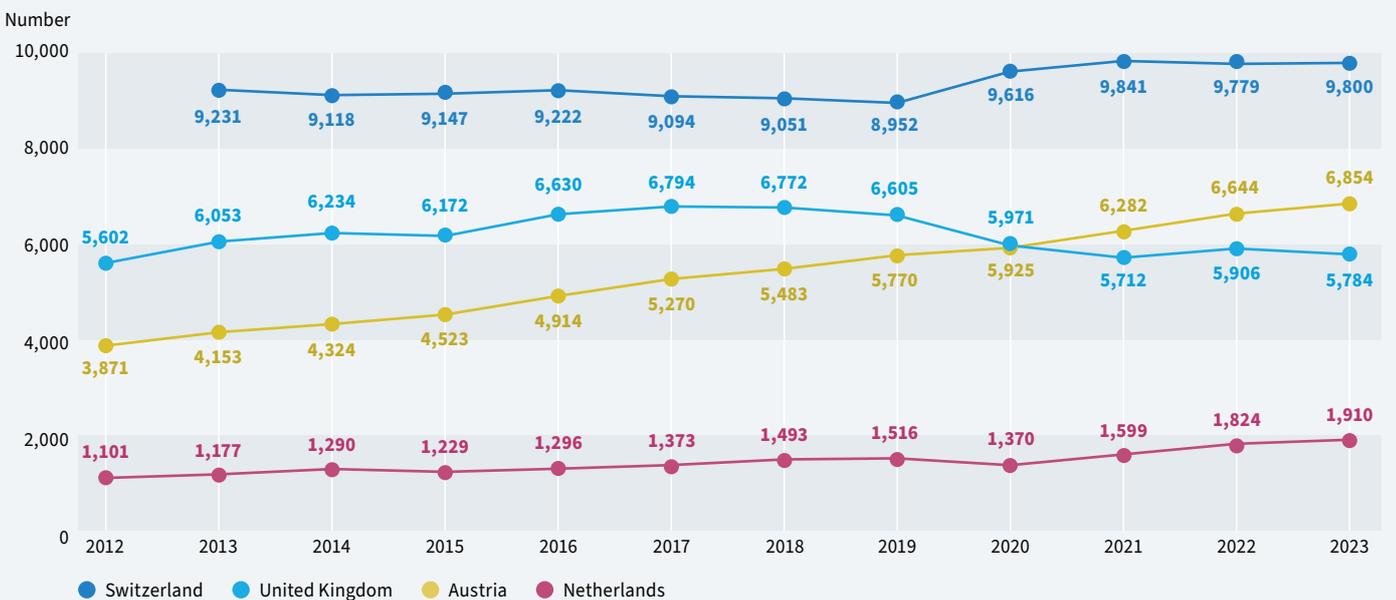
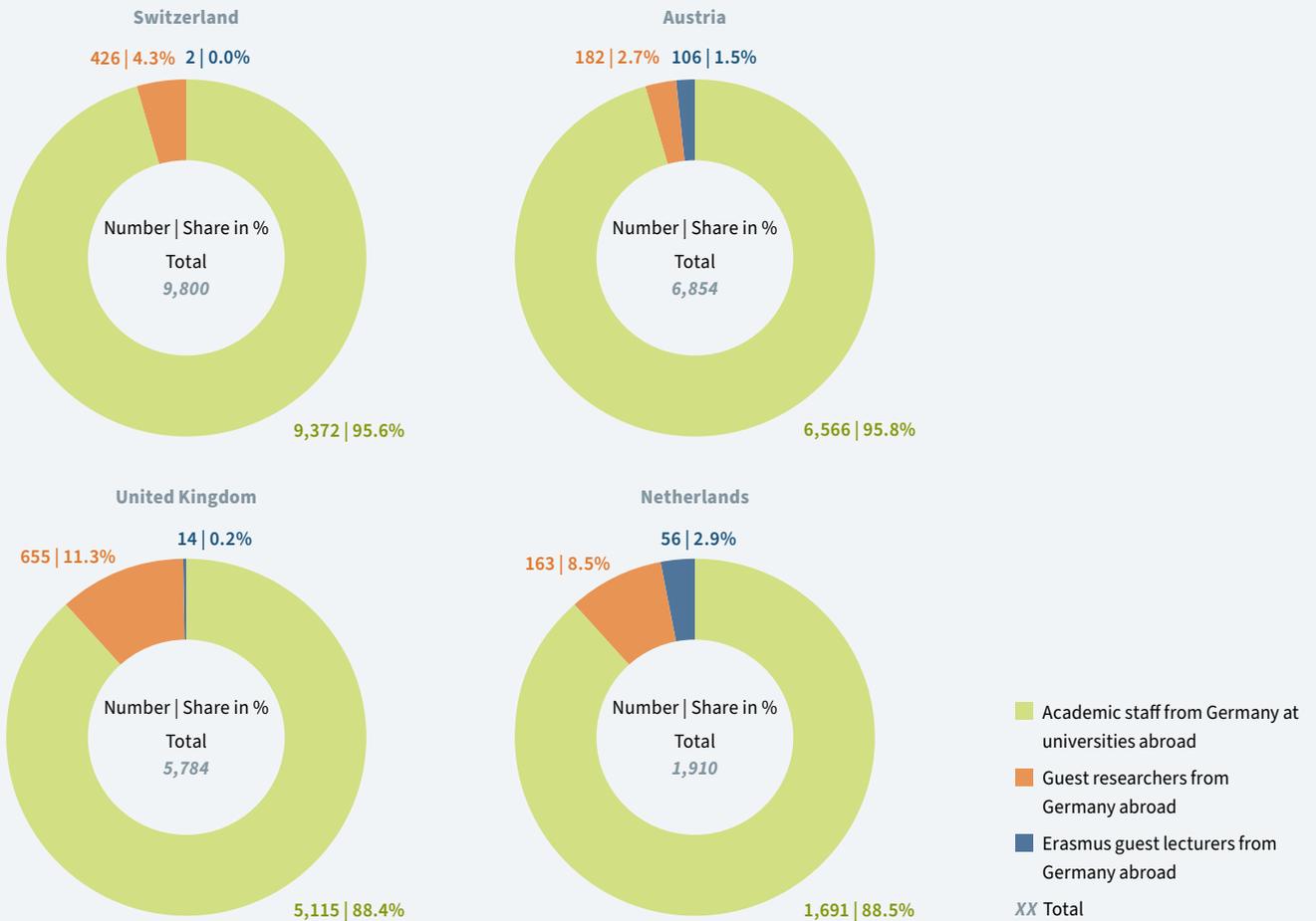
The available data sources listed approximately 14,000 German doctoral students at universities abroad in the 2023 academic year. The vast majority, almost 80%, pursued a doctorate in Western European countries. Most German doctoral students conducted their research in Switzerland (23%), Austria (18%), the United Kingdom (12%) and the US (just under 9%). Only 6% were pursuing a doctorate in Central and Southeastern Europe, and a mere 4% in Asia and Pacific. Compared to the high number of German students and professors, the number of German doctoral candidates at universities in the Netherlands is surprisingly low. When calculating the share of German doctoral candidates of all German students and doctoral students in the host country for 2023, the Netherlands only scored 4%. In Austria, too, this share was comparatively low at just under 7%, despite the high absolute number of German doctoral students hosted. Countries in which German doctoral candidates represented a particularly high proportion

“ In 2023, approximately 14,000 German nationals were enrolled in doctoral studies at universities abroad, mostly in Switzerland (23%), Austria (18%) and the United Kingdom (12%).

(over a quarter each) of all German students and doctoral students hosted were Liechtenstein (37%), Israel (36%), Australia (over 33%), Norway (almost 30%), New Zealand and the Czech Republic (28% each) plus Switzerland (26%).

In 2023, the DZHW survey of domestic and foreign funding organisations recorded a rough total of 9,800 visits abroad by guest researchers from Germany, a year-on-year increase of 18%. Although the number of recorded visits abroad has increased for the third year running following a low in 2020 due to the Covid-19 pandemic, in 2023, it remained well below the values observed in the years preceding the pandemic. Over 70% of the visits recorded were sponsored by the DAAD. Western Europe was again the key host region for guest researchers from Germany in 2023 (31%). Further major host regions

Z5 Academics and researchers from Germany by type of mobility in 2023 and overall since 2012 in selected countries^{10,11}



Sources: National data provided by the respective statistical offices; DZHW survey, data provided by funding organisations; DAAD, Erasmus statistics; DZHW calculations

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were North America (almost 17%), Asia and Pacific (15%) and Central and Southeastern Europe (14%). By a clear margin, the key host country was the US (14%), ahead of the United Kingdom (7%) and Japan (5%).

Internationalisation structures (Chapter F)

The internationalisation of studies and research at universities in

* Footnotes

- 1 For the sake of clarity, only mobility flows of at least 25,000 internationally mobile students are shown.
- 2 Excluding the number of international students in Mainland China and Singapore, as no current data are available or such data are non-existent.
- 3 The number of international doctoral students in the Netherlands in 2022 was not available in OECD statistics at the time of writing. Therefore, the number of international students in the Netherlands (up to master's level and/or ISCED level 7) has been supplemented for Germany as a country of origin with data on doctoral students released by the UNL (Universities of the Netherlands) for 2022 and for all other countries of origin with OECD data on doctoral students for 2021 (no UNL data were available for the latter).
- 4 Including students from Hong Kong and Macao.
- 5 Including Hong Kong and Macao. Mobility between Hong Kong and Macao, as well as from Mainland China to Hong Kong and Macao, has been excluded. As no country-specific data on incoming students are available for Mainland China, students moving from Hong Kong and Macao to Mainland China are, however, still included.
- 6 First-year students are students in their first university semester, including bachelor's, master's, doctoral and other students.
- 7 Figures for universities including colleges of art, music, education and theology.
- 8 As part of the new DZHW Student Survey in Germany 2021, the mobility rate for students in later semesters was adjusted by redefining "later semesters". As a result, the recalculated figures after 2012 can no longer be compared with those from previous DZHW/DSW Social Surveys carried out between 1991 and 2009. These figures were slightly lower overall. The decline between 2009 and 2012 could thus, at least in part, be a result of statistical reasons.
- 9 From 2020 on including guest researchers from abroad whose visits were funded by the Max Planck Society and the Helmholtz and Leibniz Associations.
- 10 Since 2021, the former associated countries Switzerland and the United Kingdom have been involved as partner countries in which Erasmus guest lectureships are possible.
- 11 From 2022 including data pertaining to guest researchers from Germany whose visits abroad were funded by the Helmholtz and Leibniz Associations. Deviations from 100% are due to rounding.
- 12 For the sake of simplicity and readability, the term "international office" is used here for these organisational units, which are given very different names at universities.
- 13 TNE locations with current or previous DAAD funding. TNE students in TNE projects with current DAAD funding.

Germany relies on structures that provide the framework for international mobility and for the internationalisation potential of universities. Therefore, starting in the last edition of *Wissenschaft weltoffen*, the new Chapter F also charts developments relating to selected structural aspects of internationalisation.

Besides international academic staff, international administrative staff also play a major role in facilitating the internationalisation of studies and research in Germany. Nonetheless, unlike academic staff, administrative staff with foreign citizenship still only represent a small

“ The number of international staff in university administration skyrocketed by 134% between 2016 and 2023, whereas their share of administrative staff overall remained low at just 4.5%.

percentage of the total staff – a mere 4.5% in 2023. However, this share had gradually increased in the preceding years, up from 3.2% in 2016. A closer look at the absolute number of international employees in university administration even reveals exceptionally dynamic growth: between 2016 and 2023, their number skyrocketed by 134%, and by 15% between 2022 and 2023 alone.

Especially important in promoting the internationalisation of universities are the staff of the international offices, some of whom are employed in administration and some as academic staff.¹² In 2024, the vast majority of public universities in Germany had an international office. A total of 2,775 staff were employed in the international offices of public universities, universities of applied sciences (UAS), colleges of art and music and colleges of education in 2024. 66% of these internationalisation staff worked at universities, 29% at UAS, 3% at colleges of art and music and 1% at colleges of education. Depending on the size of the university and the remit of its international office, the teams ranged in size from one to 70 employees. On average, 30 employees worked in international offices at technical universities and 35 at large universities. By contrast, the average at large and small UAS was between five and ten employees.

The number and percentage of English-language study programmes are further key indicators of the internationalisation of higher education at the structural level. According to data from the Higher Education Compass of the German Rectors' Conference (HRK) that were analysed for *Wissenschaft weltoffen*, state-recognised universities offered a total of 2,381 English-language study programmes in July 2025, 424 (18%) of which were bachelor's programmes and 1,928 (81%) of which were master's programmes. The number of English-language study programmes has risen steadily over time. Between 2009 and 2025, the range of such programmes increased almost sevenfold at bachelor's level and more than fivefold at master's level. The number of English-language bachelor's programmes rose by 16% and that of master's

programmes by 8% between 2024 and 2025 alone. As a result of this development, over 96% of all state-recognised universities offered at least one English-language study programme in 2025.

Agreements between universities in Germany and universities in other countries also form the basis for the mobility and exchange of students, academics and researchers. As of July 2025, universities in Germany were engaged in roughly 37,000 international partnerships, approximately 24,000 of which were initiated by universities and 13,000 by UAS. Over 42% of all cooperation agreements concluded by universities in Germany were with universities in Western Europe. Other world regions with a high number of university partnerships were Central and Southeastern Europe (almost 20%) as well as Asia and Pacific (almost 15%). The key partner countries were France (8%), Spain (7%) and the US (6%).

The volume of international third-party funding can also be regarded as a structural indicator of internationalisation. After the total volume of international third-party funding acquired by universities in Germany slumped temporarily in 2021, presumably due to the Covid-19 pandemic, the upward trend observed in previous years has continued since 2022. In 2023, this volume reached a new high of €1.22 billion, doubling since 2010 and up by 36% since 2020. The volume of international third-party funding developed differently depending on the type of university. While the growth rate was significantly higher at universities of applied sciences (UAS: +145%) than at universities (+41%) between 2010 and 2020, the increases recorded between 2020 and 2023 were of a similar magnitude (universities: +35%, UAS: +36%).

Transnational education (TNE) is the name given to a sub-area of internationalisation in which universities from one country bear academic responsibility for study programmes offered in another country

“ Collaborative Online International Learning (COIL), virtual exchanges and online preparatory courses were much more widespread at universities in Germany in 2023 than five years previously.

that have been set up for prospective students in that country. German universities are represented worldwide with 313 transnational study programmes funded by the DAAD at 41 locations in 28 countries. In 2024, some 37,700 students were enrolled in such TNE projects, an increase of 32% since 2015. The regional focus of the German TNE projects is on North Africa and the Middle East (Egypt, Jordan, Oman) and the Asia and Pacific region (China, Vietnam).

The spotlight in Chapter F on “The state of virtual internationalisation at higher education institutions in Germany” reports on two research projects in which surveys and expert interviews were conducted at universities. Whereas demographic trends and regional policies are seen as the key external drivers of internationalisation at higher education institutions, the prime internal impetus seems to come from the international offices and vice presidents or deans for international

Z6 Locations and students of German TNE projects worldwide in 2024¹³



Source: DAAD, TNE statistics; DAAD calculations

1 International student mobility

1.1 Mobility trends and mobility flows

According to UNESCO, around 6.9 million students were enrolled outside their home country in 2022. Following the slowdown in mobility due to the pandemic up to 2021, the number of internationally mobile students rose sharply once again by roughly 428,000 students (+7%) and was thus even higher than in 2020 (6.6 million). Compared to the previous year, most key host countries saw an increase in the number of internationally mobile students. Nonetheless, in 2022, numbers in the US (-11% since 2019) and Australia (-25% since 2019) were still well below pre-pandemic levels. In China and Japan, the downward trend that started in 2020 continued on into 2022.

Overall, the number of internationally mobile students has climbed by roughly 2.8 million or 68% since 2012; their number has thus grown more than twice as fast than the total number of students worldwide (+30%). The reasons for this marked upswing can be roughly divided into push and pull factors. Push factors are understood to be reasons in the respective countries of origin that act as a motive for mobility. They include, in particular, political and economic instability, often paired with insufficient capacities in the higher education system, poor quality teaching, the lack of reputation of universities and research, as well as limited employment opportunities. Inadequate capacities at domestic universities often correlate with a rapidly growing population. Pull factors are certain characteristics of the various host countries. Most of these factors are a mirror image of the push factors: political and economic stability, combined with well-developed capacities in the higher education system, high quality teaching, worldwide renown for higher education and research, and good employment opportunities.

The importance of most host regions and regions of origin of international students fluctuated only slightly between 2012 and 2022.

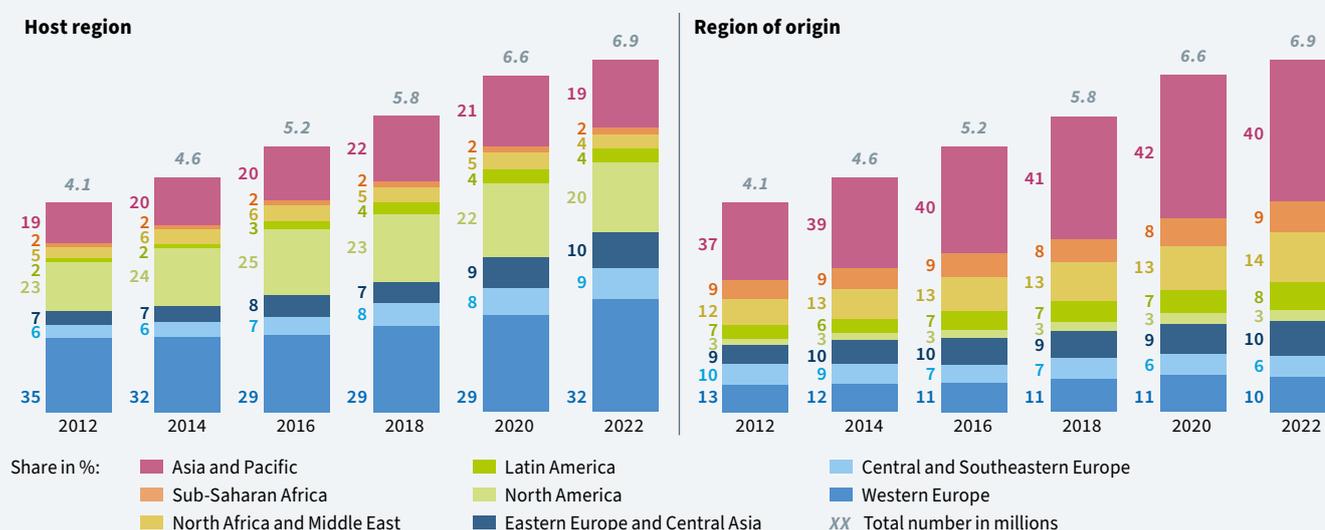
Data

The basis for the collection and processing of data is the International Standard Classification of Education (ISCED) of 2011, which ensures the international comparability of national data. This may result in deviations from national figures, such as the data released by the Federal Statistical Office on the number of international students (see the glossary in the appendix) in Germany by countries of origin, illustrated in chapter B.

When interpreting the data presented here, it should also be noted that the majority of cases of student mobility recorded by UNESCO involve degree-related international mobility and only a very small proportion are temporary study-related mobility. Moreover, the UNESCO statistics are not taken from a complete survey of all mobile students worldwide but are merely the best possible calculation of these statistics, based on the available national data. Missing data are estimated. The availability and informative value of the data largely depend on the development of education statistics in the respective countries. To date, some countries, particularly in South and Central America and Africa, have been unable to provide any data on international students at their universities. Even China, now a major host country, has not yet provided UNESCO with any data on the origin of international students in China. This inevitably leads to the importance of certain host countries and countries or regions of origin being underestimated.

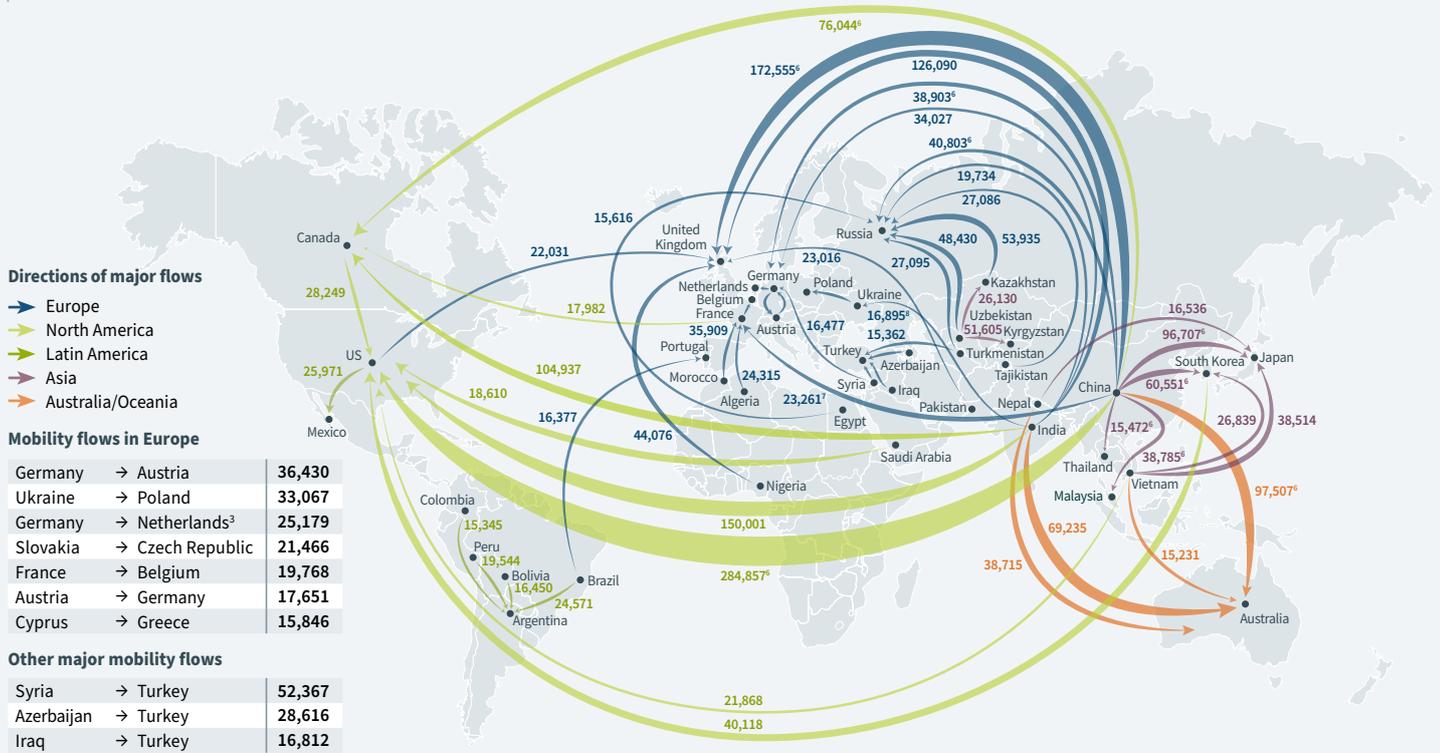
Western Europe continues to dominate the host regions (32%), followed by North America (20%) as well as Asia and Pacific (19%).

A1.1 Internationally mobile students worldwide by host region and region of origin since 2012^{1,2,3,4}



Sources: UNESCO/OECD, student statistics; Universities of the Netherlands, university staff statistics; country-specific reporting periods; DAAD calculations

A1.2 Major flows of international student mobility in 2022^{2, 5}



Figures in absolute student numbers

Sources: UNESCO/OECD, student statistics; Universities of the Netherlands, university staff statistics; country-specific reporting periods; DAAD calculations

Western Europe’s share fell from 35% to 28% between 2012 and 2019; however, this host region has again figured more prominently since 2020. The exact opposite can be observed for Asia and Pacific. Among the regions of origin, Asia and Pacific has for years represented by far the largest share of internationally mobile students (40%), followed by North Africa and Middle East (14%), Western Europe as well as Eastern Europe and Central Asia (10% each).

The largest flows of international student mobility lead from China, by a clear margin the most important country of origin, to the US and the United Kingdom as host countries, along with India to the US. In 2022, approximately one million students from China were enrolled at universities abroad.⁹ Although their number has increased by 2% year-on-year, its share of all internationally mobile students worldwide declined from the record high of 18% in 2018 to 15% in 2022. Approximately 284,900 Chinese students were enrolled at universities in the US in the 2022 academic year, representing 4% of global student mobility. This figure decreased by 16% year-on-year. For 2022, UNESCO lists around 172,600 Chinese students in the United Kingdom (+6% year-on-year) and around 150,000 Indian students in the US (+37%). Other notable student mobility flows are from India to the United Kingdom (roughly 126,100, +50% year-on-year) and to Canada (104,900, +12%).

Within Europe, the principal student flows are from Germany to Austria (approximately 36,400, +7%) and the Netherlands (25,200, +3%), from Ukraine to Poland (33,100, +7%), from Slovakia to the Czech Republic

(21,500, -2%), from France to Belgium (19,800, +4%), from Austria to Germany (17,700, +9%) and, lastly, from Cyprus to Greece (15,800, +5%).

* Footnotes

- 1 Deviations in comparison with previous issues of *Wissenschaft weltoffen* (see e.g. Heublein et al., 2024) and *Wissenschaft weltoffen kompakt* (see e.g. Kercher et al., 2025) are due to updates of the UNESCO database.
- 2 Excluding the number of international students in Mainland China and Singapore, as no current data are available or such data are non-existent.
- 3 The number of international doctoral students in the Netherlands in 2022 was not available in OECD statistics at the time of writing. Therefore, the number of international students in the Netherlands (up to master’s level and/or ISCED level 7) has been supplemented for Germany as a country of origin with data on doctoral students released by the UNL (Universities of the Netherlands) for 2022 and for all other countries of origin with OECD data on doctoral students for 2021 (no UNL data were available for the latter).
- 4 Deviations from 100% are due to rounding.
- 5 For the sake of clarity, only mobility flows with at least 15,000 internationally mobile students are shown.
- 6 Including students from Hong Kong and Macao.
- 7 Unclear whether students from Hong Kong and Macao are included.
- 8 Data on incoming students from 2021, as UNESCO data for 2022 were not yet published at the time of writing.
- 9 Including Hong Kong and Macao. Mobility between Hong Kong and Macao, as well as from Mainland China to Hong Kong and Macao, has been excluded. As no country-specific data on incoming students are available for Mainland China, students moving from Hong Kong and Macao to Mainland China are however still included.

1 International student mobility

1.2 Major host countries

Regarding the host countries of international students, it is crucial to distinguish between countries with the highest absolute number and countries with the largest percentage of international students. For

“ Countries of origin are considerably more diverse in Germany than in Australia, Canada, the United Kingdom or the US.

example, in 2022, the number of international students in the US – by far the most important host country – was in the region of 873,600. However, a closer look at their percentage of all students in the US shows that the figure was only around 5%. On the other hand, around 225,800 international students were studying in the United Arab Emirates (UAE) in the same year, yet their share of all students here is 70%. Other countries with high percentages of international students were Qatar (39%), Singapore (33%), Kyrgyzstan (29%) and Australia (23%).

A1.3 Host countries with the highest number and the highest share of international students in 2022¹

Host country	Number of international students
US	873,576
United Kingdom	674,931
Germany	403,473
Australia	382,007
Russia	340,326
Canada	336,837
France	263,459
Turkey	244,027
United Arab Emirates	225,845
China ²	218,506

Host country ³	Share of international students in %
United Arab Emirates	70.2
Qatar	38.5
Singapore	33.4
Kyrgyzstan	28.5
Australia	23.0
United Kingdom	21.6
Cyprus	20.2
Austria	19.4
Switzerland	19.1
Canada	18.6

Source: UNESCO/OECD, student statistics; country-specific reporting periods; DAAD calculations

The United Arab Emirates as an education hub

The high proportion of international students in the United Arab Emirates (UAE) is mainly due to the large number of workers posted from abroad (referred to as expats) in the local population and the establishment of the UAE as an education hub.⁵ To weaken the country's strong economic dependence on oil, the number of universities and study programmes has been steadily increased since 2000 with the aim of training a skilled workforce in the trade, tourism, finance and transport sectors, for example. Furthermore, efforts have been made to encourage prestigious universities (particularly in the Anglo-American countries) to establish international satellite campuses in the UAE by setting up free trade areas exclusively for educational institutions or entering into specific agreements that included special-purpose buildings or generous financial incentives. The UAE is now home to 39 institutions, the majority of these international branch campuses around the world after China (as of October 2025).⁶ As almost all study programmes are available in English, the UAE is in a position to offer a wide range of attractive international degree programmes, not just to the expats already based in the country, but also to international students from the region.

By contrast, China, ranked tenth among the key host countries, had a mere 0.4%, and in Turkey, which hosts a similar number of international students to the UAE, the figure is just 3%.

Depending on the host country, the percentages of the key countries of origin vary in relation to the respective total number of international students: with the highest number of internationally mobile students, China and India are the two key countries of origin for the top five host countries the US, the United Kingdom, Germany, Australia and Canada. These two countries now account for approximately half of all international students in Australia, the United Kingdom (44% each), the US (50%) and Canada (54%).

* Footnotes

- 1 International doctoral students in Germany including *Bildungsinlaender*: UNESCO statistics include the results of the Federal Statistical Office's survey of doctoral students, which – unlike the student statistics compiled by the Federal Statistical Office – include doctoral students who were not enrolled. However, until now, it has not been possible to distinguish between international students and *Bildungsinlaender* in these data.
- 2 Including Hong Kong and Macao. Mobility between Hong Kong and Macao, as well as from Mainland China to Hong Kong and Macao, has been excluded. As no country-specific data on incoming students are available for Mainland China, students moving from Hong Kong and Macao to Mainland China are however still included.
- 3 Only countries with at least 10,000 international students.
- 4 Including Hong Kong and Macao.
- 5 See Fox & Al Shamisi (2014).
- 6 See Cross-Border Education Research Team website: <https://www.cberrt.org/intl-campus/> (retrieved on 27 October 2025).
- 7 See Preiss (2012).

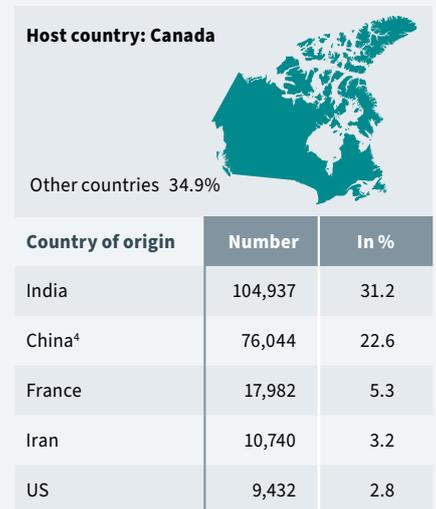
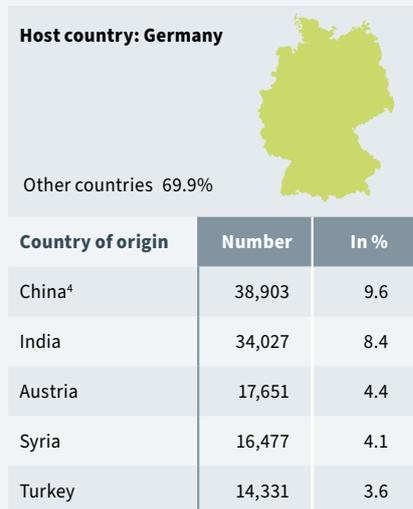
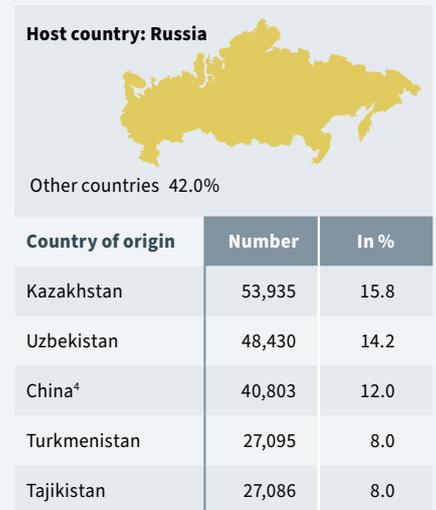
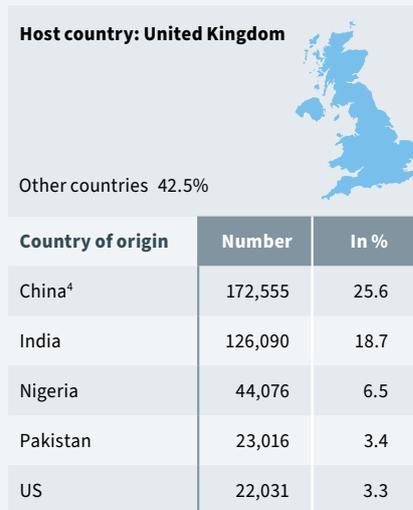
On the other hand, with a share of 18%, they are not as strongly represented in Germany. International students' countries of origin are thus noticeably more diverse in Germany than in Australia, Canada, the United Kingdom or the US.

Consequently, Australia, Canada, the United Kingdom and the US rely heavily on just one or two countries of origin. Particularly in these four countries, this dependency is further exacerbated by the fact that international students pay significantly higher tuition fees than domestic students and therefore contribute a large share of university funding. Sudden drops in inbound mobility from China and India can thus soon cause tremendous problems for the entire university funding in these countries. One example is the conspicuous decline in the number of Indian students in Australia between 2007 and 2011, from over 30,000 students to fewer than 10,000 students.⁷

Apart from China and India, the key countries of origin of international students in Canada notably include France, which is closely linked to Canada by virtue of its language and culture. In the case of Germany, the relatively high number of students from Austria and Turkey can also be attributed to strong economic relations, cultural links and family ties. With 67% and 24% of all students abroad from Austria and Turkey respectively, Germany is also their key host country.

In Russia, the profile of origin of international students is strongly influenced by regional factors. The four key countries of origin – Kazakhstan, Uzbekistan, Turkmenistan and Tajikistan – currently account for almost half of all international students. Meanwhile, China has moved up into third place in Russia's key countries of origin and, together with India, the sixth key country of origin, represents some 18% of all international students hosted by the country. A similarly strong regional profile of origin of international students can be seen in Australia, where the five key countries of origin are all located in the same region (Asia and Pacific).

↓ A1.4 Key countries of origin of international students in the key host countries in 2022



Source: UNESCO/OECD, student statistics; country-specific reporting periods; DAAD calculations

1 International student mobility

1.3 Major countries of origin

In 2022, the two key countries of origin of students abroad were China, with around one million, and India, with around 631,000 students abroad (see the glossary in the appendix). Lagging well behind were Uzbekistan (roughly 141,000), Vietnam (134,300) and Germany (126,900), although Uzbekistan was in fifth place the previous year. It should, however, be noted that these statistics do not include any data on international students in Mainland China and Singapore as none have yet been made available to UNESCO. The numbers of international students in China used in the last edition of *Wissenschaft weltoffen* referred to reporting year 2018 and were provided by China's Ministry of Education (MOE). They have not been updated since. With regard to the countries

“ 42% of internationally mobile students from India are enrolled in North America, while just 13% remain in the Asia and Pacific region.

of origin, it is crucial to distinguish between countries with the highest absolute number and countries with the largest percentage of internationally mobile students. Although China was by far the most important country of origin in 2022, with roughly one million internationally mobile students, they accounted for just 2% of all Chinese students. In India, the second key country of origin, the share of internationally mobile students was also a mere 2%. By contrast, several other countries report markedly higher shares of students abroad in relation to the total number of students. In particular, they include countries with limited study capacities or, in some cases, an underdeveloped higher education system by global standards:

A1.5 Countries of origin with the highest number and the highest share of students abroad in 2022^{1,2}

Country of origin	Number of students abroad
China ³	1,021,814
India	631,075
Uzbekistan	141,001
Vietnam	134,332
Germany	126,944
US	115,056
France	113,633
Nigeria	112,517
Syria	103,925
Nepal	95,309

Country of origin ⁴	Share of students abroad in %
Luxembourg	63.3
Turkmenistan	40.5
Cyprus	32.6
Moldova	19.3
Slovakia	17.8
Nepal	17.1
Azerbaijan	16.1
Bosnia and Herzegovina	16.1
Uzbekistan	14.9
Palestinian territories	12.3

Sources: UNESCO/OECD, student statistics; Universities of the Netherlands, university staff statistics; country-specific reporting periods; DAAD calculations

* Footnotes

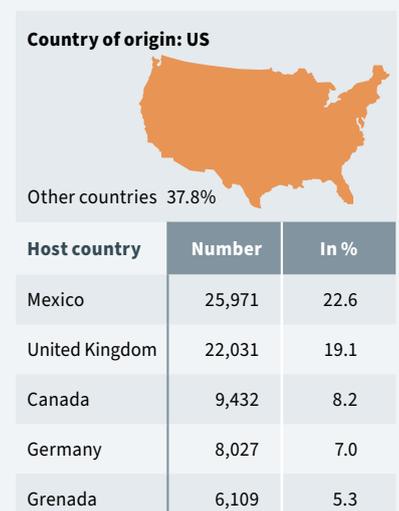
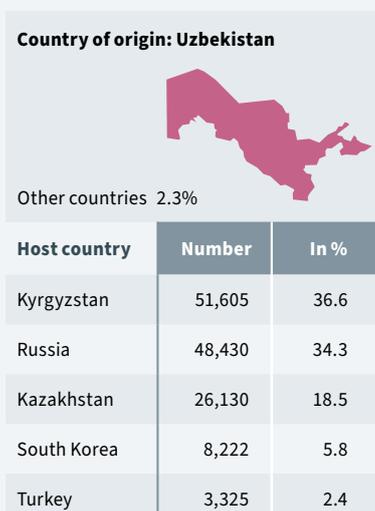
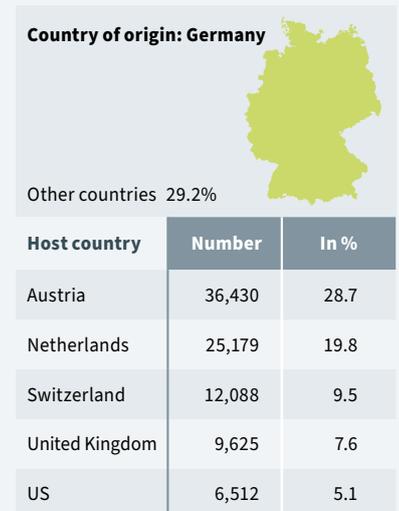
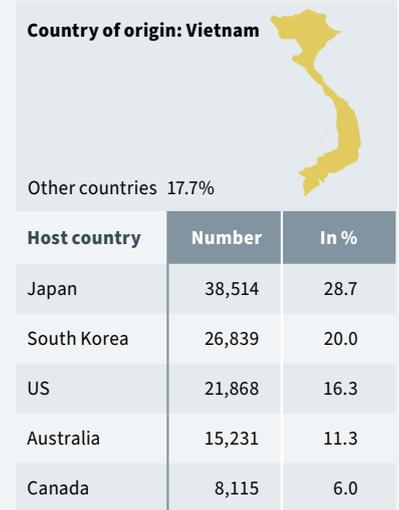
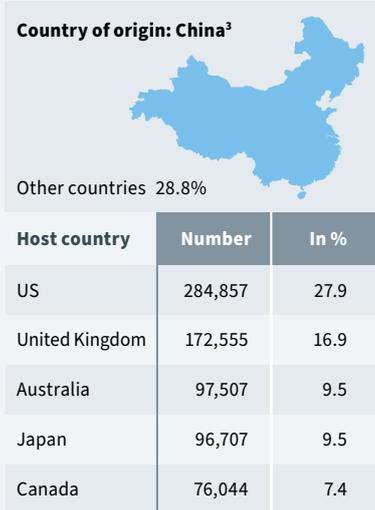
- 1 Excluding international students in Mainland China and Singapore, as no current data are available or such data are non-existent.
- 2 The number of international doctoral students in the Netherlands in 2022 was not available in OECD statistics at the time of writing. Therefore, the number of international students in the Netherlands (up to master's level and/or ISCED level 7) has been supplemented for Germany as a country of origin with data on doctoral students released by the UNL (Universities of the Netherlands) for 2022 and for all other countries of origin with OECD data on doctoral students for 2021 (no UNL data were available for the latter).
- 3 Including Hong Kong and Macao. Mobility between Hong Kong and Macao, as well as from Mainland China to Hong Kong and Macao, has been excluded. As no country-specific data on incoming students are available for Mainland China, students moving from Hong Kong and Macao to Mainland China are however still included.
- 4 Only countries with at least 10,000 students abroad.
- 5 Deviations from 100% are due to rounding.
- 6 This ratio should be understood as the share of German students studying abroad for a degree in relation to the total number of German students. It is substantially lower than the ratio of students on temporary study-related visits abroad (see Chapter C2.1).
- 7 See also Barnett et al. (2016), Didelon & Richard (2012) and Shields (2013, 2016).
- 8 It should, however, be noted that, the larger the size and number of countries within a region, the greater the likelihood of a high proportion of intraregional mobility, which is therefore strongly influenced by the regional classification used. This is clearly illustrated, for example, by comparing North America with the Asia and Pacific region.

Luxembourg (63%), Turkmenistan (around 41%), Cyprus (33%), Moldova (19%), Slovakia (18%), Nepal (17%), Azerbaijan, Bosnia and Herzegovina (16% each), Uzbekistan (15%) and the Palestinian territories (12%). According to UNESCO statistics, the share of internationally mobile students in Germany is around 4% of all students.⁶

Looking at both the countries of origin with the highest share and those with the greatest increase in the number of students abroad recorded by UNESCO, it is striking that smaller countries, as well as countries that do not yet have an internationally renowned higher education system, achieve particularly high percentages and/or growth rates. On the other hand, the mobility rates and growth rates are much lower by comparison in countries such as Germany, the United Kingdom and the US. This is partly explained by the fact that UNESCO statistics primarily record degree-related student mobility (see the info box on the data in Chapter A1.1). Students' motives for this form of mobility differ fundamentally from those for temporary study-related mobility. While degree-related international mobility generally stems from the individual's endeavour to improve their life and career prospects by graduating from a foreign university, temporary study-related mobility tends to be characterised by motives such as broadening horizons, honing language skills and career promotion.

Historical, linguistic, economic and political factors lead to clear preferences among the host countries favoured by students abroad.⁷ In some countries of origin, this may create a strongly regional orientation of student mobility.⁸ By way of illustration, 79% of German students remain within Western Europe when studying abroad, while 86% of students abroad from Uzbekistan stay in Eastern Europe and Central Asia. Moreover, the majority of Vietnamese students (62%) spend their study period abroad within the Asia and Pacific region. By contrast, a significantly lower share of intraregional mobility is evident among Chinese and Indian students, only 32% and 13% respectively of whom choose a host country in the Asia and Pacific region, while 35% and 42% respectively opt to study in North America. US students often pick countries in Western Europe (42%), which may presumably be explained by historical, linguistic and economic factors.

A1.6 Preferred host countries of students abroad from the key countries of origin in 2022^{1,2,5}



Sources: UNESCO/OECD, student statistics; Universities of the Netherlands, university staff statistics; country-specific reporting periods; DAAD calculations

1 International student mobility

1.4 Student mobility in the EU: structure, development and status of goal achievement

In 2024, the EU Council Recommendation “Europe on the Move – learning mobility opportunities for everyone” came into force, formulating new goals for student mobility.¹ Accordingly, by 2030, at least 23% of university graduates in the EU should have completed a study-related visit abroad (see the glossary in the appendix) within or outside the EU, either in person or in a hybrid format.² In the process, degree-related international mobility, temporary international mobility of at least three months’ duration or with at least 15 ECTS credits obtained abroad during a study visit or placement, as well as shorter visits (less than three months) with at least three ECTS credits should be recorded.

However, it is currently not yet (fully) possible to analyse mobility abroad according to these new EU definitions. Firstly, shorter visits of under three months have not been registered until now in all EU countries. Secondly, documenting longer visits of at least three months’

duration or with at least 15 ECTS credits obtained abroad is still not possible or only partly possible in some EU countries (including Germany).³ Therefore, by 2026, the European Commission is expected to draw up a proposal for an updated methodology to measure the share of university graduates who spent time abroad during their studies. In light of the above and until further notice, *Wissenschaft weltweit* will report using the best available data. Nevertheless, these restrictions inevitably mean that actual mobility abroad – according to the revised EU definitions – will be underestimated.

An analysis of the mobility rates based on currently available data shows that, to date, just two small countries have already reached or exceeded the target of 23%: Luxembourg (80%) and Cyprus (29%). At present, Germany scores 13%, still well below the target, yet slightly above the current EU average of 11%.⁴

In 2025, the European Commission presented a further mobility or internationalisation initiative as part of the “Union of Skills” project. Given the increasing shortage of skilled workers in EU countries and to enhance the competitiveness of the EU, the goal is to attract at least 350,000 university graduates from non-EU countries by 2030. Eurostat records show approximately 250,000 graduates from non-EU

A1.7 Mobility rates of graduates in the EU by countries of origin in 2022⁵



Share in %
■ Degree-related international mobility ■ Temporary study-related mobility ■ Total mobility

Source: European Commission, Education and Training Monitor 2024

* Footnotes

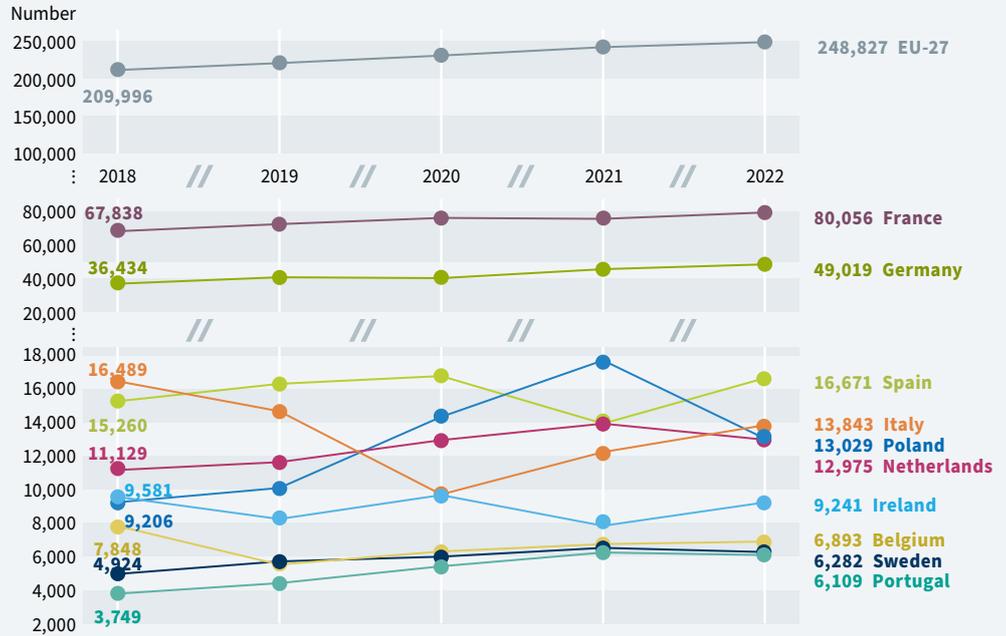
- The previous Council Recommendation (“Council conclusions on a benchmark for learning mobility”) had set the goal for all EU countries that, by 2020, at least 20% of any cohort of university graduates should have obtained a degree abroad or gained temporary study-related mobility experience with at least 15 ECTS credits obtained abroad or of at least three months’ duration. The results clearly fell short of reaching the target average of 13.5% for all EU countries in 2020 (see also Chapter C2.1 in Heublein et al., 2023).
- A hybrid format (blended mobility) is the combination of a physical visit abroad and a virtual learning phase that takes place before, during or after the physical visit.
- In Germany, the relevant statistics are now published by the Federal Statistical Office as part of the examination statistics. This demonstrates that many universities still provide no or only incomplete data for these statistics.
- On account of the problems with collecting data in Germany, it should be noted that the German figure underestimates the actual mobility rate.
- Deviations of the combined individual percentages from the total figure are due to rounding.
- No data on temporary study-related mobility are currently available for these countries.
- The number of international doctoral students in the Netherlands in 2022 was not available in OECD statistics at the time of writing. Therefore, the number of international students in the Netherlands (up to master’s level and/or ISCED level 7) has been supplemented for Germany as a country of origin with data on doctoral students released by the UNL (Universities of the Netherlands) for 2022 and for all other countries of origin with OECD data on doctoral students for 2021 (no UNL data were available for the latter).

states in all EU countries in 2022. Consequently, an increase of some 40% would be required by 2030 in order to meet the EU target. Between 2018 and 2022, the number of non-EU graduates rose by around 20%.

Against this backdrop, the respective shares of student mobility between the individual EU countries and non-EU countries will also be examined here. In 2022, there was an even balance between outgoing mobility in non-EU countries and inbound mobility from non-EU countries in Cyprus (47:53) as well as Croatia and Luxembourg (45:55 each). In contrast, inbound mobility from non-EU countries clearly predominated for Germany and Hungary (89:11 each), the Czech Republic (88:12), Finland and Poland (87:13 each). Finally, a strong bias towards outgoing mobility to non-EU countries can only be observed in Greece (29:71).

In conclusion, a comparison of the ratios of outgoing and inbound mobility for students *within* the EU reveals an almost perfect balance between inbound mobility from other EU countries and outgoing mobility to other EU countries for Hungary (51:49), Germany, Ireland and Spain (49:51 each). Meanwhile, a marked tendency towards inbound mobility from other EU countries can be seen in the Netherlands (89:11), Denmark (88:12), Malta (84:16), the Czech Republic (75:25) and Austria (74:26). Conversely, the balance in Croatia (26:74), Slovakia, Cyprus (19:81 each), Italy and Luxembourg (18:82 each) is clearly in favour of outgoing mobility to other EU countries.

A1.8 International graduates from non-EU countries in the EU by host country since 2018



Number of international graduates from non-EU countries in the EU

Source: Eurostat, student statistics; country-specific reporting periods; DAAD calculations

A1.9 Balance of student mobility between EU and non-EU countries in 2022⁷

EU country	Non-EU to EU and EU to non-EU		
	Inbound	Share in %	Outgoing
Germany	280,941	89	35,928
Hungary	28,502	89	3,692
Czech Republic	27,535	88	3,799
Finland	18,407	87	2,829
Poland	75,032	87	11,551
Slovenia	5,421	86	849
Netherlands	37,074	83	7,413
Portugal	42,372	82	9,093
Austria	22,811	82	5,164
France	225,630	80	54,801
Slovakia	10,025	79	2,591
Belgium	19,357	78	5,461
Denmark	11,937	77	3,592
Malta	2,195	75	734
Latvia	6,933	74	2,393
Spain	63,827	72	24,784
Sweden	16,101	70	6,916
Italy	68,653	69	30,716
Estonia	3,449	69	1,579
Lithuania	7,157	64	3,975
Ireland	21,301	64	11,969
Romania	23,985	63	14,009
Bulgaria	10,553	61	6,767
Cyprus	6,268	47	7,076
Luxembourg	1,298	45	1,598
Croatia	3,428	45	4,245
Greece	5,505	29	13,766

Sources: UNESCO/OECD, student statistics; Universities of the Netherlands, university staff statistics; country-

A1.10 Balance of student mobility between EU countries in 2022⁷

EU country	EU to EU		
	Inbound	Share in %	Outgoing
Netherlands	83,854	89	10,870
Denmark	19,390	88	2,593
Malta	2,330	84	441
Czech Republic	25,597	75	8,525
Austria	60,066	74	21,483
Belgium	31,012	69	13,610
Sweden	10,040	57	7,696
Hungary	11,453	51	11,222
Spain	27,524	49	28,328
Germany	90,293	49	94,062
Ireland	5,774	49	6,076
Latvia	2,859	48	3,066
Slovenia	2,182	48	2,381
Finland	5,700	45	6,894
Portugal	7,517	44	9,720
Estonia	1,594	42	2,191
Greece	18,251	41	26,010
Bulgaria	8,447	36	14,925
France	33,668	36	60,255
Romania	10,753	34	20,480
Poland	6,667	30	15,562
Lithuania	1,920	29	4,695
Croatia	2,243	26	6,381
Slovakia	6,683	19	28,256
Cyprus	4,461	19	19,021
Italy	12,904	18	58,884
Luxembourg	2,602	18	12,152

Sources: UNESCO/OECD, student statistics; Universities of the Netherlands, university staff statistics; country-

1 International student mobility

1.5 Student mobility in the European Higher Education Area

In signing the Bologna Declaration in 1999, ministers from 29 countries agreed to work towards an open and coherent higher education system in Europe. One of the long-term results was the creation of the European Higher Education Area (EHEA) by the Budapest-Vienna Declaration at the Ministerial Conference in March 2010. Meanwhile, the EHEA comprises 49 member states¹, which work together in supporting the Bologna Process.

The central objectives of European higher education policy include encouraging student mobility in the EHEA and increasing the attractiveness of the EHEA. Between 2010 – when the EHEA was established – and 2018, international student mobility within the EHEA initially soared from roughly 660,000 to roughly 1.1 million students becoming mobile across national borders (+61%). Since then, the degree of international student mobility within the EHEA has remained more or less stable. (The decline to approximately 980,000 internationally mobile students in 2022 was because Russia and Belarus have not been included in the statistics as part of the EHEA since then.¹) The development in international student mobility within the EHEA since 2018 was probably connected to demographic shifts in many EHEA countries, along with the stagnating or even dwindling numbers of students in these countries.

The stagnation of international student mobility within the EHEA begs the question of how EHEA countries can attract students from outside the EHEA and, by the same token, to what extent EHEA students complete their studies in non-EHEA countries. Between 2010 and 2022, the number of students entering the EHEA from non-EHEA countries more than doubled from approximately 700,000 to approximately

1.7 million (+145%). Accordingly, the attractiveness of the EHEA for students from non-EHEA countries increased significantly during the period under review.

Conversely, the number of students leaving the EHEA for non-EHEA countries is much lower, rising only slightly since 2010. This is a further testament to the appeal and cohesive power of the EHEA. Between 2010 and 2018, the number of students departing from the EHEA jumped from roughly 135,000 to roughly 174,000 (+29%), before dropping back to around 148,000 by 2021. This is presumably also where the above-mentioned impact of demographic shifts in the EHEA comes into play, together with the statistical effects of suspending Russia's and Belarus' membership of the EHEA in 2022. The fact that these two countries have been regarded as non-EHEA countries for statistical purposes since 2022 pushed up the number of students leaving the EHEA to about 231,000.

In 2022, the key international student mobility flows within the EHEA, with over 20,000 students each, went from Germany to Austria (around 36,400 students) and the Netherlands (25,200), from Ukraine to Poland (33,100), from Azerbaijan to Turkey (28,600) and from Slovakia to the Czech Republic (21,500).

The key host country for internationally mobile students from other EHEA countries was Germany (around 136,400 students), followed by the United Kingdom (135,300), the Netherlands (92,200), Austria (71,500) and Poland (47,600). However, other countries report the highest shares of internationally mobile students from other EHEA countries of all international students: Bosnia and Herzegovina (96%),

AI.11 Development of student mobility within the European Higher Education Area (EHEA) and between EHEA and non-EHEA countries since 2010^{1,2}



Sources: UNESCO/OECD, student statistics; Universities of the Netherlands, university staff statistics; country-specific reporting periods; DAAD calculations

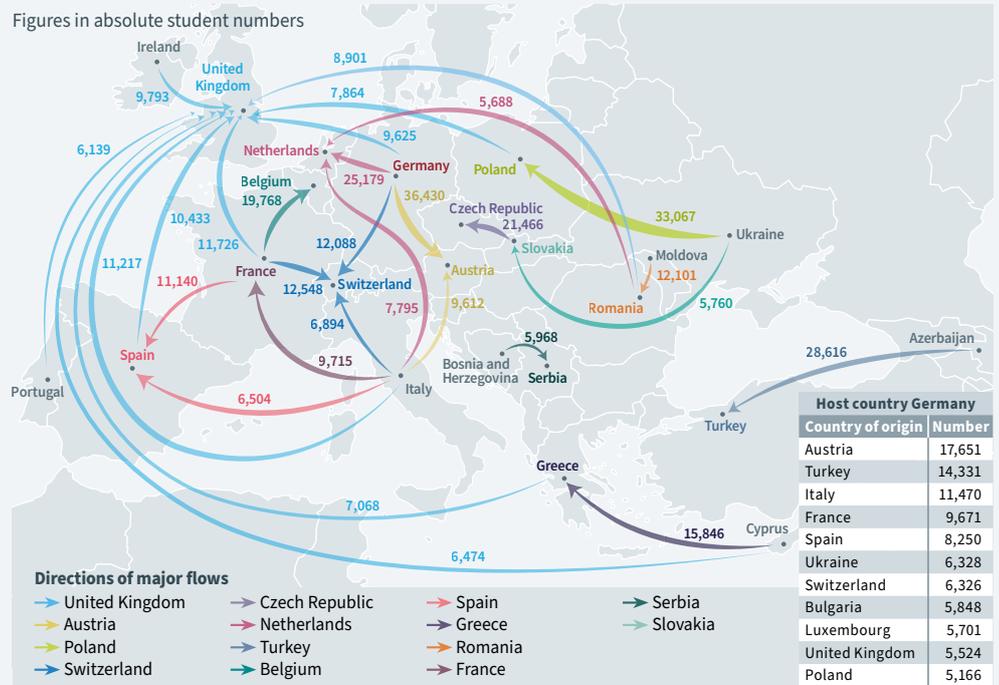
Croatia (90%) plus Slovenia and Serbia (89% each).

With 118,100 students abroad in other EHEA countries, Germany was again the key country of origin of internationally mobile students within the EHEA, followed by France (85,200), Italy (79,200), Ukraine (63,100) and Turkey (46,800). Again, a completely different ranking emerges when comparing the countries of origin with the highest percentages of students abroad in other EHEA countries of all students abroad. Almost all students abroad from Luxembourg (99%), Cyprus and Slovakia (98% each) plus Bosnia and Herzegovina (96%) remained within the EHEA in 2022.

* Footnotes

- 1 The membership of Russia and Belarus has been suspended since the start of the war of aggression against Ukraine in 2022. These countries were therefore no longer included in the European Higher Education Area in the calculations from 2022 onwards.
- 2 The number of international doctoral students in the Netherlands in 2022 was not available in OECD statistics at the time of writing. Therefore, the number of international students in the Netherlands (up to master's level and/or ISCED level 7) has been supplemented for Germany as a country of origin with data on doctoral students released by the UNL (Universities of the Netherlands) for 2022 and for all other countries of origin with OECD data on doctoral students for 2021 (no UNL data were available for the latter).
- 3 For the sake of clarity, only mobility flows of at least 5,000 students are shown.
- 4 Only countries with at least 5,000 internationally mobile students (Fig. A1.13) or students abroad (Fig. A1.14).

A1.12 Major flows of internationally mobile students within the European Higher Education Area in 2022^{1,2,3}



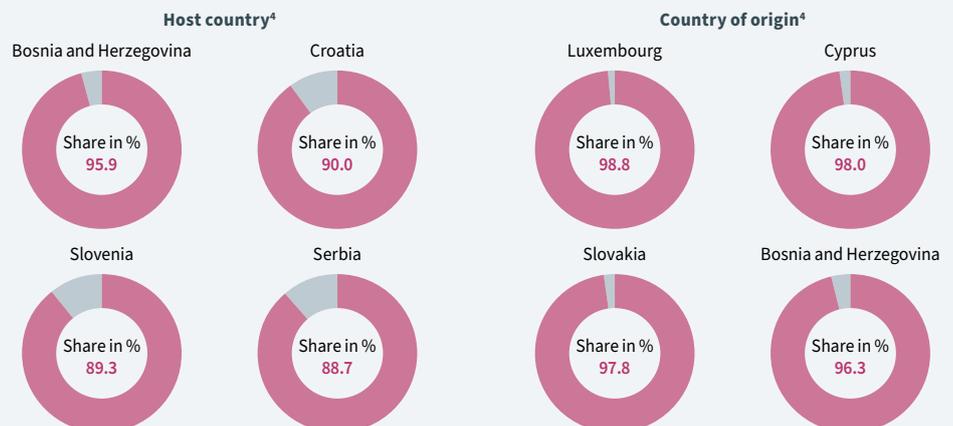
Sources: UNESCO/OECD, student statistics; Universities of the Netherlands, university staff statistics; country-specific reporting periods; DAAD calculations

A1.13 EHEA host countries with the highest numbers and the highest shares of internationally mobile students from other EHEA countries in 2022^{1,2}

Host country	Number of internationally mobile students from other EHEA countries
Germany	136,418
United Kingdom	135,255
Netherlands	92,172
Austria	71,465
Poland	47,631

A1.14 EHEA countries of origin with the highest numbers and the highest shares of students abroad in other EHEA countries in 2022^{1,2}

Country of origin	Number of students abroad in other EHEA countries
Germany	118,060
France	85,166
Italy	79,201
Ukraine	63,133
Turkey	46,845



Sources: UNESCO/OECD, student statistics; Universities of the Netherlands, university staff statistics; country-specific reporting periods;

Sources: UNESCO/OECD, student statistics; Universities of the Netherlands, university staff statistics; country-specific reporting periods;

2.1 Mobility trends and mobility flows

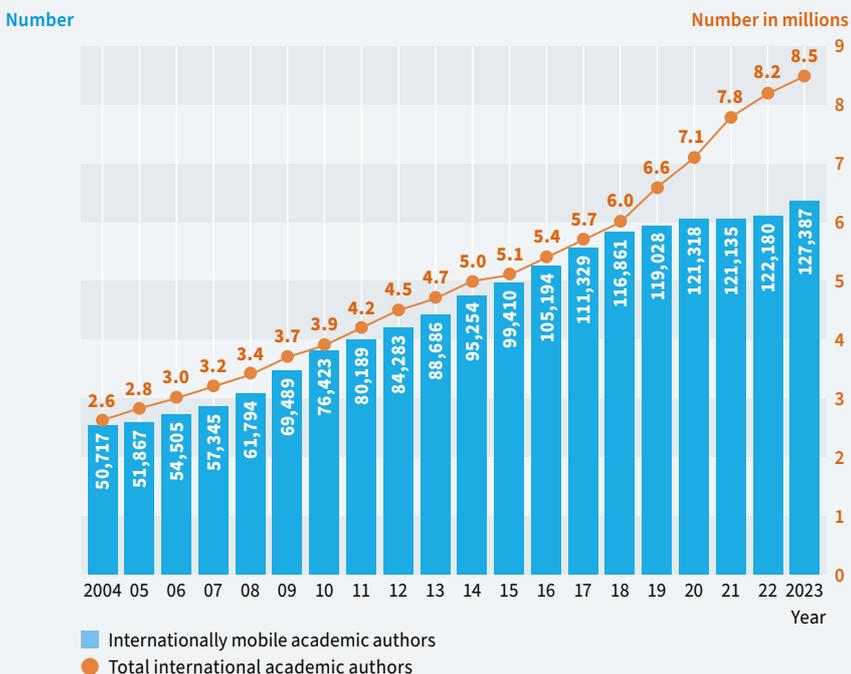
A bibliometric analysis carried out for *Wissenschaft weltoffen* on the basis of Scopus data found approximately 127,400 internationally mobile academic authors around the world for 2023 (see the info box on the data and the glossary in the appendix). This represents a slight year-on-year increase of roughly 4% (around 122,200). In 2023, this number was approximately 8,400 internationally mobile academic authors above the pre-pandemic level. Since 2013, the number of internationally mobile academics and researchers has shot up by 46%. The uptick in internationally mobile academics and researchers between 2004 and 2019 shown here may be primarily attributed to the fact that the number of academics and researchers worldwide who contribute to academic journals continues to rise and not to a growing propensity for mobility among these academics and researchers. From the beginning of the survey in 2004 until 2019, the percentage of internationally mobile academics and researchers of all academics and researchers polled worldwide remained constant at between 1.8% and 2.0%; this figure then dwindled steadily to 1.5% in 2021, stagnating there until 2023.¹

The US is the destination country or country of origin in eight of the ten most significant international mobility flows of academics and researchers (i.e. the country pairings with the most mobile academics and researchers during the period 2021–2023).^{2,3} The highest numbers of mobile academics and researchers can be found in both directions between the US and China, Germany, India, Canada and the United Kingdom. Once more in 2023, the two mobility flows between China and

Data

The international publication and citation database Scopus (Elsevier) is used as a data basis for bibliometric analyses of the mobility of academics and researchers presented here. This database documents the respective country of location of the author's institution for every publication. By this means, these databases can also be used to analyse the international mobility of academics and researchers since a comparison of the country of location of different articles submitted by an author allows conclusions to be drawn about their "mobility biography". However, at least two documented publications during the period under review are required to determine mobility. Accordingly, junior researchers who have no or only one academic journal article to show for the period under review are excluded from the analysis, along with researchers whose publications are not documented as Scopus mainly includes journal articles written in English. By the same token, if an academic or researcher is mobile without publishing an article in their respective country of residence, this is not taken into account in the bibliometric analysis. Therefore, when interpreting the data, it is important to bear in mind that this analysis only provides an incomplete picture of the international mobility of academics and researchers (see also the section on methodology in the appendix). Nonetheless, this measurement is currently the best, most comprehensive method of calculating the international mobility of academics and researchers in a way that facilitates continuous monitoring.

A2.1 Number of internationally mobile academic authors and total number of academic authors worldwide since 2004¹

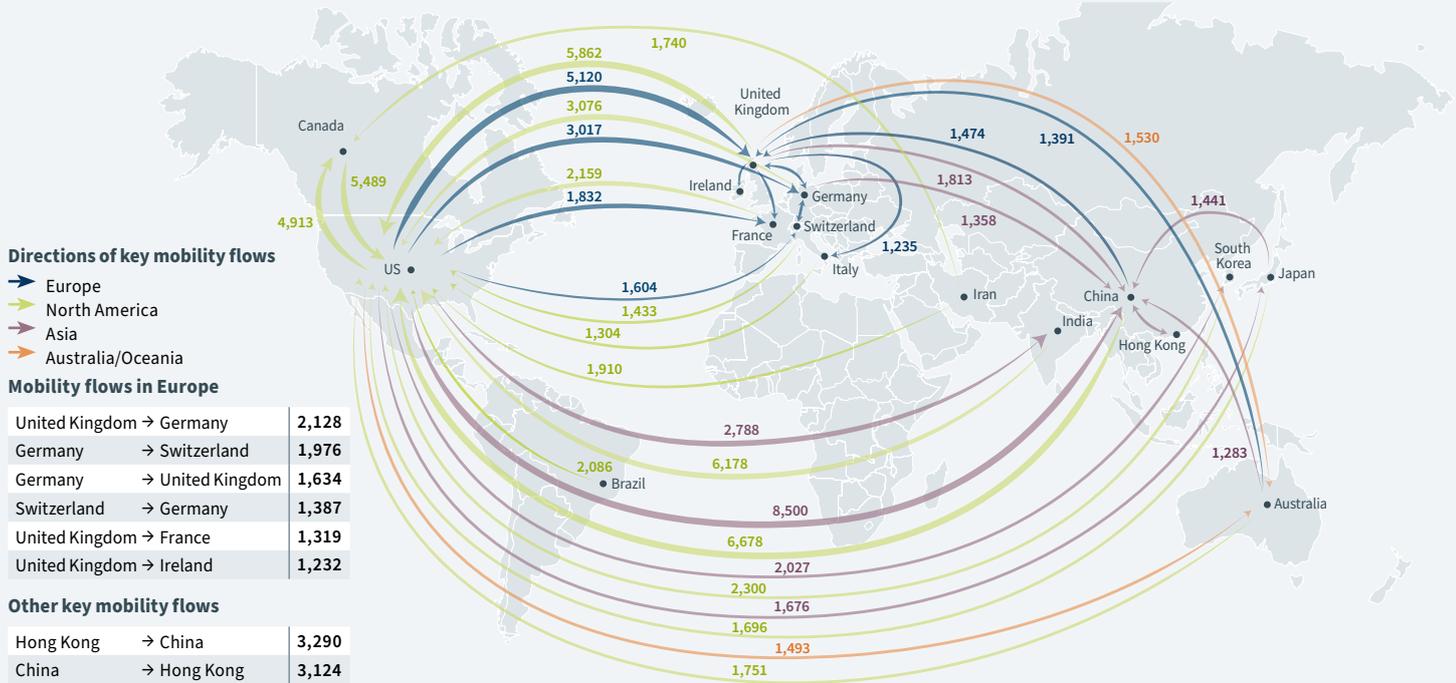


Source: Elsevier, Scopus database; DZHW calculations

* Footnotes

- 1 In the meantime, recalculations have produced more precise figures in terms of the numbers of mobile academic authors for 2022 and earlier, compared to the representation in *Wissenschaft weltoffen 2024*.
- 2 Owing to the associated low case figures, the period under review has been extended to three-year periods when analysing the mobility flows between individual countries in order to make the measurement less susceptible to short term developments (outliers) in individual years.
- 3 The term "host country" has been deliberately avoided in the following as the bibliometric analysis of academics and researchers' mobility cannot establish with certainty whether the country in question is actually hosting the academics and researchers or constitutes their home country, to which they returned after their visit abroad.
- 4 Please refer to the data table for Fig. A2.2 for information on the most important mobility flows during the period 2018–2020.
- 5 The Scopus database lists the Chinese special administrative region Hong Kong separately. For the purposes of comparison, this has also been adopted in *Wissenschaft weltoffen*.
- 6 For the sake of clarity, only the 40 most important mobility flows worldwide between 2021 and 2023 are shown.
- 7 Only countries with at least 5,000 incoming and outgoing academic authors in total.

A2.2 Key mobility flows of international academic authors in the period from 2021 to 2023^{2, 4, 5, 6}



Figures in absolute numbers of internationally mobile academic authors
Source: Elsevier, Scopus database; DZHW calculations

the US (and vice versa) were those with the most mobile researchers. The largest increases by far compared to the period 2018–2020⁴ can be observed in the mobility flows from China to Hong Kong (+60%), from Iran to Canada (+59%), from Australia to China (+39%), from Germany to China (+32%) and from China to the United Kingdom (+31%).⁵ By contrast, particularly substantial declines were noted in the flows from Italy (–24%), Japan (–19%) and China (–17%) to the US as well as from the US to Australia (–21%) and from Germany to the United Kingdom (–27%).

The international mobility flows of academics and researchers presented here indicate differing mobility parity in the various destination countries and countries of origin. The increasing development in inbound mobility to Germany has continued since the three-year period from 2019 to 2021, which is also true of Spain and France. In the case of other major destination countries and countries of origin, greater trends are emerging in one direction: while inbound mobility clearly predominates in Switzerland, Sweden, Denmark and Canada, outgoing mobility is equally pronounced in South Korea, Japan, Pakistan, Turkey and Russia. This disparity is even more noticeable in countries such as Saudi Arabia, India, Brazil and Iran.

A2.3 Mobility parity regarding internationally mobile academic authors in selected destination countries and countries of origin in the period from 2021 to 2023^{2, 3, 7}

Country	Internationally mobile academic authors			
	Number	Incoming	Outgoing	Number
Saudi Arabia	5,360	64	36	3,002
Switzerland	11,071	59	41	7,768
Sweden	5,825	58	42	4,199
Denmark	3,687	56	44	2,861
Canada	16,579	55	45	13,735
Netherlands	8,660	54	46	7,254
US	64,880	54	46	55,636
China	27,486	53	47	24,023
Germany	21,669	53	47	19,599
Spain	9,130	51	49	8,921
France	13,885	48	52	14,899
United Kingdom	27,765	47	53	31,078
South Korea	5,520	46	54	6,422
Japan	6,586	46	54	7,746
Pakistan	3,040	45	55	3,682
Turkey	2,499	39	61	3,946
Russia	2,283	35	65	4,272
India	8,857	34	66	16,962
Brazil	3,406	31	69	7,682
Iran	1,582	16	84	8,503

Source: Elsevier, Scopus database; DZHW calculations

2.2 Major destination countries and the profiles of their countries of origin

Just as with international student mobility, internationally mobile academics and researchers have different preferences in terms of their destination countries. It is striking that the twelve destination countries around the world that each represent at least 2% of all internationally mobile academic authors (see the glossary in the appendix) primarily include European and Anglo-American countries. The sole exceptions are China and India.

Between 2021 and 2023, the US was by far the most important destination country for internationally mobile academic authors. The bibliometric analysis found that the United States alone accounted for almost 18% of the total inbound mobility, with the United Kingdom (around 8%), China (7%) and Germany (6%) trailing far behind.¹

Compared to the previous period 2018–2020, shares were up slightly in almost all major destination countries, yet declined in the US (–1.6 percentage points), Australia (–0.5), the United Kingdom (–0.4) and France (–0.1). In Germany, shares rose marginally by 0.1 percentage points in both periods under review, while hikes of between 0.1 and 0.3 percentage points were ultimately observed in the other countries. China alone reported a greater upswing of 0.8 percentage points.

In 2023, the proportion of incoming authors (including returnees) of all academic authors in the 30 key destination countries is highest in the United Arab Emirates and Hong Kong (16% and 15% respectively)², followed by Switzerland (10%) and Ireland (9%), then Saudi Arabia and Singapore (8% each). With a share of around 4%, Germany is in 16th place, behind the United Kingdom and the Netherlands (6% each), yet ahead of France (4%), the US (3%), Japan and China (1% each).

International academics and researchers in the US, the top destination country, have a highly diverse profile of origin. The three key countries of origin – China, India and the United Kingdom – collectively represent just approximately 29% of incoming academics and researchers, while the proportion is appreciably higher in destination countries like Canada (47%; countries of origin: the US, Iran, the UK) and China (43%; countries of origin: the US, the UK, Japan) in particular. In both cases, this is mainly due to the US' remarkably high share as a country of origin. Switzerland as the third and Austria as the seventh key country of origin of incoming academics and researchers in Germany present special regional characteristics in their profiles of the countries of origin, along with Italy as the third key country of origin of incoming academics

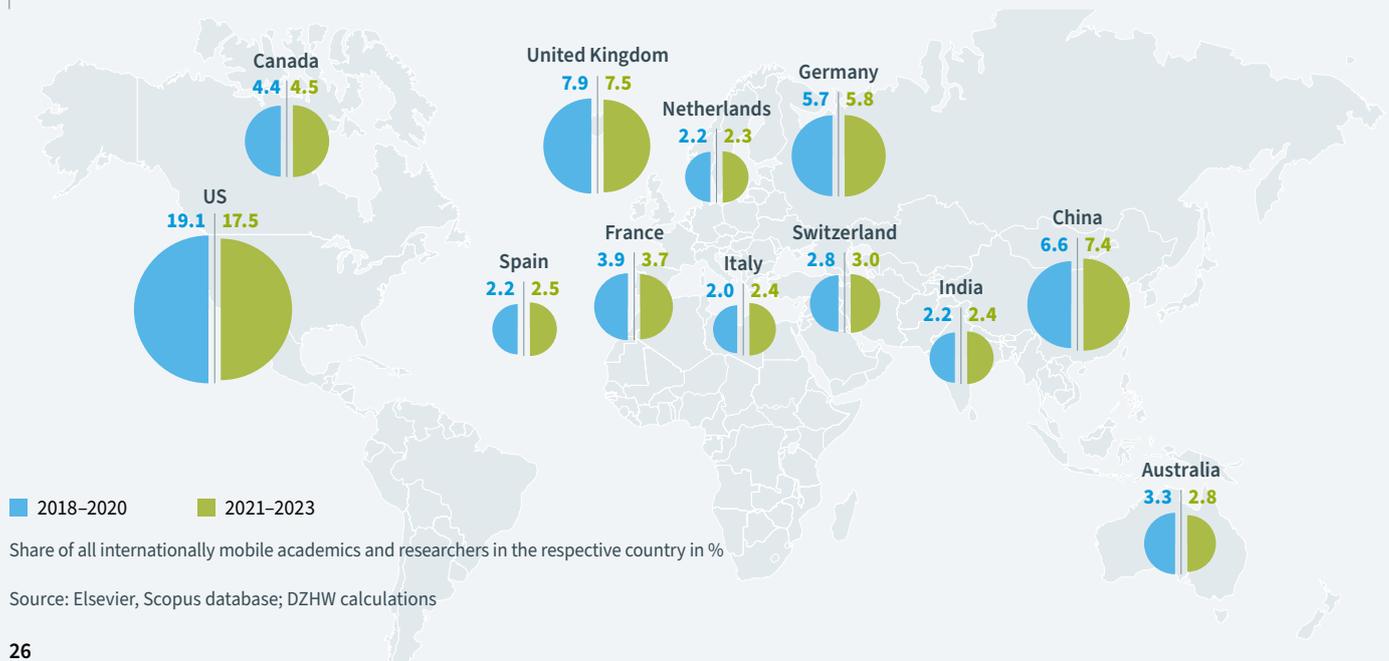
and researchers in France, and for Japan as the fourth key country of origin of incoming academics and researchers in China. With the exception of Canada, Germany ranks among the top five countries of origin in all destination countries. Furthermore, a

glance at the key destination countries and countries of origin of mobile academics and researchers from or in China (see also Chapter A2.3) clearly shows a lively academic exchange between Hong Kong and Mainland China.

Comparing the periods 2018–2020 and 2021–2023, downward trends emerge more frequently in the percentages of the ten key countries of origin in the destination countries under review. Conversely, the share of the other countries of origin rose relatively significantly, attesting to the ongoing diversification of the countries of origin among international academics and researchers in the key destination countries. The greatest increases in the shares of other countries of origin can be seen

“ In 2023, the United Arab Emirates had the highest proportion of incoming academic authors, namely 16%.

A2.4 Share of internationally mobile academic authors of all internationally mobile academic authors worldwide by key destination countries in the periods from 2018 to 2020 and from 2021 to 2023³



A2.5 Share of incoming academic authors of all academic authors in key destination countries in 2023⁴

Destinations	Incoming academic authors in %	Destinations	Incoming academic authors in %	Destinations	Incoming academic authors in %
United Arab Emirates	16.4	Netherlands	5.5	US	2.9
Hong Kong ²	14.8	Sweden	5.5	Spain	2.6
Switzerland	10.3	Denmark	5.5	Mexico	2.0
Ireland	8.8	Norway	5.1	Italy	2.0
Saudi Arabia	7.7	Finland	4.3	South Korea	1.7
Singapore	7.6	Germany	4.1	Japan	1.2
Austria	6.5	Australia	3.9	India	1.2
Belgium	6.2	France	3.8	Turkey	1.1
Canada	5.7	Israel	3.6	Brazil	0.8
United Kingdom	5.7	Pakistan	3.5	China	0.7

Source: Elsevier, Scopus database; DZHW calculations

in France (+4 percentage points), Germany and the United Kingdom (roughly +3 percentage points each).

Finally, it is remarkable that, compared to the period 2018–2020 and with the exception of China, the significance of the US as a country of origin dwindled in all destination countries under review, but particularly in Canada (–3 percentage points). Iran came to the fore in Canada as a country of origin, gaining three percentage points over the period 2021–2023. China played a slightly more significant role in all destination countries under review, with the exception of the US, where its share fell by one percentage point. China also gained traction as a destination country for most of the top ten countries of origin. Only the share of the Eastern Asian countries of origin Japan, South Korea and Taiwan in China declined between the two periods under review.

* Footnotes

- 1 In countries such as China and Germany, however, it may be assumed that the restriction of using English-language publications as a database results in systematic under-reporting.
- 2 The Scopus database lists the Chinese special administrative region Hong Kong separately. For the purposes of comparison, this has also been adopted in *Wissenschaft weltoffen*.
- 3 Only destination countries with at least a 2% share of all internationally mobile academics and researchers worldwide.
- 4 The 30 destination countries (including China's special administrative region Hong Kong) with the highest numbers of incoming academic authors worldwide in 2023 were taken into consideration.

A2.6 Key countries of origin of internationally mobile academic authors in the six key destination countries in the periods from 2018 to 2020 and from 2021 to 2023

Destination country: United States					Destination country: United Kingdom				
Origin: top 10	2018–2020		2021–2023		Origin: top 10	2018–2020		2021–2023	
	Number	In %	Number	In %		Number	In %	Number	In %
China	8,030	11.8	6,678	10.3	US	5,679	20.0	5,120	18.4
India	5,433	8.0	6,178	9.5	Germany	1,964	6.9	1,634	5.9
UK	6,293	9.2	5,862	9.0	China	1,124	4.0	1,474	5.3
Canada	6,226	9.1	5,489	8.5	Australia	1,574	5.6	1,391	5.0
Germany	3,473	5.1	3,076	4.7	India	835	2.9	1,231	4.4
South Korea	2,185	3.2	2,300	3.5	Italy	1,598	5.6	1,202	4.3
France	2,588	3.8	2,159	3.3	France	1,476	5.2	1,172	4.2
Brazil	1,848	2.7	2,086	3.2	Ireland	931	3.3	1,161	4.2
Iran	1,848	2.7	1,910	2.9	Canada	1,131	4.0	1,125	4.1
Australia	1,938	2.8	1,751	2.7	Spain	1,242	4.4	904	3.3
Other	28,344	41.6	27,391	42.2	Other	10,776	38.0	11,351	40.9

Destination country: Germany					Destination country: China				
Origin: top 10	2018–2020		2021–2023		Origin: top 10	2018–2020		2021–2023	
	Number	In %	Number	In %		Number	In %	Number	In %
US	3,212	15.8	3,017	13.9	US	7,089	30.0	8,500	30.9
UK	2,066	10.1	2,128	9.8	Hong Kong ²	2,651	11.2	3,290	12.0
Switzerland	1,237	6.1	1,387	6.4	UK	1,427	6.0	1,813	6.6
China	1,061	5.2	1,200	5.5	Japan	1,374	5.8	1,441	5.2
France	1,144	5.6	1,079	5.0	Germany	1,027	4.3	1,358	4.9
Netherlands	927	4.5	974	4.5	Australia	921	3.9	1,283	4.7
Austria	960	4.7	971	4.5	Singapore	1,070	4.5	1,230	4.5
Italy	936	4.6	946	4.4	Canada	809	3.4	1,002	3.6
India	625	3.1	829	3.8	Taiwan	948	4.0	759	2.8
Spain	740	3.6	650	3.0	South Korea	686	2.9	726	2.6
Other	7,477	36.7	8,487	39.2	Other	5,655	23.9	6,084	22.1

Destination country: Canada					Destination country: France				
Origin: top 10	2018–2020		2021–2023		Origin: top 10	2018–2020		2021–2023	
	Number	In %	Number	In %		Number	In %	Number	In %
US	5,165	33.0	4,913	29.6	US	2,113	15.2	1,832	13.2
Iran	1,096	7.0	1,740	10.5	UK	1,291	9.3	1,319	9.5
UK	1,232	7.9	1,173	7.1	Italy	983	7.1	927	6.7
China	768	4.9	857	5.2	Germany	963	6.9	889	6.4
France	926	5.9	843	5.1	Canada	733	5.3	670	4.8
India	574	3.7	734	4.4	Switzerland	637	4.6	649	4.7
Brazil	402	2.6	576	3.5	Spain	706	5.1	589	4.2
Australia	478	3.1	485	2.9	Belgium	588	4.2	565	4.1
Germany	477	3.0	465	2.8	China	409	2.9	427	3.1
Switzerland	229	1.5	223	1.3	Brazil	381	2.7	416	3.0
Other	4,319	27.6	4,570	27.6	Other	5,103	36.7	5,602	40.3

Source: Elsevier, Scopus database; DZHW calculations

2.3 Major countries of origin and their destination country profiles

Despite losing ground during the periods under review, 2018–2020 and 2021–2023, the US remains both the key destination country and the key country of origin for internationally mobile academic authors (see the glossary in the appendix). During the period 2021–2023, academics and researchers from the US accounted for approximately 15% of the global outgoing mobility reviewed here.

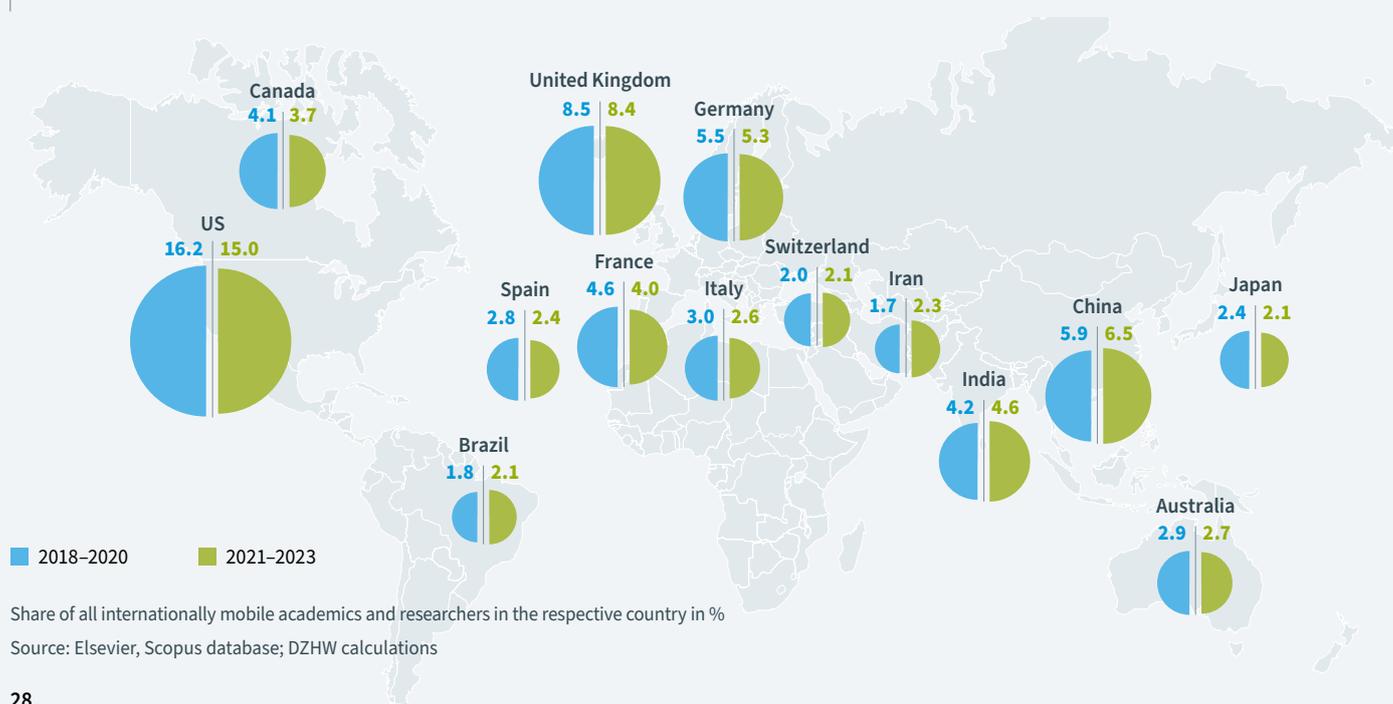
It is important to bear in mind, however, that the mobile academics and researchers under consideration are not necessarily citizens of the respective country of origin but – based on the bibliometric survey method – constitute all academics and researchers whose first article was published during the reference period (in this case: from 2004) in the relevant country of origin.¹ In all probability, therefore, a (currently non-quantifiable) number of the academics and researchers leaving the US do not actually come from the United States but had arrived there prior to having their first article published (according to the bibliometric data), for example, international doctoral students in the US. Further down the ranks, yet trailing some way behind are the United Kingdom (8%), China (7%), Germany and India (5% each) plus France (4%). Compared to the previous period, 2018–2020, an increase can be observed (up to 0.6 percentage points) in five countries of origin: Brazil, China, India, Iran and Switzerland. Nevertheless, all other countries indicate declining numbers, particularly the US (–1.2 percentage points), as well as France and Italy (–0.6 and –0.4 percentage points respectively).

More than half of internationally mobile academic authors from Canada are spread over just three destination countries: the US, the United Kingdom and China.

With regard to the share of outgoing authors of all academics and researchers in the key countries of origin, Asian countries report the highest mobility rates, as is the case with incoming authors (see Chapter A2.2). Scoring around 15%, Hong Kong has by far the greatest proportion of outgoing academics and researchers, followed by Singapore (9%), Ireland (8%), Switzerland (7%) and the United Kingdom (6%).³ Placing sixth to tenth are Belgium, South Africa, Austria, Pakistan and Canada (5% each). With a share of almost 4%, Germany is in 18th place behind the Netherlands and France (4% each), yet ahead of the US (2%), Japan and China (roughly 1% each).

Similar to its country of origin profile (see Chapter A2.2), the US' destination country profile boasts a comparatively high level of diversity. As key destination countries, China, the United Kingdom and Canada together only account for approximately 33% of all outgoing academics and researchers from the US. By comparison, the proportion of the three key destination countries of academics and researchers from China (39%; destination countries: the US, the UK, Germany) and especially Canada (55%; destination countries: the US, the UK, China) is substantially higher. Special regional characteristics in terms of the key destination countries can be found among academics and researchers from Germany, for example, who show a striking preference for the German-speaking countries of Austria and Switzerland, as well as for the European area as a whole. The Asian countries or territories of Hong Kong, Japan, Macao and Singapore are exceptionally popular destinations for academics

A2.7 Share of internationally mobile academic authors of all internationally mobile academic authors worldwide by key countries of origin in the periods from 2018 to 2020 and from 2021 to 2023²



A2.8 Share of outgoing academic authors of all academic authors in key countries of origin in 2023⁴

Origin	Outgoing academic authors in %	Origin	Outgoing academic authors in %	Origin	Outgoing academic authors in %
Hong Kong ³	15.1	Saudi Arabia	4.4	Taiwan	2.3
Singapore	8.8	Iran	4.4	US	2.3
Ireland	8.0	Netherlands	4.4	India	2.3
Switzerland	7.1	Malaysia	4.2	Brazil	2.1
United Kingdom	6.2	Sweden	4.2	Italy	2.0
Belgium	5.4	France	3.9	South Korea	2.0
South Africa	5.2	Australia	3.8	Turkey	2.0
Austria	4.7	Germany	3.6	Japan	1.4
Pakistan	4.7	Mexico	2.9	Russia	1.4
Canada	4.5	Spain	2.4	China	0.6

Source: Elsevier, Scopus database; DZHW calculations

and researchers from China. A glance at the key destination countries and countries of origin of mobile academics and researchers from or in China (see also Chapter A2.2) clearly shows a lively academic exchange between Hong Kong and Mainland China. Lastly, compared to the previous period 2018–2020, China in particular continues to figure more prominently as a destination country. This applies to academics and researchers from all countries of origin under review here, but most notably to those from the US, Canada and Germany. By contrast, despite consistently topping the destination country ranking for all countries of origin considered here, the US has lost ground, especially among academics and researchers from China and Canada.

A2.9 Key destination countries of internationally mobile academic authors from the six key countries of origin in the periods from 2018 to 2020 and from 2021 to 2023

Country of origin: US					Country of origin: United Kingdom				
Destinations:	2018–2020		2021–2023		Destinations:	2018–2020		2021–2023	
top 10	Number	In %	Number	In %	top 10	Number	In %	Number	In %
China	7,089	12.2	8,500	15.3	US	6,293	20.8	5,862	18.9
UK	5,679	9.8	5,120	9.2	Germany	2,066	6.8	2,128	6.8
Canada	5,165	8.9	4,913	8.8	China	1,427	4.7	1,813	5.8
Germany	3,212	5.5	3,017	5.4	Australia	1,707	5.6	1,530	4.9
India	2,808	4.8	2,788	5.0	France	1,291	4.3	1,319	4.2
South Korea	2,217	3.8	2,027	3.6	Italy	944	3.1	1,235	4.0
France	2,113	3.6	1,832	3.3	Ireland	1,162	3.8	1,232	4.0
Japan	1,996	3.4	1,676	3.0	Canada	1,232	4.1	1,173	3.8
Switzerland	1,525	2.6	1,604	2.9	Spain	939	3.1	1,080	3.5
Australia	1,883	3.2	1,493	2.7	Netherlands	961	3.2	1,025	3.3
Other	24,334	41.9	22,666	40.7	Other	12,194	40.4	12,681	40.8

Country of origin: Germany					Country of origin: China				
Destinations:	2018–2020		2021–2023		Destinations:	2018–2020		2021–2023	
top 10	Number	In %	Number	In %	top 10	Number	In %	Number	In %
US	3,473	17.7	3,076	15.7	US	8,030	38.2	6,678	27.8
Switzerland	1,828	9.3	1,976	10.1	Hong Kong ³	1,956	9.3	3,124	13.0
UK	1,964	10.0	1,634	8.3	UK	1,124	5.4	1,474	6.1
China	1,027	5.2	1,358	6.9	Germany	1,061	5.1	1,200	5.0
Austria	1,120	5.7	1,217	6.2	Japan	874	4.2	1,048	4.4
Netherlands	888	4.5	1,079	5.5	Pakistan	578	2.8	928	3.9
France	963	4.9	889	4.5	Australia	1,095	5.2	905	3.8
Italy	608	3.1	743	3.8	Canada	768	3.7	857	3.6
Spain	532	2.7	649	3.3	Singapore	747	3.6	850	3.5
Sweden	499	2.5	562	2.9	Macao ³	242	1.2	674	2.8
Other	6,772	34.4	6,416	32.7	Other	4,533	21.6	6,285	26.2

Country of origin: Canada					Country of origin: France				
Destinations:	2018–2020		2021–2023		Destinations:	2018–2020		2021–2023	
top 10	Number	In %	Number	In %	top 10	Number	In %	Number	In %
US	6,226	42.9	5,489	40.0	US	2,588	15.7	2,159	14.5
UK	1,131	7.8	1,125	8.2	UK	1,476	8.9	1,172	7.9
China	809	5.6	1,002	7.3	Switzerland	1,064	6.4	1,108	7.4
France	733	5.1	670	4.9	Germany	1,144	6.9	1,079	7.2
Australia	531	3.7	433	3.2	Canada	926	5.6	843	5.7
Germany	431	3.0	410	3.0	Italy	718	4.3	797	5.3
Saudi Arabia	392	2.7	383	2.8	Belgium	659	4.0	683	4.6
India	265	1.8	312	2.3	Spain	557	3.4	635	4.3
Switzerland	269	1.9	302	2.2	China	602	3.6	608	4.1
Netherlands	178	1.2	191	1.4	Netherlands	360	2.2	351	2.4
Other	3,544	24.4	3,418	24.9	Other	6,428	38.9	5,464	36.7

Source: Elsevier, Scopus database; DZHW calculations

Footnotes

- Bibliometric analyses of academics and researchers' mobility define the institution's country of location of the first publication during the reference period as the country of origin. It is therefore conceivable that previous mobility may not be excluded and that the presumed country of origin is actually a destination country (see also the info box on the data in Chapter A2.1).
- Only countries of origin with at least a 2% share of all internationally mobile academics and researchers worldwide.
- The Scopus database lists the Chinese special administrative regions Hong Kong and Macao separately. For the purposes of comparison, this has also been adopted in *Wissenschaft weltoffen*.
- The 30 countries of origin with the highest numbers of outgoing academic authors worldwide in 2023 were taken into consideration.

2.4 International academics and researchers at public universities and research institutes

The data situation on internationally mobile academics and researchers abroad is significantly less conclusive than that relating to internationally mobile students. To date, there are no internationally comparable UNESCO or OECD statistics on worldwide academic and researcher mobility similar to those on global student mobility. This may chiefly be explained by the fact that, in many countries, data on international university staff are not sufficiently differentiated (e.g. with respect to their countries of origin). One exception are international doctoral students as they are included in the student statistics of most countries.

The US is easily the key host country for international doctoral students. In 2022, around 170,400 junior researchers from abroad were intending to gain a doctorate at US universities, as opposed to those in the United Kingdom (46,100), Germany (45,600), France (24,000) and Canada (23,000). However, it should be noted that no figures are yet available on international doctoral students in countries such as China, India or South Africa.

As with the key host countries for international students, it is also possible to differentiate between host countries with the highest absolute number of international doctoral students and countries with the greatest shares of international of all doctoral students.¹ In 2022, large percentages of international doctoral students were recorded in Switzerland (58%), the Netherlands (54%), the US (48%), New Zealand

(44%) and the United Kingdom (41%). The first two small and medium-sized countries plainly excel, not only with universities that are highly research-oriented but also by offering attractive doctoral programmes for international doctoral candidates.

* Footnotes

- 1 Only countries with at least 1,000 international doctoral students (Fig. A2.10) and doctoral students abroad (Fig. A2.11). "International doctoral students" refers to the perspective of the respective host countries, while "internationally mobile doctoral students" refers to the perspective of the respective countries of origin.
- 2 Major host countries were defined as those with more than 4,000 international doctoral students according to the OECD or more than 100,000 international students according to UNESCO in 2022. Corresponding national data were collected for 15 of the 26 countries meeting this definition; however, this was not possible for Argentina, Australia, Belgium, Canada, China, the Czech Republic, Malaysia, Mexico, New Zealand, Russia and the United Arab Emirates.
- 3 Many of the available national statistics are unclear as to which groups of persons or from what career level academics and researchers are included in the statistics on academic staff. For example, whether guest researchers on temporary visits are considered part of the academic staff may significantly affect the respective statistics. For this reason, these groups have been excluded from the data presented here wherever possible.
- 4 The following groups were recorded in the countries in question (number of persons in each case, no full-time equivalents): US: foreign research and teaching staff without immigrant visas at research universities in 2021/22; United Kingdom: foreign academic staff at universities in 2021/22; Germany: foreign academic staff at universities and non-university research institutes in 2022; Switzerland: foreign academic staff in 2022; France: foreign and contractually employed teaching and research staff at public universities and non-university research institutes (including foreign doctoral students) in 2022; Japan: foreign academic staff at universities in 2022; Netherlands: foreign academic staff at universities in 2022; Austria: foreign academics and researchers at universities in 2022; South Korea: foreign professors, academics and researchers in 2022; Spain: foreign teaching and research staff at public universities in 2021/22; Turkey: foreign teaching staff at universities in 2021/22; Finland, Italy, Portugal, Sweden: foreign academic staff in 2022 ("foreign academic staff" according to the ETER definition).
- 5 As OECD statistics do not contain any data on international doctoral students in the US, they were supplemented by US data from the database of the Student and Exchange Visitor Information System (SEVIS) (survey date: November 2022).
- 6 International doctoral students in Germany including *Bildungsinlaender*: OECD statistics are based on the results of the Federal Statistical Office's survey of doctoral students, which – unlike the student statistics compiled by the Federal Statistical Office – include doctoral students who were not enrolled. However, until now, it has not been possible to distinguish between international students and *Bildungsinlaender* in OECD data.
- 7 Numbers of domestic and international doctoral students in the Netherlands were taken from the statistics of the UNL (Universities of the Netherlands) as they were not available in OECD statistics at the time of writing.
- 8 Including Hong Kong and Macao.
- 9 Missing OECD host country data for Germany were supplemented by data from the Federal Statistical Office.

A2.10 Host countries with the highest number and the highest shares of international doctoral students in 2022^{1, 5, 6}

Host country	Number of international doctoral students
US	170,417
United Kingdom	46,113
Germany	45,647
France	24,013
Canada	23,022
Spain	19,693
Australia	19,336
Japan	17,849
South Korea	16,892
Switzerland	15,764

Host country	Share of international doctoral students of all doctoral students in the host country worldwide in %
Switzerland	57.8
Netherlands ⁷	53.6
US	48.2
New Zealand	44.1
United Kingdom	41.0
Austria	40.0
Ireland	38.8
Canada	37.3
Denmark	37.2
France	36.1

Sources: OECD, student statistics; US Department of Homeland Security, SEVIS data; Universities of the Netherlands, university staff statistics; country-specific reporting periods; DAAD calculations

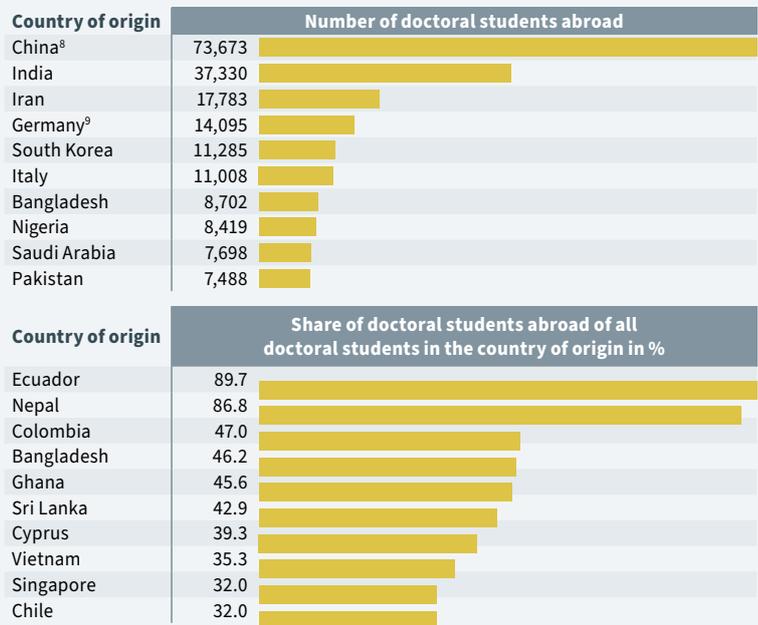
As the key country of origin for doctoral students abroad, China leads the field by a clear margin. Around 73,700 Chinese doctoral students conducted research abroad in 2022, with India (37,300), Iran (17,800) and Germany (14,100) trailing some way behind. Brazil, France and the US suffered a decline compared to 2021 and were leapfrogged by Nigeria, Saudi Arabia and Pakistan into the top 10 countries of origin with the most doctoral students abroad in 2022.

The share of doctoral students abroad in relation to all doctoral students in the respective country is comparatively low in Germany, at 7%, yet a great deal higher in Ecuador (90%), Nepal (87%), Colombia (47%), Bangladesh and Ghana (46% each). Ecuador’s remarkably high percentage may be attributed to the small number of universities that are entitled to confer doctorates, with doctoral studies currently offered at just seven institutions. The situation is compounded by the high demand for doctorates, which are required in order to teach at a university.

To obtain a more comprehensive picture of the mobility of academics and researchers than is possible with the data on international doctoral students worldwide alone, research was conducted on (contractually employed) international academic staff at public universities and research institutes in major host countries as part of the *Wissenschaft weltoffen* project.² When comparing these national data, it should be noted that the definitions of academic staff and/or that of the universities and research institutes concerned differ from country to country.³ As far as possible, the aim of this data collection was to document contractually employed, international academic staff.⁴

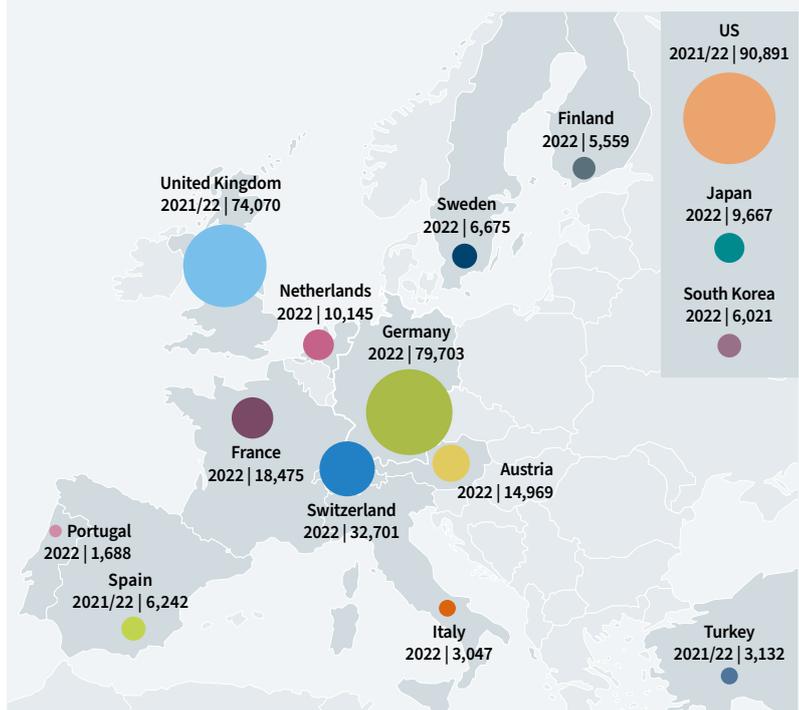
Looking at the 15 host countries for which data were collected, the US turns out to be well ahead of the field as the key host country, with around 90,900 international academics and researchers at US universities. It is followed by Germany (79,700), the United Kingdom (74,100), Switzerland (32,700), France (18,500) and Austria (15,000). The low number of international researchers in France by direct comparison with Germany is particularly striking, although – as in Germany – academic staff at non-university research institutes there were also included. The language may represent a higher obstacle for recruiting international academic staff in France than in Germany and other countries where, for example, English is the dominant working language in several disciplines.

A2.11 Countries of origin with the highest number and the highest shares of doctoral students abroad in 2022^{1,5}



Sources: OECD/UNESCO, student statistics; Federal Statistical Office, “Deutsche Studierende im Ausland” survey; US Department of Homeland Security, SEVIS data; country-specific reporting periods; DAAD calculations

A2.12 International academics and researchers at public universities and research institutes in major host countries⁴



Sources: Statistical offices and/or science organisations in the respective countries; ETER database (Finland, Italy, Portugal, Sweden); country-specific reporting periods and staff definitions

2.5 International co-publications

Academic co-publications authored by researchers in different countries as the result of cross-border collaborations are a key indicator for the international exchange between academics and researchers in these countries.

International publication and citation databases can be used to analyse these international co-publication networks (see the info box on the data). According to the data of the publication and citation database Scopus, 72% of all publications in which academics and researchers in Switzerland were involved in 2023 were a collaborative effort with authors in other countries. Otherwise, of the countries under review, only Sweden (67%), the Netherlands (65%) and the United Kingdom (61%) account for more than 60%, compared to France (58%), Canada (57%) and Germany (53%). Together, all EU-27 countries represent a share of 55%. By contrast, relatively low percentages can be observed in China (18%) and India (23%), but also in Japan (32%), South Korea (34%) and the US (37%).

Therefore, smaller countries in particular account for comparatively high shares of international co-publications. One important reason for this is that academics and researchers in these countries rely more heavily on co-authors in other countries for their research than researchers in bigger countries, who can draw on a large pool of potential co-authors within their national borders. The above figures also point to another major discovery: small percentages of international co-publications are not restricted to countries with

a generally low level of scientific development, which tends to be associated with limited international networking. In the case of the United States and Japan, these countries show a relatively insignificant

level of international integration in terms of cross-border co-authoring, despite their highly developed science systems. Co-authors in these countries are evidently recruited to a greater extent from within the confines of their own science system than beyond national borders.

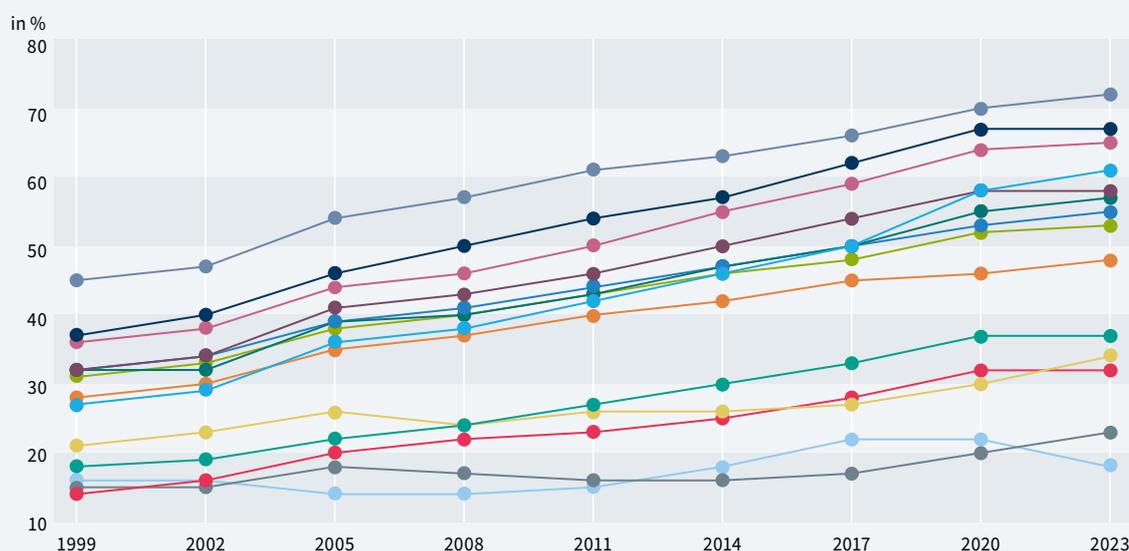
Without exception, the proportion of international co-publications has gone up since 1999 in all countries

under review here. Nevertheless, the uptick between 1999 and 2003 was exceptionally noticeable in the United Kingdom (+130%), Japan (+123%) and the United States (+110%). However, the share of international co-publications also virtually doubled in the Netherlands and France (+83% each), along with Sweden and Canada (+80% each). By contrast, strikingly minor growth can be observed in India (+17%) in particular. Although Covid-19 restricted the mobility of students and academic authors between 2019 and 2022, it seems to have had no major impact on international co-publications. With the exception of China, the percentages of international co-publications increased during the pandemic in the countries under review.

If a country's share of international co-publications is regarded as an indicator of the internationalisation of its academic collaboration, the question arises as to whether certain countries dominate these relationships and which countries they are.¹ A high concentration of

“ Since 1999, the proportion of international co-publications has gone up in all countries under review here, most notably in Japan, the United Kingdom and the United States however.

A2.13 Share of international co-publications by selected countries of authors' residence and in the EU-27 since 1999²



Share of international co-publications of all publications in %

Source: Elsevier, Scopus database; DZHW calculations

Data

The German Centre for Higher Education Research and Science Studies (DZHW) carried out the bibliometric analyses presented here, based on data from the international publication and citation database Scopus (Elsevier). It includes most of the papers published worldwide in (English-language) academic journals. For each paper, the country of location of the institution to which the respective authors were affiliated on the date it was published is documented. This differentiates between national and international co-publications.

However, the bibliometric analyses have several important limitations: in particular, only those researchers who have published papers in academic journals included in the publication database used here are taken into consideration. These are primarily English-language journals from the natural sciences and economics. This means that academics and researchers from disciplines where monographs and edited volumes also play an important role as publication media (i.e. primarily the humanities and social sciences) are strongly under-represented.

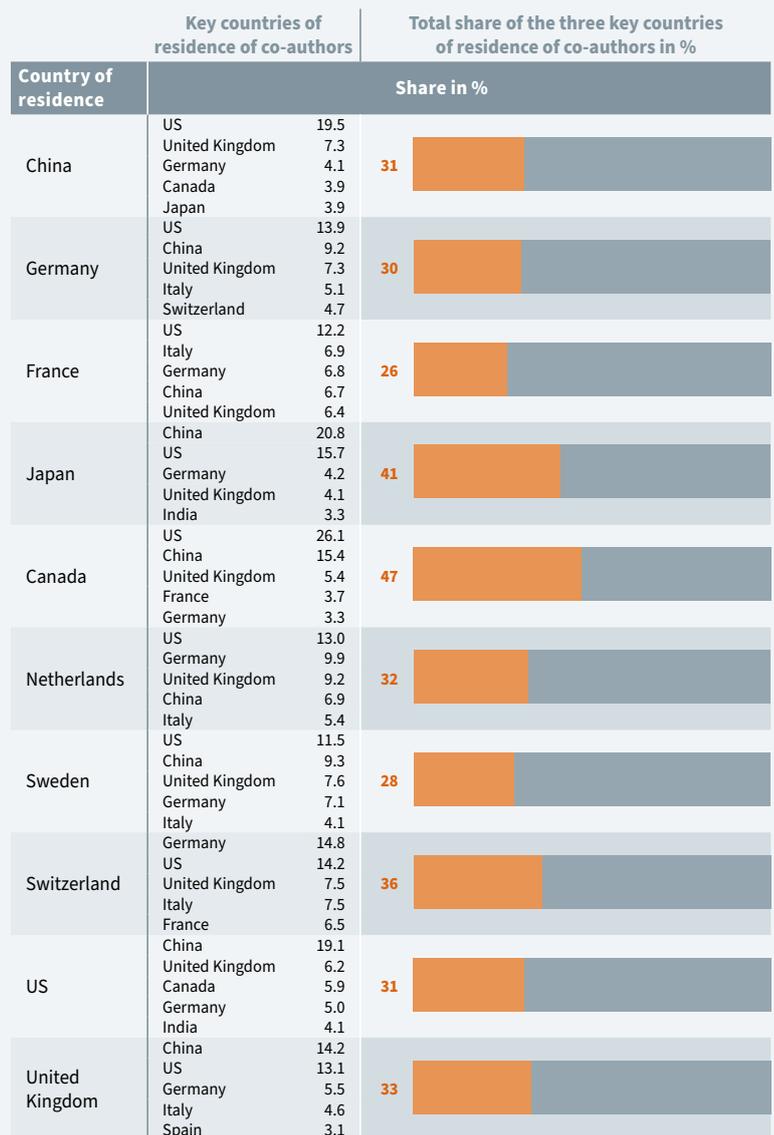
the co-authors' three key countries of residence can be observed among the publishing researchers' countries of residence considered here: Canada (47%), Japan (41%), Switzerland (36%) and the United Kingdom (33%). By contrast, the proportion in China, Germany and the US is a mere 30% or thereabouts. At 26% and 28% respectively, France and Sweden account for even lower shares. In other words, the diversification of international co-authoring is comparatively high in the latter countries.

On establishing the five key countries of residence of the co-authors of publishing researchers for each of the countries under review here, it initially transpires that the US is the key location of the co-authors for the majority of these countries, apart from Japan, Switzerland and the United Kingdom, often well ahead of the second key country. This margin is particularly significant in the case of China and Canada, where authors in the US account for 19% and 26% respectively of publishing researchers' international co-publications. Moreover, Germany, the United Kingdom and China are among the five key locations of international co-authors for almost all other countries considered here, again with the exception of Switzerland.

* Footnotes

- 1 See also Zhao & Wei (2018).
- 2 The absolute or whole count method is used here. Simply adding a publication is regarded as one unit of analysis. In doing so, the publication is attributed in full to each institution that was instrumental in preparing it. If several institutions collaborated to create a publication, the publication is attributed once to each institution.
- 3 Fractional counting is applied here, based on the number of participating institutions. This method of counting calculates a country's share of a publication using the number of participating institutions in that country. For example, under fractional counting, if a publication is written by authors from one German, one French and one Swiss institution, it is attributed to Germany, France and Switzerland with a share of one third each.

A2.14 Shares of the key countries of residence of international co-authors of researchers in selected countries of residence in 2023³



Source: Elsevier, Scopus database; DZHW calculations

1 International students in Germany overall

1.1 Mobility trends, first-year students and federal states

According to student statistics (*Statistik der Studierenden*), 469,485 students with foreign citizenship were enrolled at universities in Germany in the 2023/24 winter semester. Some 379,939, or 81%, of these foreign students were international students (see the glossary in the appendix)¹, who had obtained their university entrance certificate abroad and came to Germany afterwards to study. Their number has risen significantly and continuously over time. In the 2023/24 winter semester, it was 74% higher than ten years earlier. A dramatic and steady increase can also be observed over the summer semesters.² Preliminary data released by the Federal Statistical Office for the 2024/25 winter semester reveal a further slight increase to around 402,100 international students (+6%) compared to the 2023/24 winter semester.

In the 2023/24 winter semester, the overwhelming majority (over 93%) of international students were intending to graduate from a university in Germany. Only 7% were visiting students on a temporary study visit in Germany. With more and more students coming to Germany with the intention to graduate, the number of international students in Germany has risen tremendously over time. Their number increased by 85% between the 2013/14 and 2023/24 winter semesters, while the number of international visiting students not seeking a degree in Germany has dwindled by 8%. The number of international students intending to graduate in Germany continued to rise even during the Covid-19 pandemic. The pandemic had the greatest (negative) impact on the number of international students at universities³ who were not intending to graduate in Germany.

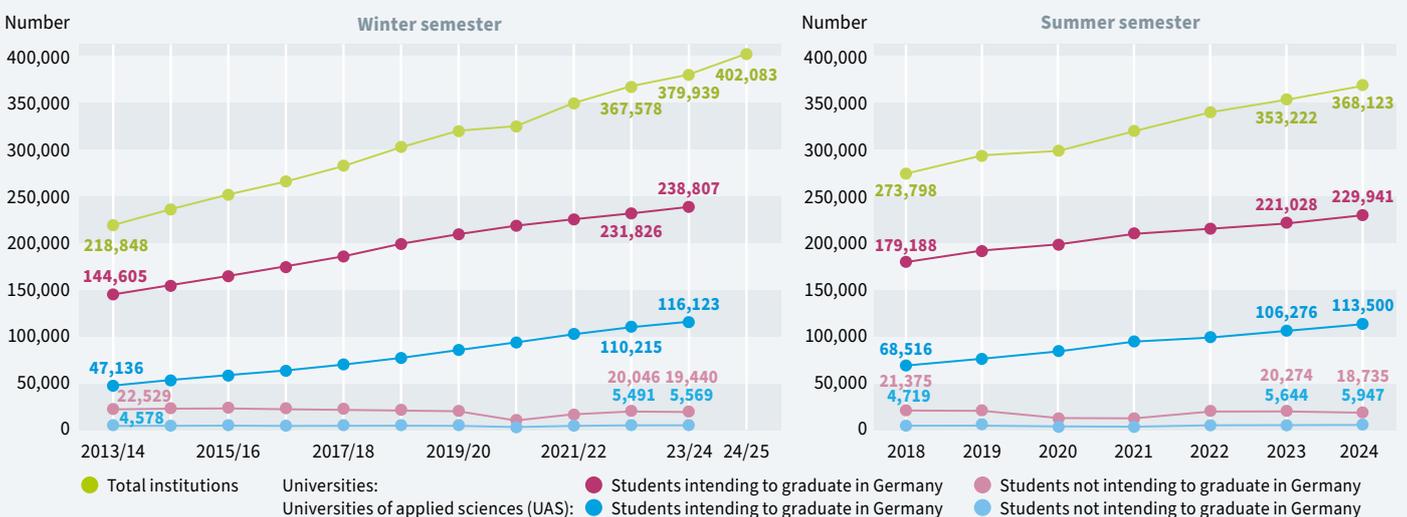
A good two thirds (68%) of international students were enrolled at a university in the 2023/24 winter semester, compared to almost one third (32%) who were enrolled at universities of applied sciences (UAS). In relative terms, the uptick in the number of international

students between the 2022/23 and 2023/24 winter semesters was more pronounced at UAS (+5%) than at universities (+3%), the reason being the slight decline in the number of international students at universities not intending to graduate in Germany.

As an early indicator of the development in the number of international students, the number of international first-year students⁴ is also enlightening. The academic year 2023⁵ again saw a record high of 116,635 international first-year students (+2% since 2022). Between the 2018 and 2023 academic years, the development in the number of international first-year students varied significantly depending on the type of university and sponsorship. On the one hand, public universities overall reported no change between 2018 and 2023, whereas there was a dramatic increase at private universities as a whole (+84%). On the other hand, both public and private UAS showed much more dynamic growth than the respective universities in the period under review. When interpreting these trends, it should be noted that the number of first-year students at public universities and UAS was significantly higher than at private universities and UAS. The exceptionally dynamic development at private universities and UAS can thus also be regarded as a catch-up effect with regard to internationalisation.

Differing evolutions of the number of international students can be observed across federal states. Between the 2018/19 and 2023/24 winter semesters, this number skyrocketed in Thuringia⁶ (+197%), Bavaria (+58%), Brandenburg (+54%) and Saxony-Anhalt (+42%). By contrast, the number stagnated in Mecklenburg-Western Pomerania and fell slightly in Baden-Württemberg (-3%). The absolute number of international students also varies greatly by federal state. In the 2023/24 winter semester, almost half of all international students in Germany were studying in North Rhine-Westphalia, Bavaria and Berlin alone. Moreover, the federal states indicate

B1.1 International students by type of university and intention to graduate in Germany since the 2013/14 winter semester and the 2018 summer semester^{2,3}



Source: Federal Statistical Office, "Statistik der Studierenden"

differing shares of international students of all students. In the 2023/24 winter semester, particularly high shares were reported in Berlin and Brandenburg (21% each), compared to particularly low shares in Mecklenburg-Western Pomerania (a good 9%) and Schleswig-Holstein (7%).

Furthermore, the shares of international students of all students differ according to the type of university and sponsorship. Their shares soared to record highs between the 2013/14 and 2023/24 winter semesters regardless of the type of university and sponsorship. By tradition, however, as was also the case in the 2023/24 winter semester, their shares were greatest at the colleges of art and music (29%), with the universities⁷ (15%) and the UAS (11%) trailing some way behind. On average, they were higher at public universities (14%) than at private universities⁸ (11%). Nevertheless, the growth rates were comparatively low (+23% between the 2013/14 and 2023/24 winter semesters) at the colleges of art and music, long highly internationalised, and remarkably elevated at the minimally internationalised UAS (+81%) as well as the private universities (+132%).

* Footnotes

- 1 This designation follows the standard international use of terms. Official statistics refer to these students as “Bildungsausländer”, whereas they apply the term “international students” to all students holding a foreign university entrance certificate, including the corresponding German students.
- 2 The student numbers for the summer and winter semesters cannot be compared directly. Variations in the figures for first-year and formerly enrolled students lead to systematic differences. For all student groups, higher figures can be observed in the winter semester than in the summer semester.
- 3 Figures for universities including colleges of art, music, education and theology.
- 4 First-year students are students in their first university semester, including bachelor’s, master’s, doctoral and other students.
- 5 The information on international first-year students refers to one academic year and includes one summer semester and the following winter semester. 2023 academic year = 2023 summer semester + 2023/24 winter semester.
- 6 The strong growth in the number of international students at Thuringian universities may be attributed first and foremost to the registered office of the International University (a private university of applied sciences) moving to Erfurt in 2019.
- 7 Figures for universities including colleges of education and theology.
- 8 Figures for private universities including church-run universities.

B1.2 International first-year students in Germany by type of university and sponsorship in the 2018 and 2023 academic years and development between 2018 and 2023^{3,8}

		2018	2023	Development between 2018 and 2023
Type of university and sponsorship		Number of all students		Change in %
Public	Total	102,043	102,005	0.0
	Universities	75,315	74,065	-1.7
	UAS	26,728	27,940	+4.5
Private	Total	7,952	14,630	+84.0
	Universities	2,999	4,408	+47.0
	UAS	4,953	10,222	+106.4
Total		109,995	116,635	+6.0

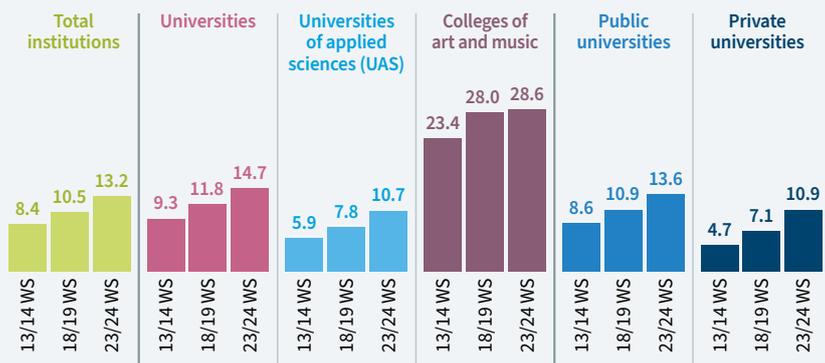
Source: Federal Statistical Office, “Statistik der Studierenden”; DZHW calculations

B1.3 International students by federal state in the 2023/24 winter semester and development between the 2018/19 and 2023/24 winter semesters

Federal state	2023/24 WS		Development between the 2018/19 WS and 2023/24 WS
	Number all students	Share in %	Change in %
Baden-Württemberg	36,127	10.3	-3
Bavaria	67,495	16.6	+58
Berlin	41,577	20.7	+24
Brandenburg	10,834	21.0	+54
Bremen	6,019	16.0	+27
Hamburg	13,369	11.2	+30
Hesse	30,217	12.3	+21
Lower Saxony	21,302	11.2	+11
Mecklenburg-Western Pomerania	3,471	9.4	-0.4
North Rhine-Westphalia	78,293	10.9	+13
Rhineland-Palatinate	13,770	12.2	+18
Saarland	4,255	14.0	+12
Saxony	17,805	17.2	+8
Saxony-Anhalt	9,760	17.2	+42
Schleswig-Holstein	4,557	7.1	+11
Thuringia ⁶	21,088	14.6	+197
Germany overall	379,939	13.2	+26

Source: Federal Statistical Office, “Statistik der Studierenden”; DZHW calculations

B1.4 Share of international students of all students by type of university and sponsorship in the 2013/14, 2018/19 and 2023/24 winter semesters^{7,8}



Share in % of all students

Source: Federal Statistical Office, “Statistik der Studierenden”; DZHW calculations

1 International students in Germany overall

1.2 Regions and countries of origin

In the 2023/24 winter semester, Asia and Pacific was again the key region of origin of international students in Germany (see the glossary in the appendix). Approximately one third (33%) of international students in Germany came from this region, with the regions of origin North Africa and Middle East (19%), Western Europe (15%) plus Central and Southeastern Europe (almost 13%) trailing some way behind. Comparatively few students travelled to Germany to study from Eastern Europe and Central Asia (8%), Sub-Saharan Africa and Latin America (5% each) or North America (2%).

The influxes of students to Germany from these regions of origin have developed at different rates in recent years. Between the 2018/19 and 2023/24 winter semesters, the influxes of students from the regions of origin of Asia and Pacific (+36%) as well as North Africa and Middle East (+37%) saw steady, above-average growth. The numbers of students from Central and Southeastern Europe and Eastern Europe and Central Asia (+20% each) also rose significantly, with these increases primarily occurring in the last three and two years, respectively. In the five-year period under review, the numbers of students from Sub-Saharan Africa (+27%), Latin America (+13%) and Western Europe (+10%) also increased, whether substantially or moderately; however, they stagnated or declined in the last two years considered. In the 2023/24 winter semester, North America was the only region of origin that reported fewer students travelling to Germany to study than five years previously (-11%).

Closer analysis of the individual countries of origin reveals that, in the 2023/24 winter semester, the single largest groups of international students in Germany came from India (13%) and China (10%). The number of Indian students has skyrocketed in recent years – by 138% between the 2018/19 and 2023/24 winter semesters alone. As a result of this development, Indian students have, since the 2022/23

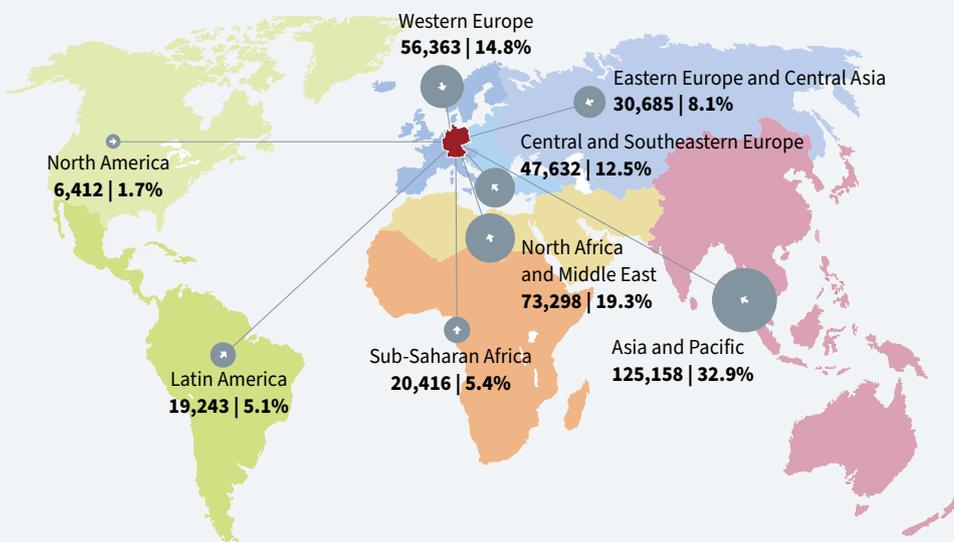
winter semester, replaced Chinese students as the single largest group of international students in Germany. Previously, Chinese students had headed this ranking for over 20 years; however, their number fell slightly (-4%) between the 2018/19 and 2023/24 winter semesters.

Meanwhile, the number of students from Turkey soared during this period

(+114%). Accordingly, Turkey was again the key country of origin in Central and Southeastern Europe and, for the first time, the third key country of origin of international students in Germany overall. The key Western European countries of origin in the 2023/24 winter semester were Austria (4%), Italy (3%) and France (2%). While the number of students from Austria (+34%) and Italy (+10%) went up between the 2018/19 and 2023/24 winter semesters, that of students from France decreased (-4%). Accounting for 3% of all international students in Germany, Russia was the key country of origin in Eastern Europe and Central Asia. While the number of Russian students in Germany barely changed (+1%) in the five-year period under review, the number of Ukrainian students rose dramatically (+43%). Iran was the key

“In the 2023/24 winter semester, India and China were by far the most important countries of origin of international students in Germany, with Turkey coming in third place for the first time.”

B1.5 International students by region of origin in the 2023/24 winter semester¹



Total international students at universities in Germany: 379,939 (including 524 stateless students and 208 students who cannot be assigned to any region of origin (each group about 0.1%))

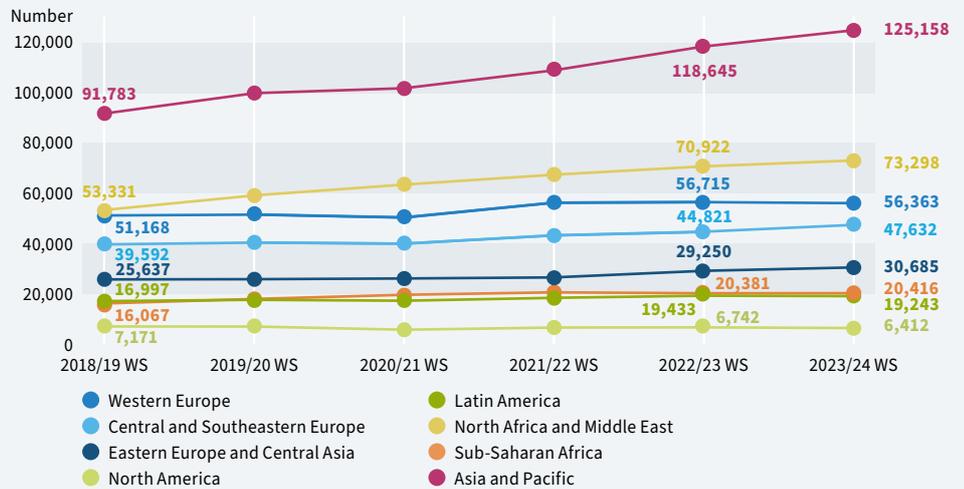
Number and share in % of all international students at universities in Germany

Source: Federal Statistical Office, “Statistik der Studierenden”; DZHW calculations

country of origin in North Africa and Middle East, partly as a result of the sharp upswing in Iranian students in Germany in the five-year period under review (+78%). The key country of origin in Sub-Saharan Africa was Cameroon (2%). The number of students from Cameroon dwindled between the 2018/19 and 2023/24 winter semesters (-6%). No American countries figured among the key countries of origin of international students in Germany.

The greatest proportional growth between the 2020/21 and 2023/24 winter semesters – in other words, during and after the Covid-19 pandemic – was found among students from Guyana (+832%), Myanmar (+202%), Honduras (+137%), Gambia (+102%) and Sri Lanka (+98%), whereas students from the Palestinian territories and Syria (-21% each), Cyprus and Moldova (-23% each) and North Korea (-88%) saw the largest relative decreases. In absolute terms, however, student numbers saw considerable declines primarily in the case of Syria, with the number of Syrian students in Germany tumbling by 14% compared to the 2022/23 winter semester alone. Consequently, Syria dropped back from third into sixth place in the list of key countries of origin of international students in Germany in the 2023/24 winter semester.

B1.6 International students by region of origin since the 2018/19 winter semester¹



Source: Federal Statistical Office, "Statistik der Studierenden"; DZHW calculations

B1.7 Key countries of origin by number and share of international students in the 2023/24 winter semester and development from the 2018/19 to the 2023/24 winter semester

Countries of origin	2023/24 WS		Development 2018/19 WS–2023/24 WS in %
	Number	Share in %	
India	49,008	12.9	+138
China ²	38,687	10.2	-4
Turkey	18,084	4.8	+114
Austria	15,379	4.0	+34
Iran	15,159	4.0	+78
Syria	13,379	3.5	+3
Russia	10,593	2.8	+1
Italy	10,154	2.7	+10
Ukraine	9,914	2.6	+43
Pakistan	9,873	2.6	+72
Egypt	8,060	2.1	+72
Morocco	7,398	1.9	+33
Tunisia	6,852	1.8	+13
Cameroon	6,789	1.8	-6
France	6,759	1.8	-4

Source: Federal Statistical Office, "Statistik der Studierenden"; DZHW calculations

B1.8 Countries of origin with the greatest relative changes in the number of international students between the 2020/21 and the 2023/24 winter semesters³

Countries of origin	Number 2023/24 WS	Development 2020/21 WS–2023/24 WS in %
Guyana	177	+832
Myanmar	320	+202
Honduras	325	+137
Gambia	105	+102
Sri Lanka	982	+98
Palestinian territories	1,319	-21
Syria	13,379	-21
Cyprus	559	-23
Moldova	308	-23
North Korea	22	-88

Source: Federal Statistical Office, "Statistik der Studierenden"; DZHW calculations

* Footnotes

- 1 Unlike in previous editions of *Wissenschaft weltoffen*, Greece and Cyprus are now classified as part of Central and Southeastern Europe rather than Western Europe.
- 2 Including Hong Kong and Macao.
- 3 Only countries with at least 100 international students in the 2023/24 winter semester (increase) and/or the 2020/21 winter semester (decrease), respectively.

2 International students intending to graduate in Germany

2.1 Mobility trends and types of degree

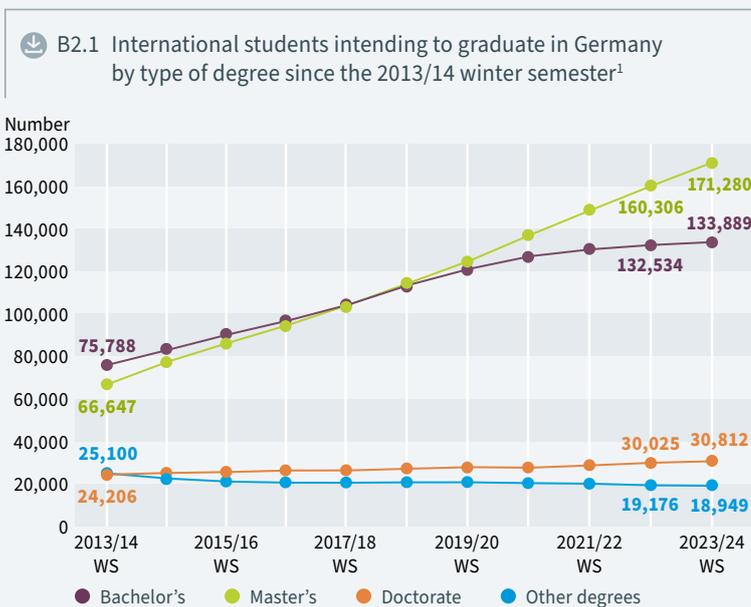
Approximately 355,000 international students (see the glossary in the appendix) were aiming to graduate from universities in Germany in the 2023/24 winter semester. Their number has skyrocketed by 85% over the course of ten years, and increased by about 4% since the 2022/23 winter semester alone. Unlike temporary study-related international mobility (see Chapter B3), degree-related international mobility thus continued to rise without any slowdown even during the Covid-19 pandemic.

Universities of applied sciences (UAS) have seen particularly strong growth, where the number of international students intending to graduate has shot up by 146% since the 2013/14 winter semester. The rate at universities was significantly lower (+65%). Nevertheless, the majority (67%) of international students seeking a degree in Germany were still enrolled at universities in the 2023/24 winter semester. As a consequence of these developments, almost 13% of all students intending to graduate at universities in Germany were international students in the 2023/24 winter semester. This share was 14% at universities and 10% at UAS.

Interest in master's degrees is booming. The number of international students in master's degrees rose by 49% in five years. This is significantly higher than the figure for bachelor's degrees: the number of international students intending to complete their studies with a bachelor's degree has climbed by just 18%. In the 2023/24 winter semester, approximately 31,000 international students were aiming to complete a doctorate in Germany, an increase of 14% since the 2018/19 winter semester.¹ The lower growth rates in doctoral studies can be explained by the limited number of available doctoral positions, the admission requirements for a doctorate and the strong global competition for particularly well-qualified applicants. It should also be noted that, at 28%, the share of international students in doctoral studies is already higher than that of international students in master's (26%) or bachelor's programmes (8%).

The uptick in the number of international first-year students embarking on their first degree in Germany confirms the appeal of master's programmes at universities in Germany for international students.² In the 2023 academic year³, following a slight drop during the Covid-19 pandemic, master's programmes recorded a new peak of around 44,300 international first-year students, roughly 4% more than in 2022 and 35% more than in 2018. Taking into account not just those international first-year students who enrolled in a master's programme at a university in Germany for the first time, but also those who continued with a master's programme after completing their bachelor's programme in Germany, the corresponding number of international first-year master's students in 2023 was an impressive 58,100, thus 5% more than in 2022. A different development can be observed for doctoral students, whose number dwindled from around 3,800 in 2022 to 3,500 in 2023 (-7%), a mere 5% above their number in 2018. The number of new doctoral students is significantly increased if doctoral students who have already obtained a degree in Germany are also taken into account. In 2023, this number amounted to approximately 5,900, thus 3% below the corresponding figure for 2022. Around 30,300 international first-year students were enrolled in bachelor's programmes in 2023, 4% more than in 2022, but still 7% below the figure for 2018. However, owing to the large influx in master's programmes, the total number of international first-year students⁴ has developed favourably and, in 2023, was approximately 4% or 3,000 first-year students above the 2022 figure. This represents an increase of 12% over 2018.

Of the international students intending to graduate in Germany in the 2023/24 winter semester, a total of 48% were aiming for a master's degree, 38% for a bachelor's degree and 9% for a doctorate, while 5% planned to complete their studies with a state examination or other type of degree. The situation was different among German students. In



Source: Federal Statistical Office, "Statistik der Studierenden"

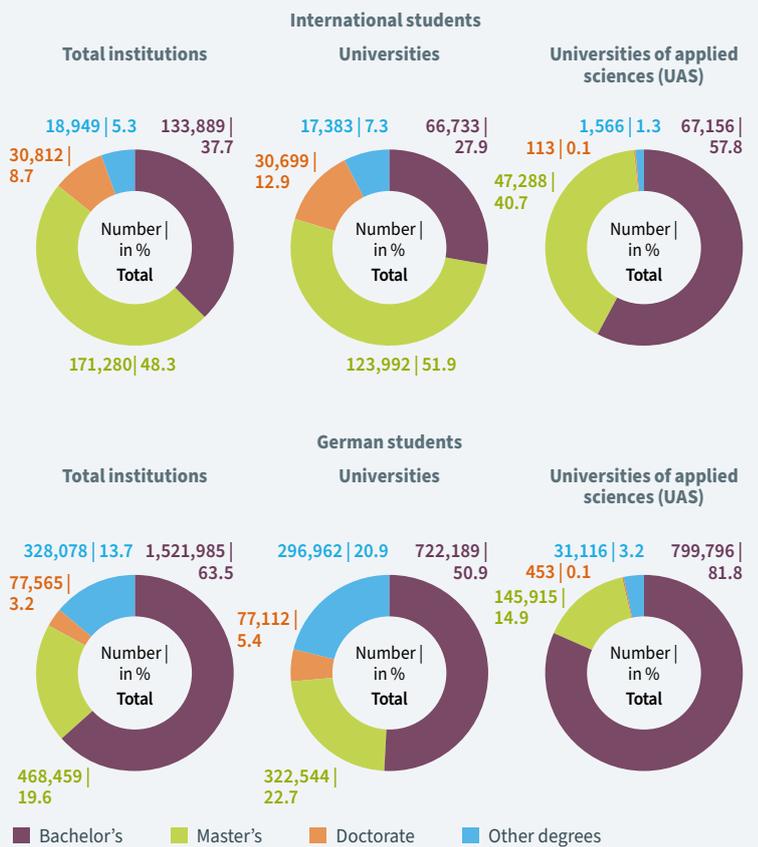
* Footnotes

- 1 The figures for international students and/or international first-year students seeking a doctorate refer exclusively to international doctoral students who are enrolled at a university. As it may be assumed that – like German doctoral students – some international doctoral candidates are not enrolled at a university, the figure of around 31,000 underestimates the actual total of international doctoral students. In total, the doctoral statistics (*Promovierendenstatistik*) published by the German Federal Statistical Office for 2023 indicate 49,900 foreign doctoral students, in other words international doctoral students and *Bildungsinlaender*. Basing this number on the ratio between international students and *Bildungsinlaender*, the total number of international doctoral candidates in Germany, both enrolled and not enrolled, is estimated to be 40,300.
- 2 First-year students are students in their first university semester including bachelor's, master's, doctoral and other students.
- 3 The information for international first-year students refers to one academic year and includes one summer semester and the following winter semester. 2023 academic year = 2023 summer semester 2023 + 2023/24 winter semester.
- 4 Including doctoral students in their first study programme.
- 5 Deviations from 100% are due to rounding.

the 2023/24 winter semester, just under 64% were aiming for a bachelor's degree, nearly 20% for a master's degree, around 3% for a doctorate and almost 14% for a state examination or other degree. At universities, the popularity of the master's degree among international students was even more marked: 52% of these students were enrolled in master's and 28% in bachelor's programmes, while 13% were aiming to achieve a doctorate. By contrast, 51% of their German fellow students were enrolled in a bachelor's programme, just 23% in a master's programme, while 5% were undertaking doctoral studies. At UAS, bachelor's degrees also predominated among international students, 58% of whom were studying for a bachelor's degree and 41% for a master's degree. Among German students at UAS, these percentages were 82% and 15%, respectively. While 50% of all international students aiming for a bachelor's degree were studying at UAS, this was only true for 28% of those working towards a master's degree. The figures are similar for German students, where 53% of bachelor's and 31% of master's students were enrolled at UAS (findings not displayed graphically).

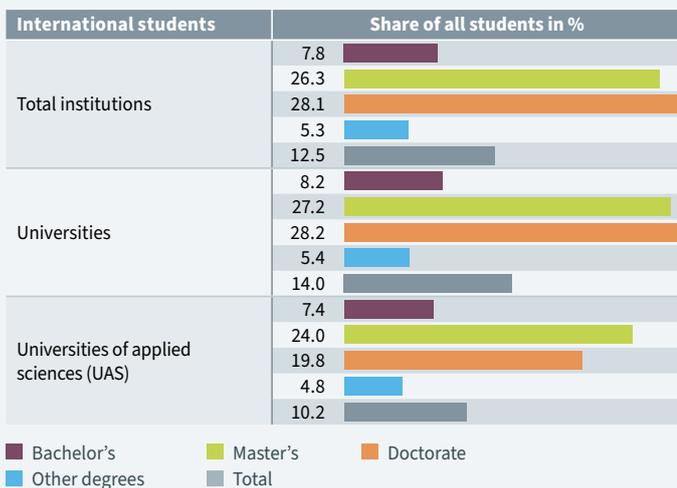
International students' keen interest in master's degrees is also reflected in the fact that they account for a good quarter (26%) of all students enrolled in master's programmes. This figure was 27% at universities and 24% at UAS in the 2023/24 winter semester. The share of international doctoral students of all doctoral students was even higher, at approximately 28%. In addition, with a share of 20% of all doctoral students, international students were well-represented among the doctoral students at UAS. By contrast, international students with the intention of obtaining bachelor's degrees only accounted for roughly 8% of all students (universities: 8%, UAS: 7%).

B2.2 International and German students intending to graduate in Germany by type of university and degree in the 2023/24 winter semester⁵



Source: Federal Statistical Office, "Statistik der Studierenden"; DZHW calculations

B2.3 Share of international students of all students intending to graduate in Germany by type of university and degree in the 2023/24 winter semester



Source: Federal Statistical Office, "Statistik der Studierenden"; DZHW calculations

B2.4 International first-year students intending to graduate in Germany by type of degree since the 2018 academic year^{2,3}



Source: Federal Statistical Office, "Statistik der Studierenden"

2 International students intending to graduate in Germany

2.2 Regions and countries of origin

Most international students (see the glossary in the appendix) seeking a degree in Germany come from the Asia and Pacific region, with a share of 34% in the 2023/24 winter semester. Students from North Africa and Middle East were in second place with 20%, followed by students from Western Europe (almost 14%), Central and Southeastern Europe (almost 13%) plus Eastern Europe and Central Asia (8%). Students from Latin America and Sub-Saharan Africa accounted for 5% and almost 6%, respectively, and students from North America for a good 1% of all international students intending to graduate in Germany.

Depending on their region of origin, international students preferred different types of degrees (findings not displayed graphically). Approximately half of all students from European regions aimed to obtain a bachelor's and about one third a master's degree. Conversely, around 60% of students from both North America and Asia and Pacific were pursuing a master's degree and almost a quarter a bachelor's degree. In addition, students from Latin America were more likely to enrol in a master's (46%) than in a bachelor's degree (37%). Similar shares of students (about 45%) from Sub-Saharan Africa as well as North Africa and Middle East intended to graduate with a bachelor's or master's degree. In pro-rata terms, students from North America (14%) and Latin America (13%) were particularly likely to pursue a doctorate in Germany.

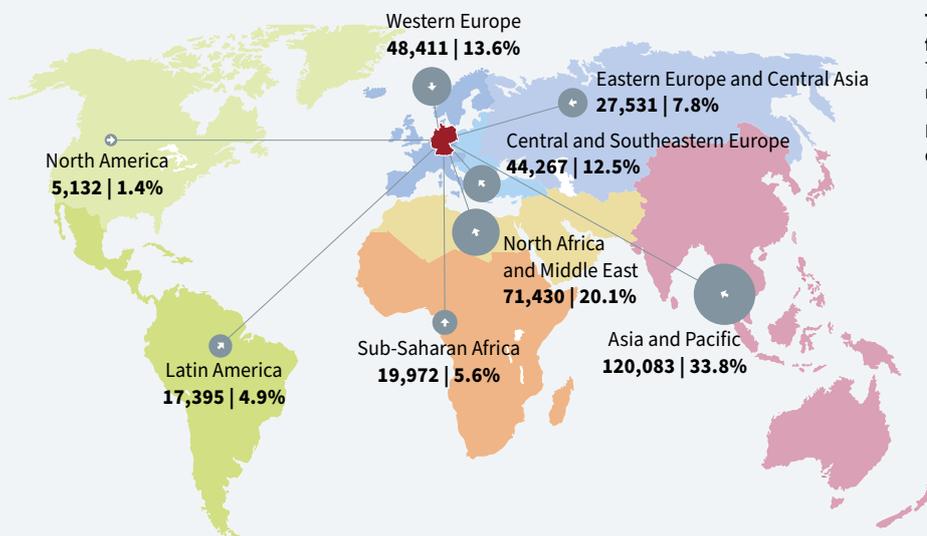
The number of international students from three world regions rose particularly strongly since the 2018/19 winter semester (findings not displayed graphically): Asia and Pacific (+40%), North Africa and Middle East (+38%) and Sub-Saharan Africa (+27%). During the same period, the numbers of international students from Central and Southeastern Europe

(+24%), Western Europe (+16%), Latin America (+15%) and Eastern Europe and Central Asia (+13%) saw below-average growth, while the number of students from North America even decreased slightly (-2%). As a result of these developments, the significance of European regions of origin in particular has further declined over the last five years. While students from Europe accounted for 37% of all international students intending to graduate in Germany in the 2018/19 winter semester, their share had dropped to 34% in the 2023/24 winter semester. Over the same period, the proportion of students from North Africa and Middle East plus Asia and Pacific increased from 50% to 54% of all international students.

While most international students came from China in the 2021/22 winter semester, India topped the list one year later. In total, about 48,600 Indian students were intending to graduate in Germany in the 2023/24 winter semester, representing 14% of all international students. This figure was up by 142% compared to the 2018/19 winter semester. By contrast, the number of Chinese students fell by almost 2% to 36,800 students during the same period; nevertheless, they remained at the number two spot in the 2023/24 winter semester. These two countries of origin were followed in the ranking by Turkey (5%), Austria and Iran (4% each), whereas Iran and Turkey were listed in sixth and seventh place five years earlier. Since the 2018/19 winter semester, the number of Turkish students has jumped by 127%, with Austrian students up by 34% and Iranian students up by 79%. The number of students from Pakistan (+72%) and Egypt (+67%) also rose dramatically over the same period. These two countries last ranked in eighth and tenth place among the key countries of origin of international students in Germany.

“ The number of Indian students intending to graduate in Germany has risen by 142% within five years.

B2.5 International students intending to graduate in Germany by region of origin in the 2023/24 winter semester^{1,2}



Total international students intending to graduate from universities in Germany: 354,930 (including 709 students (0.2%) who could not be assigned to any region of origin)

Number and share in % of all international students intending to graduate from universities in Germany

* Footnotes

- 1 Unlike in previous editions of *Wissenschaft weltoffen*, Greece and Cyprus are now classified as part of Central and South-eastern Europe rather than Western Europe.
- 2 Deviations from 100% are due to rounding.
- 3 Including Hong Kong and Macao.
- 4 Only countries with at least 100 international students intending to graduate in Germany in the 2023/24 winter semester (increase) and/or the 2020/21 winter semester (decrease), respectively.

B2.6 International students intending to graduate in Germany by key countries of origin in the 2018/19 and 2023/24 winter semesters

2018/19 winter semester				2023/24 winter semester			
Country of origin	Number	Share in %		Country of origin	Number	Share in %	
China ³	37,373	13.5		India	48,594	13.7	
India	20,083	7.3		China ³	36,762	10.4	
Syria	12,749	4.6		Turkey	16,784	4.7	
Austria	11,375	4.1		Austria	15,258	4.3	
Russia	9,787	3.5		Iran	14,922	4.2	
Iran	8,339	3.0		Syria	13,324	3.8	
Turkey	7,393	2.7		Russia	10,420	2.9	
Cameroon	7,167	2.6		Pakistan	9,796	2.8	
Italy	6,923	2.5		Italy	8,282	2.3	
Ukraine	6,644	2.4		Egypt	7,656	2.2	
Bulgaria	6,107	2.2		Morocco	7,333	2.1	
Tunisia	5,990	2.2		Ukraine	7,229	2.0	
Pakistan	5,687	2.1		Cameroon	6,742	1.9	
Morocco	5,478	2.0		Bangladesh	6,650	1.9	
Vietnam	5,307	1.9		Tunisia	6,613	1.9	
France	5,287	1.9		Vietnam	5,562	1.6	
South Korea	5,107	1.8		South Korea	5,303	1.5	
Indonesia	5,099	1.8		Indonesia	5,255	1.5	
Egypt	4,590	1.7		France	5,210	1.5	
Luxembourg	4,463	1.6		Luxembourg	5,015	1.4	

Source: Federal Statistical Office, "Statistik der Studierenden"; DZHW calculations

Since the height of the Covid-19 pandemic, in other words, between the 2020/21 and 2023/24 winter semesters, the number of students from Guyana (+832%), Myanmar (+225%) and Honduras (+134%) has skyrocketed. Relatively speaking, the number of students from Gambia (+108%), Sri Lanka (+97%) and Uganda (+87%) has also increased sharply during this period. In absolute terms, the number of students from Turkey (+7,200, +75%) and India (+20,300, +72%) has grown by the widest margin. Conversely, the number of students from Syria has fallen most dramatically in absolute terms (-3,500, -21%). In relative terms, the number of students from Cyprus, Moldova (-23% each) and especially North Korea (-89%) has also plummeted.⁴

Although specific reasons explain the flows of students from particular countries to Germany, certain overarching regional trends can be observed: in particular, the number of internationally mobile students from Asia and Pacific is on the rise, while the number of those from European, especially Eastern European regions, along with several African and Asian countries, is increasing less steeply, stagnating or even declining. In addition to political, humanitarian, economic and demographic issues in these countries of origin, the respective levels of development of the higher education and science systems in both the countries of origin and the host countries also influence international student mobility.

B2.7 Countries of origin with the greatest relative changes in the number of international students intending to graduate in Germany between the 2020/21 and 2023/24 winter semesters⁴

Country of origin	2023/24 WS Number	Development 2020/21 WS - 2023/24 WS	
Guyana	177	+832	
Myanmar	315	+225	
Honduras	318	+134	
Gambia	102	+108	
Sri Lanka	969	+97	
Uganda	517	+87	
Turkey	16,784	+75	
India	48,594	+72	
Oman	121	+64	
Ghana	2,451	+59	
Armenia	628	-15	
Bulgaria	4,782	-16	
Iceland	85	-17	
Singapore	254	-20	
Senegal	110	-20	
Syria	13,324	-21	
Palestinian territories	1,300	-21	
Cyprus	555	-23	
Moldova	296	-23	
North Korea	20	-89	

Source: Federal Statistical Office, "Statistik der Studierenden"; DZHW calculations

2 International students intending to graduate in Germany

2.3 Subject groups

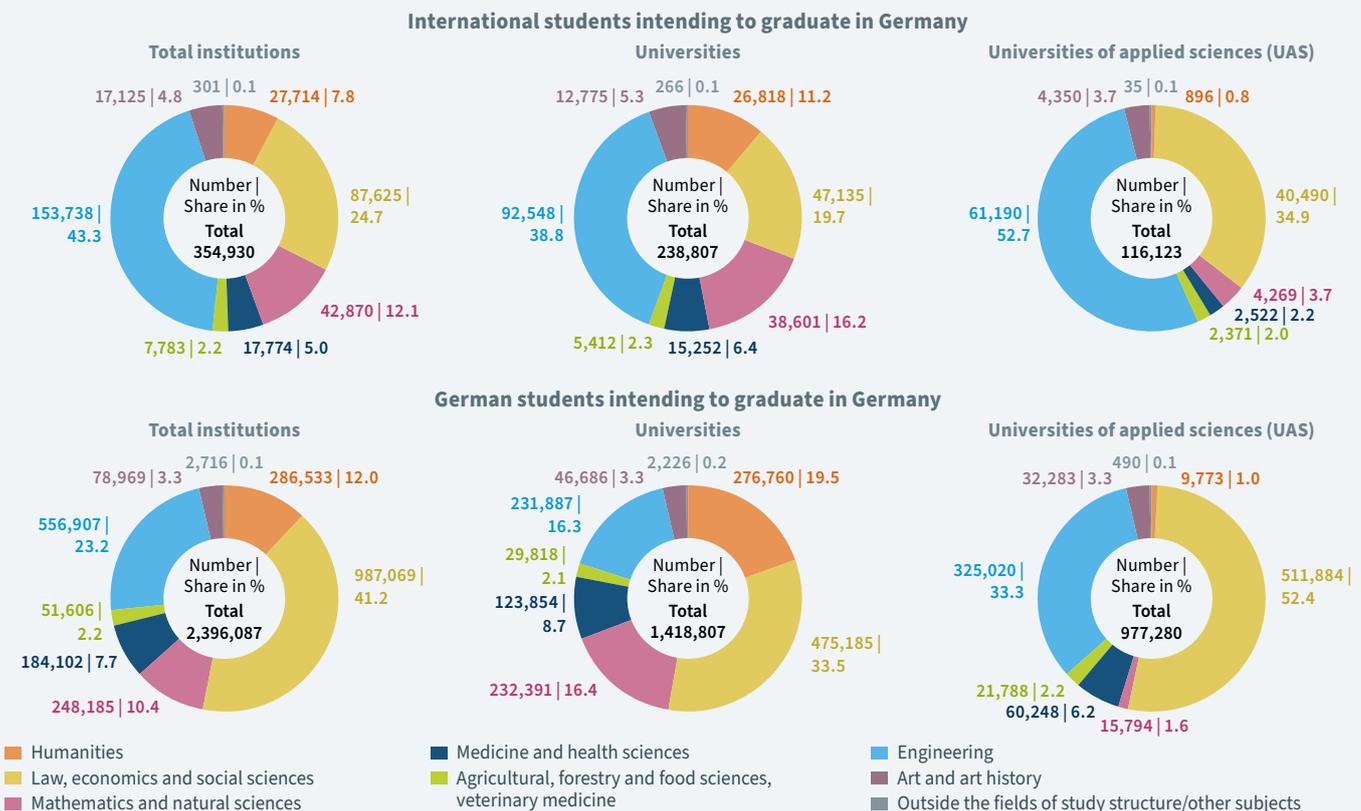
In the 2023/24 winter semester, the majority of international students (see the glossary in the appendix) intending to graduate in Germany were enrolled in engineering (43%) and in law, economics and social sciences (25%). This applied to both universities and universities of applied sciences (UAS); however, the shares of international students in these two subject groups were considerably larger at UAS (53% and 35%, respectively) than at universities (39% and 20%, respectively). On the other hand, the humanities (universities: 11%, UAS: 1%) and mathematics and natural sciences (universities: 16%, UAS: 4%) figure much more prominently at universities. In each case, 5% of international students were studying for a degree in medicine and health sciences or art and art history, with another 2% intending to graduate in agricultural, forestry and food sciences and veterinary medicine. Marked differences between types of university in these subject groups can only be observed with regard to medicine and health sciences (universities: 6%, UAS: 2%). In the 2023/24 winter semester, German students, too, were most likely pro rata to study engineering or law, economics and social sciences, although the

ratio here was reversed compared to their international fellow students: among German students, law, economics and social sciences were in first place with 41%, followed by engineering with 23%.

In mathematics and natural sciences, the number of international students intending to graduate in Germany has shown the biggest growth, that is, of 39% since the 2018/19 winter semester. By contrast, a downturn of 11% can be observed among German students in mathematics and natural sciences in the same period (findings for German students not displayed graphically). Enrolment figures for international students in engineering degree programmes have also jumped by 34%, while those for German students are down by 10%. Since the 2018/19 winter semester, the number of international students has risen by almost 31% in law, economics and social sciences and by 22% in agricultural, forestry and food sciences and veterinary medicine. Meanwhile, the growth rate among international students in the humanities was below average, at just 3%. As the number of German students in the humanities has dwindled by 10% during

“ The number of international students seeking a degree in mathematics and natural sciences has increased by 39% since the 2018/19 winter semester.

B2.8 International and German students intending to graduate in Germany by type of university and subject group in the 2023/24 winter semester¹



Source: Federal Statistical Office, "Statistik der Studierenden"; DZHW calculations

the five-year period considered, the total number of students in this subject group has dropped overall.

The above-average upswing in the number of international students intending to graduate in Germany in engineering and in mathematics and natural sciences may be largely attributed to the increased influx of students from Asia and Pacific as well as North Africa and Middle East, and their preference for engineering, mathematics and natural sciences degree programmes. More than half of these students opted to study one of these subjects. In contrast, students from European regions, whose number had increased to a lesser extent during the five-year period considered, were more likely than average to be interested in law, economics and social sciences. Approximately one third of students from European regions decided to study subjects in this group.

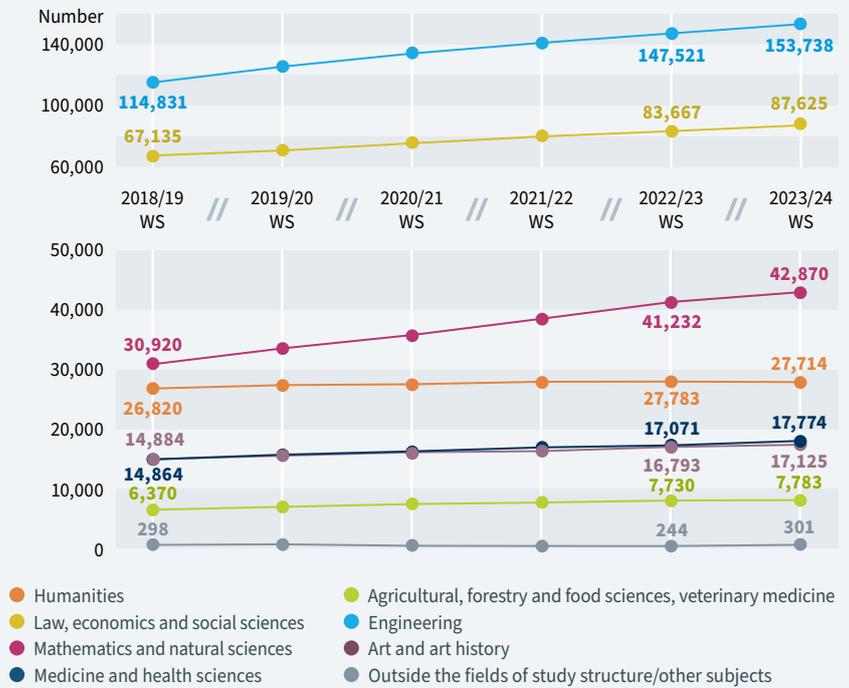
“ Among students intending to graduate in engineering at universities, the share of international students is just under 28%.

The uptick in international students' interest in graduating from universities in Germany meant that, with a share of 21% in the 2023/24 winter semester, one in five students intending to obtain a degree in engineering in Germany actually came from abroad. In art and art history programmes, international students represented 17% of all students. In mathematics and natural sciences as well as agricultural, forestry and food sciences and veterinary medicine, they made up a quota of 14% and 13%, respectively. The lowest percentages of international students were reported in medicine and health sciences and the humanities (9% each) as well as in law, economics and social sciences (8%). At universities, particularly high shares of international students could be observed in engineering subjects with 28%, as well as in art and art history with 21%. At UAS, the largest shares of international students were found in mathematics and natural sciences (20%) and engineering (15%). At UAS, international students accounted for lower percentages of all students in medicine and health sciences (4%) as well as in law, economics and social sciences (7%).

* Footnote

1 Deviations from 100% are due to rounding.

B2.9 International students intending to graduate in Germany by subject group since the 2018/19 winter semester



Source: Federal Statistical Office, "Statistik der Studierenden"

B2.10 Share of international students intending to graduate in Germany of all students by type of university and subject group in the 2023/24 winter semester

Subject groups	Share of all students in %		
	Total institutions	Universities	Universities of applied sciences (UAS)
Engineering	20.7	27.5	15.1
Art and art history	17.1	20.6	11.5
Mathematics and natural sciences	14.3	13.9	20.4
Agricultural, forestry and food sciences, veterinary medicine	13.0	15.2	9.7
Medicine and health sciences	8.6	10.8	3.9
Humanities	8.6	8.6	8.2
Law, economics and social sciences	7.9	8.8	7.1
All students intending to graduate in Germany	12.5	14.0	10.2

Share in %: Total institutions Universities Universities of applied sciences (UAS)

Source: Federal Statistical Office, "Statistik der Studierenden"; DZHW calculations

2 International students intending to graduate in Germany

2.4 University applicants

Around two thirds of all international students in Germany are enrolled at universities that are members of uni-assist. Data on international university applicants (see the glossary in the appendix) can be collated for these universities. In 2024, approximately 18,200 more candidates applied for admission to a university in Germany via uni-assist than in 2023. Between 2022 and 2024, the number of applicants soared by 28%.¹ Compared to 2022, the 20 key countries of origin remained largely unchanged, despite differences in the ranking. In 2024, most applicants again came from India (21%), followed by Turkey, Pakistan (9% each), Iran (7%) and China (5%). For five of the 20 key countries of origin, the number of applicants has fallen off compared to 2022: Cameroon (-2%), Indonesia, Syria (-3% each), Russia (-4%) and Morocco (-6%). Although the decrease in applicants from Indonesia and Syria continued yet again, it was less pronounced than in previous years (2021–2023: -14% and -26%, respectively). Meanwhile, in the 15 remaining countries of the 20 key countries of origin, applicant numbers developed positively, with increases of between 2% (South Korea) and 138% (Pakistan).

There were also clear differences between the key countries of origin of university applicants in terms of their success rates in the formal application process through uni-assist. Only applications that meet all formal criteria are forwarded by uni-assist to the university in question for the final (and, above all, subject-based) decision on admission to

What is uni-assist?

uni-assist is a registered association that all state universities in Germany can join. Currently, 156 universities make use of uni-assist's services. The core task of uni-assist is to evaluate international certificates. On behalf of the member universities and according to the guidelines of the Central Office for Foreign Education (ZAB), uni-assist checks whether the certificates submitted are equivalent to German school-leaving certificates or university degrees and are sufficient to qualify university applicants to study in Germany. If the check is positive, uni-assist forwards the application electronically to the respective universities.

the degree programme. Overall, 88% of applications were forwarded in 2024. The forwarding rates were highest among applicants from Mauritius (95%), Bangladesh (93%) and Turkey (92%), while the lowest forwarding rates were found among applicants from Rwanda (63%), Mongolia (51%) and the Philippines (46%).

The main reasons for uni-assist rejecting a university application were insufficient German language proficiency (15%), incomplete documents (14%), falling below a specified minimum grade (10%) and

exceeding deadlines (9%). However, the significance of the reasons for rejection varied somewhat, depending on the country of origin. In 2024, insufficient German language proficiency was more likely than average to lead to the rejection of applications from Turkey (27%) and Morocco (17%). The same applied to incomplete documents submitted by applicants from Ukraine (21%). Applications from Morocco and Pakistan were rejected disproportionately often for

B2.11 Key countries of origin of international university applicants via uni-assist in 2022, 2023 and 2024 plus development from 2022 to 2024¹

Country of origin	Number			Development in %, 2022–2024
	2022	2023	2024	
India	19,050	18,413	24,019	+26.1
Turkey	6,560	8,687	10,560	+61.0
Pakistan	4,195	6,120	9,978	+137.9
Iran	5,203	6,546	7,546	+45.0
China ²	4,302	4,546	5,409	+25.7
Bangladesh	2,972	2,573	4,175	+40.5
Ukraine	1,958	2,350	3,442	+75.8
Egypt	2,298	2,496	2,863	+24.6
Syria	2,456	2,313	2,371	-3.5
Morocco	2,494	2,285	2,348	-5.9
Russia	2,327	2,681	2,223	-4.5
Ghana	1,117	1,378	2,006	+79.6
Nigeria	1,857	1,951	1,974	+6.3
Tunisia	1,381	1,731	1,729	+25.2
Cameroon	1,550	1,480	1,513	-2.4
Vietnam	918	1,033	1,192	+29.8
US	1,080	1,129	1,111	+2.9
Indonesia	1,061	1,021	1,034	-2.5
Azerbaijan	770	835	1,029	+33.6
South Korea	938	959	955	+1.8
Other countries	22,637	23,201	24,414	+7.8
All countries	87,124	93,728	111,891	+28.4

Source: uni-assist; DAAD calculations

* Footnotes

- 1 An academic year always includes the summer semester and the following winter semester. Accordingly, the 2024 academic year includes applications for the 2024 summer semester and the 2024/25 winter semester.
- 2 Including Hong Kong and Macao.
- 3 Countries of origin with at least 100 university applicants in the 2024 academic year.
- 4 Deviations from 100% are due to rounding.

B2.12 Forwarding rate of international university applications via uni-assist by selected countries of origin in 2024^{1,3}

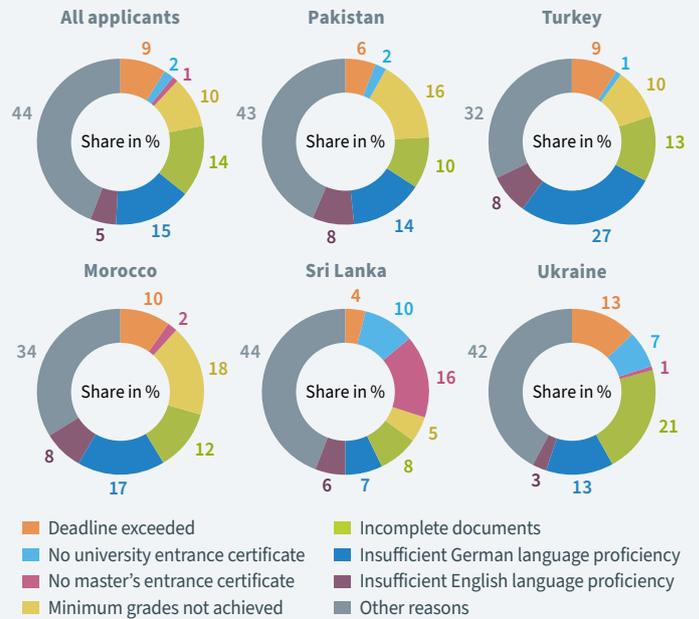
Country of origin	Forwarding rate in %
Mauritius	95
Bangladesh	93
Turkey	92
China ²	92
Pakistan	91
Iran	91
India	88
Egypt	88
Morocco	87
Lithuania	84
Syria	83
Ukraine	83
Canada	82
US	80
Zimbabwe	76
France	72
Myanmar	66
Rwanda	63
Mongolia	51
Philippines	46
Total	88

Source: uni-assist; DAAD calculations

not having achieved the minimum grade (18% and 16%, respectively) or due to candidates' inadequate command of English (8% each). Other frequent reasons for rejection in the key countries of origin were not holding a university entrance certificate, which was especially true of applicants from Sri Lanka (10%) and Ukraine (7%), and lacking a master's entrance certificate in the case of applicants from Sri Lanka (16%).

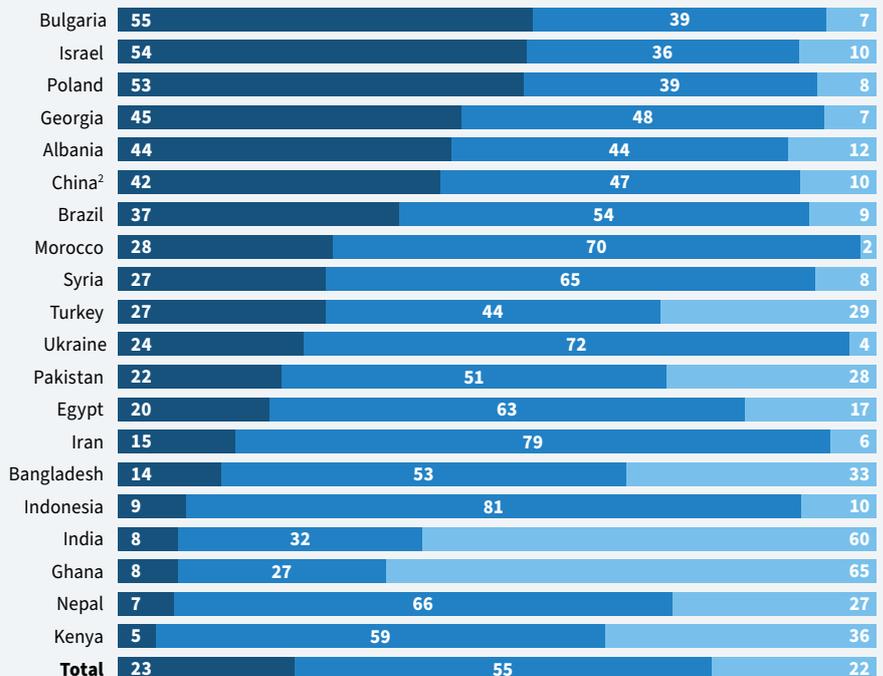
Pronounced differences across countries of origin can also be observed with regard to the German language skills verified in the uni-assist application process, which must be supported by appropriate certificates. In the 2024 academic year, the highest shares of university applicants who were proficient users of the language, C1/C2 according to the Common European Framework of Reference for Languages (CEFR), were found in Bulgaria (55%), Israel (54%) and Poland (53%). High percentages of applicants who were independent users (B1/B2) came mainly from Indonesia (81%), Iran (79%) and Ukraine (72%). Finally, the highest proportion with only basic command of the language (A1/A2) was recorded among applicants from Ghana (65%), India (60%) and Kenya (36%).

B2.13 Formal reasons for rejection of international university applications via uni-assist overall and by selected countries of origin in 2024^{1,3,4}



Source: uni-assist; DAAD calculations

B2.14 German language proficiency of international university applicants via uni-assist by selected countries of origin in 2024^{1,3,4}



Share in %: C1/C2 B1/B2 A1/A2

Proficiency level according to the Common European Framework of Reference for Languages (CEFR):
 A1/A2: Basic user
 B1/B2: Independent user
 C1/C2: Proficient user

Source: uni-assist; DAAD calculations

2 International students intending to graduate in Germany

2.5 Preparatory colleges

Attending a preparatory college (*Studienkolleg*) and passing an assessment test (*Feststellungsprüfung*, FSP, see the glossary in the appendix) leads to a German university entrance certificate (*Hochschulzugangsberechtigung*, HZB). This study option is relevant for those interested in embarking on an undergraduate degree but who do not hold a certificate that is considered equivalent to a German HZB by the Central Office for Foreign Education (ZAB). An HZB obtained via a preparatory college usually qualifies students to enrol in a specific subject only. Depending on the intended study programme, prospective students can choose between G courses (humanities), S courses (languages and law), M courses (medicine, biology, pharmacy), T courses (mathematics, natural sciences, engineering) and W courses (economics and social sciences).

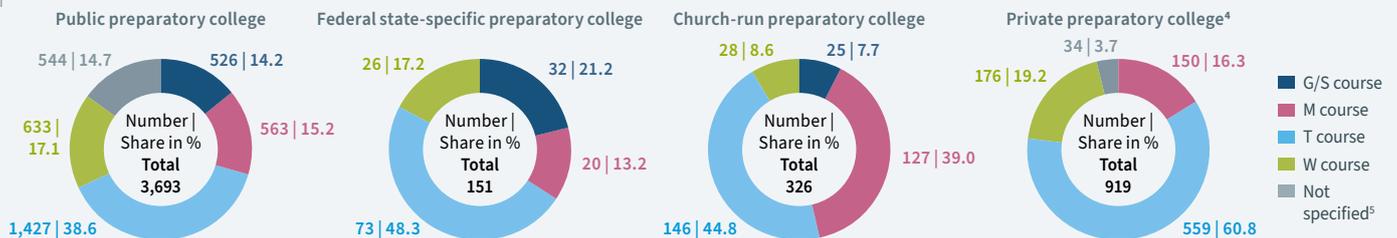
In the 2024/25 winter semester, approximately 3,700 participants had signed up at the public preparatory colleges surveyed, with 39% opting for T courses, 17% for W courses, 15% for M courses and 14% for G or S courses. In 15% of cases, the chosen course could not be identified in the DZHW survey. Of the 151 participants at the federal state-specific preparatory colleges, the majority were attending T courses (48%), while only smaller shares were attending G/S courses (21%), W courses (17%) and M courses (13%). 326 participants were enrolled at the church-run preparatory colleges, thereof 45% in T courses, 39% in M courses, 9% in W courses and 8% in G/S courses. Of the 919 participants identified at the ten private preparatory colleges taking part in the DZHW survey, the majority were enrolled in T courses (61%) and smaller groups in W courses (19%) or M courses (16%), while the course chosen could not be determined for 4% of the participants.

In 2024, a rough total of 3,600 graduates obtained a German HZB via the preparatory colleges that took part in the DZHW survey. Most graduates completed T courses, followed by M courses.

Data

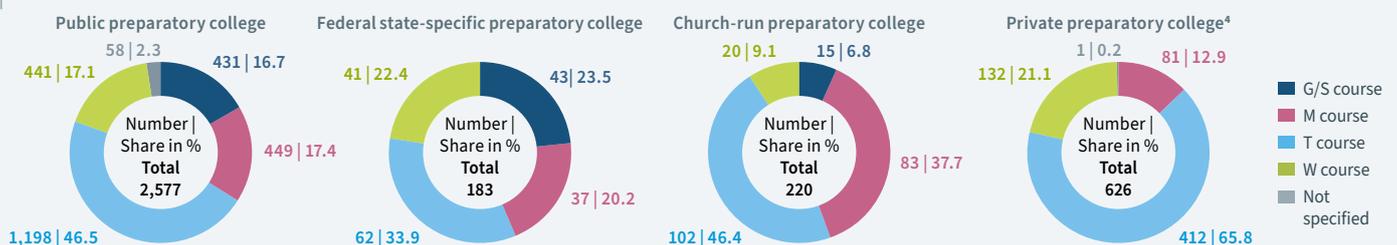
The findings presented here are based on data from a DZHW survey among public, federal state-specific, church-run and private preparatory colleges (*Studienkollegs*) in Germany. Public preparatory colleges are either affiliated to public universities or are directly subordinate to a science ministry. They offer courses free of charge and, on passing an assessment test (the *Feststellungsprüfung*, FSP, see the glossary in the appendix), award a university entrance certificate (*Hochschulzugangsberechtigung*, HZB) that is valid nationwide. In the case of the Schleswig-Holstein and Coburg preparatory colleges, passing the FSP only qualifies students for subject-specific studies at a university of applied sciences. Of the 23 public preparatory colleges, 22 participated in the DZHW survey. The federal state-specific preparatory colleges are also part of the public higher education system and offer courses free of charge.¹ However, the HZB they award only entitles the holder to apply to universities in the respective federal state. All five federal state-specific preparatory colleges took part in the DZHW survey. Two preparatory colleges are sponsored by the church, both of which responded to the DZHW survey. Their final examination is state accredited and results in an HZB that is valid throughout Germany. Private preparatory colleges offer fee-based preparation for the FSP. Some are state accredited, meaning that the FSP can be taken directly at the college. In the case of the other private preparatory colleges, the FSP must be completed at public or federal state-specific preparatory colleges or as part of examinations held by the official educational administration. Several private preparatory colleges are affiliated to certain private or public universities and, in some cases, only prepare candidates for admittance to these universities.² The number of active private preparatory colleges is currently unknown. Ten private preparatory colleges participated in the DZHW survey. Particularly with regard to private preparatory colleges, the data collected are still fairly unreliable.

B2.15 Participants by type of preparatory college and core course in the 2024/25 winter semester³



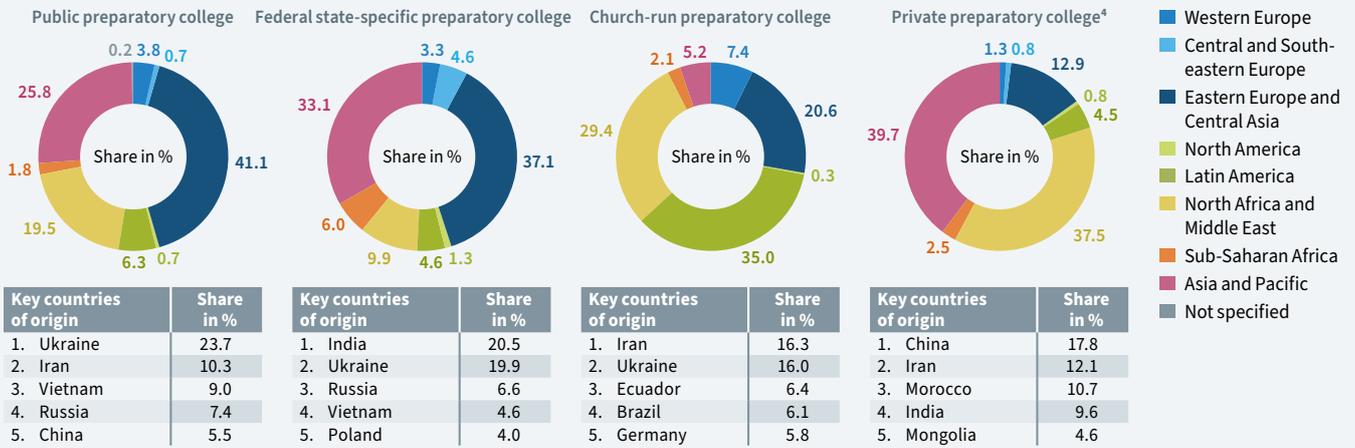
Source: DZHW survey, data provided by the preparatory colleges

B2.16 Graduates from preparatory colleges by type of college and core course in the 2024 graduation year³



Source: DZHW survey, data provided by the preparatory colleges

B2.17 Participants by type of preparatory college, region of origin and key countries of origin in the 2024/25 winter semester³



Source: DZHW survey, data provided by the preparatory colleges

The distribution of graduates across courses largely corresponds to that of participants. The greatest discrepancy can be observed at the federal state-specific preparatory colleges, which may be due to the examinations they carried out on behalf of the private preparatory colleges.

In the 2024/25 winter semester, most participants at public preparatory colleges came from Eastern Europe and Central Asia (41%), particularly Ukraine (24%). In second and third place were Asia and Pacific (26%) and North Africa and Middle East (almost 20%). The key regions of origin of participants at federal state-specific preparatory colleges were also Eastern Europe and Central Asia (37%), here again notably Ukraine (20%), Asia and Pacific (33%), notably India (almost 21%) plus North Africa and Middle East (10%). Similarly, most participants at private preparatory colleges came from Asia and Pacific (40%), albeit predominantly from China (18%). The regions of origin North Africa and Middle East (just under 38%) plus Eastern Europe and Central Asia (13%) were in second and third place. Likewise, numerous participants at the church-run preparatory colleges came from North Africa and Middle East (a good 29%) as well as Eastern Europe and Central Asia (21%). Nonetheless, Latin America (35%) took the top spot among the regions of origin at the church-run preparatory colleges.

Participants at the church-run preparatory colleges hail from numerous Latin American countries, including Ecuador and Brazil (6% each).

A closer look at the percentage of international first-year students who obtained their HZB at a preparatory college of all international first-year students offers insight into the relevance of the work of the preparatory colleges. In 2023, graduates from preparatory colleges accounted for almost 10% of all international first-year students in bachelor's programmes and almost 15% of all international first-year students in state examination programmes. In both cases, these figures were higher at universities than at universities of applied sciences (UAS). Particularly high shares were evident for first-year students in bachelor's programmes who were enrolled in mathematics and natural sciences (15%) as well as engineering (12%). Among the first-year students in state examination programmes, the shares were particularly high in mathematics and natural sciences (33%), as well as agricultural, forestry and food sciences and veterinary medicine (almost 17%).

B2.18 Share of international first-year students who obtained their university entrance certificate (HZB) at a preparatory college of all international first-year students by study programme, type of university and subject group in 2023

Share of international first-year students in bachelor's programmes in %	Type of university	Share of international first-year students in state examination programmes in %
9.6	Total	14.8
11.0	University	14.9
8.2	UAS	6.3
Subject group		
5.1	Humanities	-
6.6	Law, economics and social sciences	14.4
14.7	Mathematics and natural sciences	33.3
6.5	Medicine and health sciences	11.9
4.6	Agricultural, forestry and food sciences, veterinary medicine	16.5
12.3	Engineering	-
1.8	Art and art history	-

Source: Federal Statistical Office, "Statistik der Studierenden"; DZHW calculations

* Footnotes

- 1 Only the preparatory courses at the preparatory college prime at the Academy for Higher Education Access Development in Bremen are fee-based.
- 2 The private preparatory colleges also include institutions at public universities in Dresden, Freiberg, Jena and Mittweida, whose FSP is state accredited.
- 3 Deviations from 100% are due to rounding.
- 4 Non-representative sample of private preparatory colleges.
- 5 No data on the core courses chosen at the preparatory college Mainz.

2 International students intending to graduate in Germany

2.6 University dropouts

What percentage of international students drop out of their studies and how does their dropout rate compare to that of German students? As of 2024, university dropouts (see the glossary in the appendix) can be examined with greater accuracy than in earlier editions of *Wissenschaft weltoffen* as the German Federal Statistical Office (Destatis) has released the new study progress statistics. Not only do the study progress statistics offer a more conclusive (official) database for calculating dropout rates than the estimation method used previously – based on numbers of first-year students and graduates¹ – they also permit detailed analyses of dropout rates that can be updated annually and broken down with regard to various subgroups of students. Starting in 2025, Destatis now also publishes dropout rates for master's students. When interpreting these data, it should be noted that, unlike the previously estimated dropout rates¹, they do not cover the entire course of studies, but merely the first three study programme semesters. Therefore, Destatis dropout rates are considerably lower than the previously estimated rates.

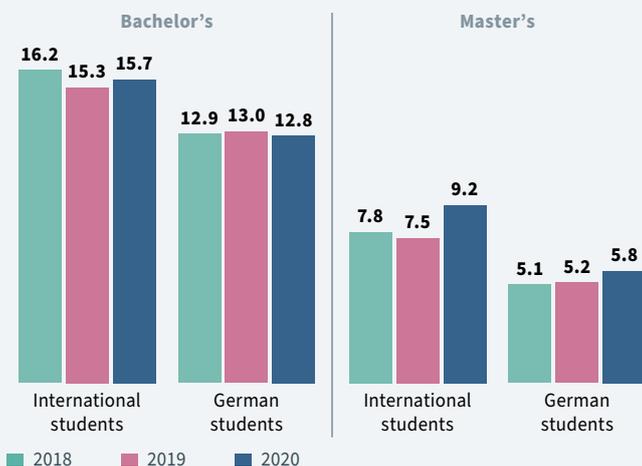
The development of dropout rates among international and German students in the first-year cohorts of 2018 to 2020 reveals that these rates hardly fluctuated over time. The only exception was the comparatively sharp rise in the dropout rate among master's students between the first-year cohorts of 2019 and 2020. It may be presumed that this was an effect of the pandemic, although it is unclear why this only occurred among master's students. In addition, there are diverging dropout rates for German and international students. The dropout rate for international bachelor's students in the first-year cohorts under review is roughly 15% to 16% in each case, yet just around 13% for German students.⁴ Among international master's students, dropout rates are in the region of 8% to 9%, compared to approximately 5% to 6% among German students.

Data

Unlike in previous editions of *Wissenschaft weltoffen*, this chapter is no longer based on estimates calculated using numbers of first-year students and graduates¹, but on the official study progress statistics (*Statistik des Studienverlaufs*) that have now been published by the Federal Statistical Office Germany (Destatis).² In the study progress statistics, all students are assigned unique, yet anonymised identifiers that can be used to trace their study progress in statistical terms.³ This enables the number and percentage of students dropping out of their programmes to be calculated more accurately than by means of the estimation method used previously. At the same time, the new, more accurate dropout statistics have certain limitations: they only record students dropping out during the first three study programme semesters as more extensive data are not yet available. Dropouts are defined as any students of a first-year cohort who were de-registered at their own request during the first three semesters and who did not subsequently re-enrol, switch degree programme or university, nor pass a final examination over the following three semesters. The calculations only include students who were pursuing a degree at a university in Germany, not visiting or exchange students.

However, compared to the differences between the dropout rates of German and international students resulting from the estimation method used previously⁵, these variations are surprisingly small. It can thus be concluded that the dropout rates that were estimated using numbers of first-year students and graduates led to the differences between German and international students being overestimated.

B2.19 University dropouts of all international and German first-year students from 2018 to 2020 in the first three study programme semesters by type of degree



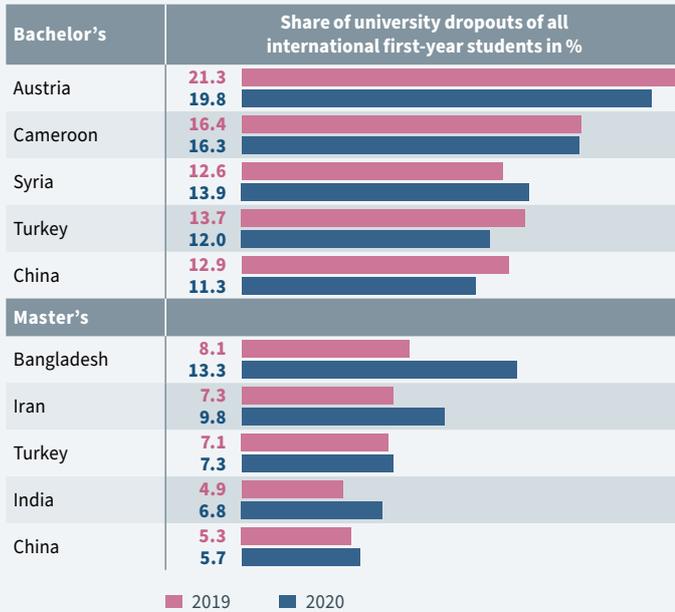
Share in %

Source: Federal Statistical Office, "Statistik des Studienverlaufs"

* Footnotes

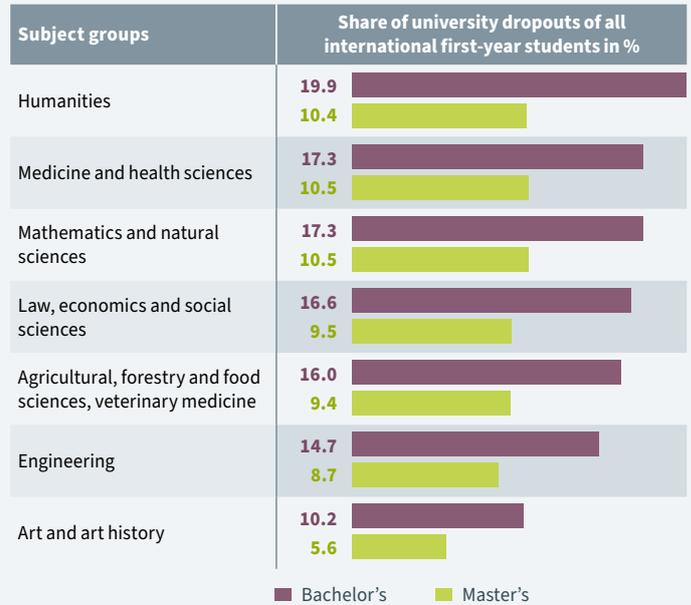
- 1 See Heublein, Hutzsch & Schmelzer (2022, pp. 2–3).
- 2 See Federal Statistical Office (2025).
- 3 This presupposes that the universities have registered the characteristics used for pseudonymisation correctly and in full throughout all semesters. Individual cases in which this does not apply were excluded from the calculation of dropout rates.
- 4 The differences to the Destatis dropout rates presented in *Wissenschaft weltoffen 2024* are due to the fact that they referred to first-year students in their first *university semester* (the global dropout rate), not to students in their first *study programme semester* (specific dropout rate). Unlike the global dropout rates reported in *Wissenschaft weltoffen 2024*, the detailed analyses of the dropout rates carried out here are special evaluations undertaken by the Federal Statistical Office expressly for *Wissenschaft weltoffen* and which only permit the calculation of the specific dropout rate.
- 5 See Heublein, Hutzsch, Kercher et al. (2022, p. 47).
- 6 Based on their estimation method, Heublein, Hutzsch, Kercher et al. (2022, p. 47) calculated dropout rates of 41% (bachelor's programmes) and 28% (master's programmes) for international students plus 28% and 21% for German students.

B2.20 University dropouts of all international first-year students in 2019 and 2020 in the first three study programme semesters by type of degree and key countries of origin



Source: Federal Statistical Office, "Statistik des Studienverlaufs"

B2.21 University dropouts of all international first-year students in 2020 in the first three study programme semesters by type of degree and subject group



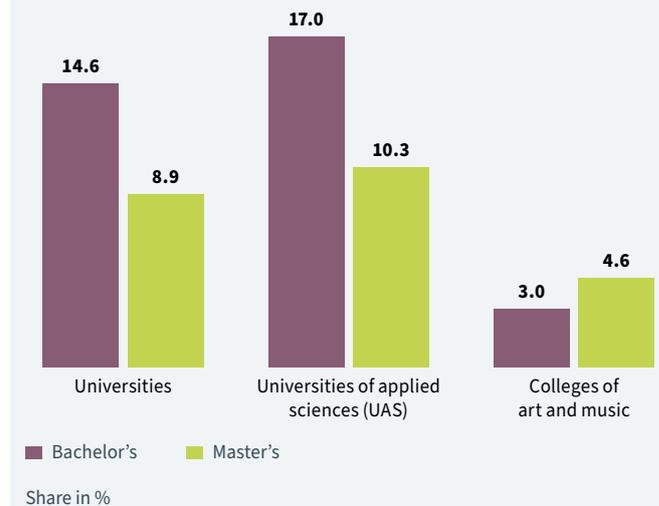
Source: Federal Statistical Office, "Statistik des Studienverlaufs"

Even assuming that the dropout rate after the third study programme semester (that is, during the study phase that is not included in the Destatis dropout rate) is similar to that in the first three study programme semesters, it may be argued that, in all probability, the absolute dropout level was actually overestimated by the calculation method previously deployed, for both German and international students.⁶

A closer look at the dropout rates of international students reveals considerable variations between different subgroups. For example, a comparison of the five key countries of origin of international first-year students of first-year cohort 2020 in bachelor's programmes shows that the dropout rate of Austrian students (20%) is almost double that of Chinese students (11%). Furthermore, with regard to the five key countries of origin of international first-year master's students in 2020, the dropout rate of students from Bangladesh (13%) was more than double that of those from China (6%). Nevertheless, this appears to be a consequence of the above increase in the dropout rate in master's programmes, which was presumably due to the pandemic. This is emphasised by a comparison with the corresponding dropout rates for the first-year cohort of 2019, where the difference between students from Bangladesh (8%) and China (5%) is significantly smaller.

To some extent, pronounced variations in the dropout rates can also be observed when viewed by subject group: particularly striking is the extremely high dropout rate among international bachelor's students in the humanities (20%), along with the

B2.22 University dropouts of all international first-year students in the first three study programme semesters by type of degree and university



Source: Federal Statistical Office, "Statistik des Studienverlaufs"

extremely low dropout rates of international bachelor's and master's students in art and art history (6% and 10%, respectively). Lastly, a comparison by type of university shows considerably lower dropout rates for bachelor's and master's students at colleges of art and music (3% to 5%) than at universities and universities of applied sciences (9% to 17%).

2 International students intending to graduate in Germany

2.7 Intent to stay in Germany and stay rates

Many international students (see the glossary in the appendix) want to stay in Germany after completing their degree. A DAAD survey of approximately 20,000 international students and doctoral students in the 2023/24 winter semester, forming part of the project “Benchmark internationale Hochschule” (BintHo)¹, found that almost two thirds (65%) of the respondents who were pursuing a degree in Germany planned to stay in the country after graduating, with a good third (36%) having already made the final decision to stay.

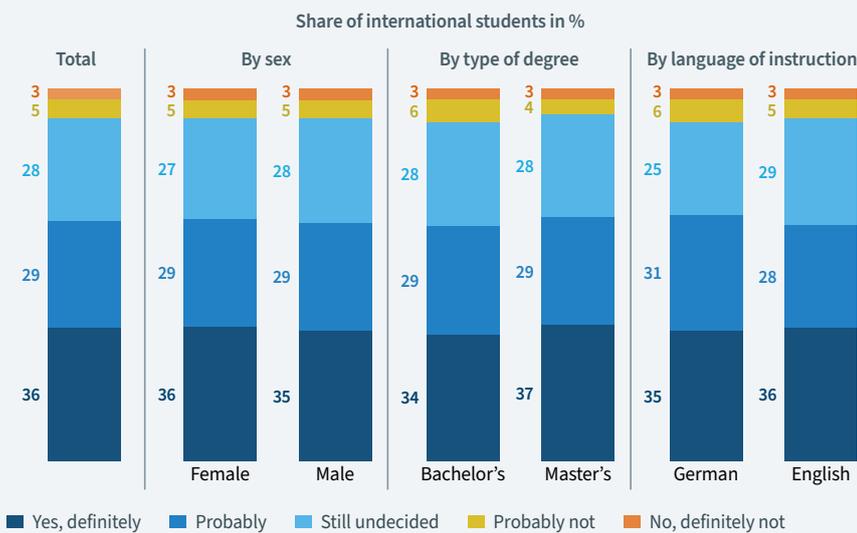
Just 8% of the respondents considered it likely or certain that they would leave Germany after completing their studies, while the remaining students (28%) were still undecided on the matter at the time of the survey.

A comparison of the intent to stay in Germany among male and female students from abroad reveals no significant differences: in both groups, about two thirds of the respondents planned to stay in Germany after graduating. A similar finding emerges when comparing the two most important types of degrees and languages of instruction at universities in Germany: roughly two thirds of bachelor’s and master’s students and of students enrolled in programmes in German and English, indicated that they intended to remain in Germany after completing their studies.

Among the international students polled, the intent to stay in Germany varies considerably according to their regions and countries of origin. Students from Eastern Europe and Central Asia (75%) and Latin America (71%) were especially likely to plan to stay in Germany after graduating, as opposed to students from Western Europe (43%). When differentiating international students’ intent to stay by their individual countries of origin, Russian (82%), Ukrainian (74%) and Egyptian (72%) students most frequently indicated that they were planning to stay in Germany after graduating. By contrast, students from Bangladesh (55%), China (54%) and Italy (47%) were much less likely to intend to remain.

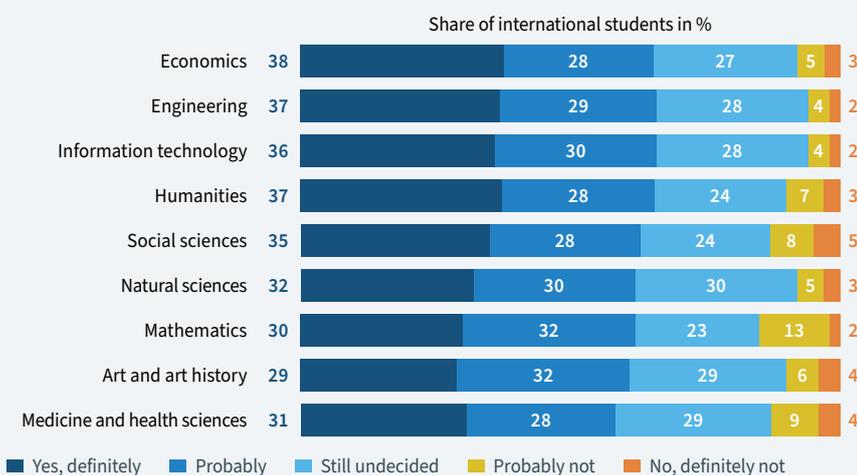
An analysis of the respondents in the various subject groups shows only minor differences in these students’ intent to remain in Germany. In almost all subject groups, around two thirds of international students surveyed thought it likely or expected to stay in Germany after their studies. The major exception was medicine and health sciences, with a corresponding share of just 59%. Meanwhile, the highest percentages of students intending to stay in Germany were found

B2.23 Intent to stay among international students seeking a degree in Germany by sex, type of degree and language of instruction in the 2023/24 winter semester³



Source: DAAD, BintHo survey 2023/24, weighted figures

B2.24 Intent to stay among international students seeking a degree in Germany by selected subject groups in the 2023/24 winter semester³



Source: DAAD, BintHo survey 2023/24, weighted figures

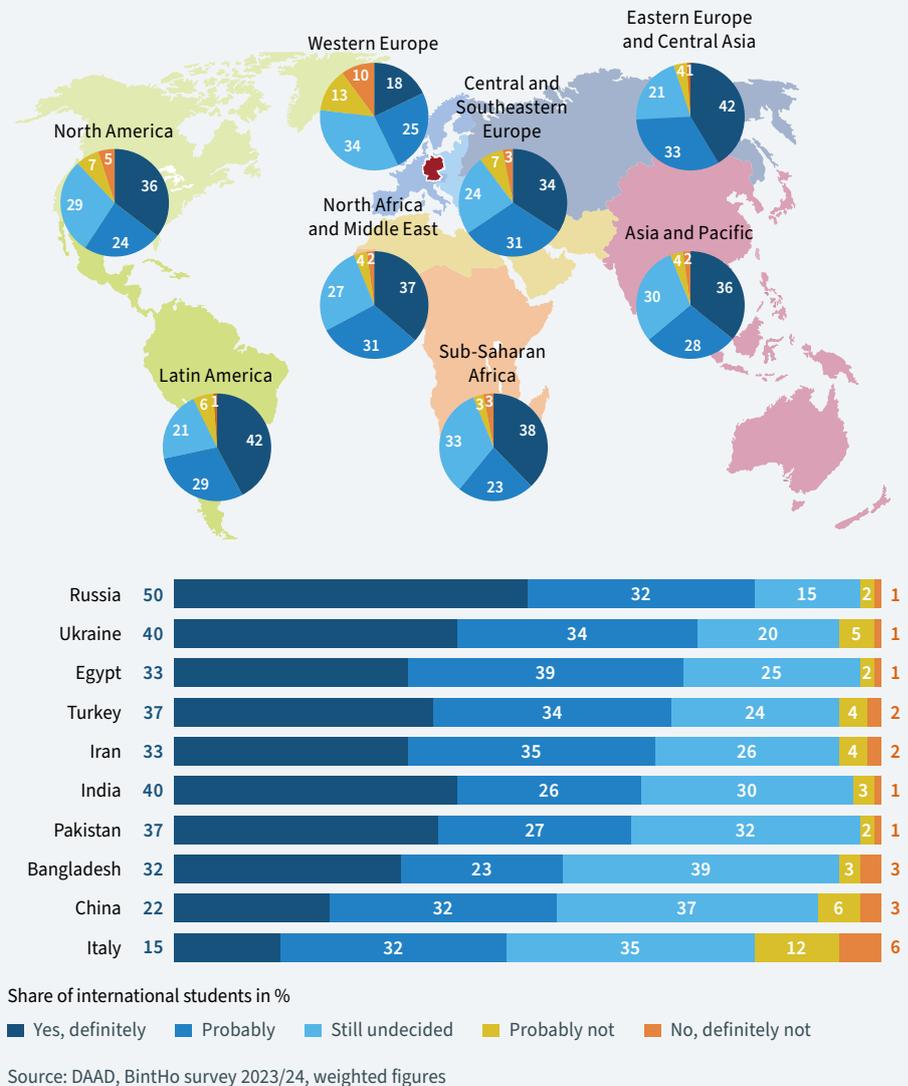
* Footnotes

- 1 See also the info box on the data in Chapter C2.2 and www.daad.de/bintho (in German only).
- 2 See Weißmann & Eberle (2023).
- 3 Deviations from 100% are due to rounding.
- 4 Only students from non-EU countries of origin.

in economics, engineering and information technology, with each subject scoring 66%.

Actual stay rates can only be established for first-year students from non-EU countries as they – unlike students from EU countries – require a residence permit in order to study in Germany and are thus recorded in the Central Register of Foreigners (AZR). A calculation by the German Federal Statistical Office found that, of the students registered in the AZR who embarked on a degree in Germany between 2006 and 2012, some 55% were still in Germany five years after starting their studies and 46% ten years after starting their studies.² Almost a third (30%) of those who were still in Germany ten years after commencing their degree had since been granted a permanent settlement permit, while just under a quarter (24%) had even acquired German citizenship. Another third (33%) had obtained a temporary residence permit for the purpose of gainful employment (13%), in order to study (11%) or for family reasons (9%). Moreover, the analysis of the Federal Statistical Office highlights a clear trend in the stay rates of international first-year students in the period under review: to begin with, the stay rate was relatively stable ten years after commencing the studies, between 43% and 45% (first-year cohorts of 2006 to 2010), before rising to 48% (first-year cohort of 2011) and ultimately to 51% (first-year cohort of 2012).

B2.25 Intent to stay among international students seeking a degree in Germany by region of origin and selected countries of origin in the 2023/24 winter semester³



B2.26 Stay rates of international first-year students in cohorts from 2006 to 2012 five and ten years after starting their studies⁴



Share of international first-year students in cohorts 2006–2012 in %
Source: Weißmann & Eberle (2023)

3 International students on temporary study-related visits in Germany

3.1 Mobility trends and subject groups

In the 2023/24 winter semester, approximately 25,000 international students (see the glossary in the appendix) were enrolled at universities in Germany on a temporary visit, representing almost 7% of all international students. However, this figure underestimates the total number of students who came to Germany for a temporary visit in the 2023 academic year. It does not include those students who enrol for a study-related visit in the summer semester and stay at a university in Germany for one semester only, which is the case for many visiting and exchange students. Their number amounted to 11,700 in the 2023 summer semester, which means that the total number of temporary visiting and exchange students enrolled at universities in Germany during the 2023 academic year was in the region of 36,700, down around 2% compared to the 2022 academic year. Thus, the number of temporary study-related visits to Germany remained slightly below the level recorded in the years preceding the Covid-19 pandemic. The noticeable upswing in visits between the 2020/21 and 2022/23 winter semesters did not continue in the 2023/24 winter semester. Compared to the 2022/23 winter semester, this number has not changed significantly at public universities. Public universities of applied sciences (UAS) and private universities even saw a drop in numbers (-1% and -26%, respectively). Nevertheless, the absolute numbers still reflect the keen interest of international students in pursuing higher education in Germany.

At 81%, the overwhelming majority of international visiting and exchange students in the 2023/24 winter semester were enrolled in their

first university semester. A mere 11% were in their second semester, 6% in their third or fourth and just under 2% in a later semester. These shares have remained relatively constant for several years. It is therefore safe to assume that, for the vast majority of international students, the temporary study visit is for one semester only. In the 2023/24 winter semester, three quarters of international students (75%) were

enrolled at a public university¹ during their temporary visit. Almost 20% of international students spent their temporary stay in Germany at a public UAS and approximately 6% at a private university.²

International students undertaking a temporary study-related visit at a

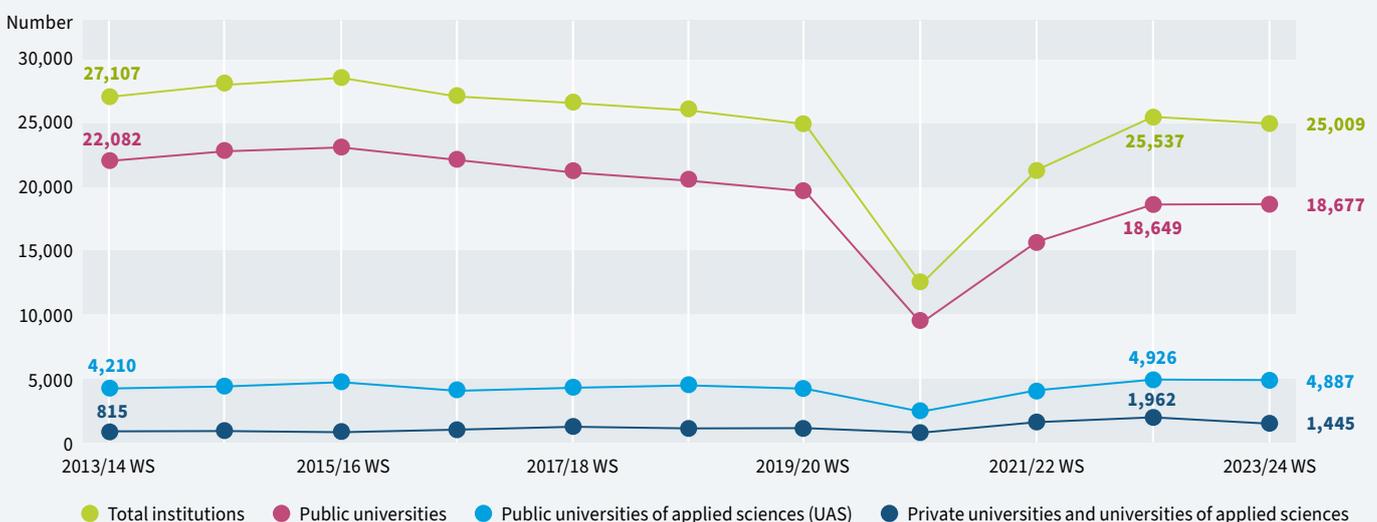
university in Germany in the 2023/24 winter semester were particularly likely to enrol in law, economics and social sciences (36%), engineering (22%) or the humanities (22%). A mere 7% were studying mathematics and natural sciences and 3% each either art and art history or medicine and health sciences.

Compared to the 2022/23 winter semester, the number of international students undertaking temporary study-related visits in Germany only increased in the subject groups of mathematics and natural sciences (+9%) and engineering (+4%). In contrast, relatively sharp declines could be observed in art and art history (-14%) as well as medicine and health sciences (-13%).

Despite these developments, the high proportion of international visiting and exchange students in the humanities and the low

“ The number of international visiting and exchange students in Germany recently plateaued at slightly below the level of the years before the pandemic.

B3.1 International students on temporary study-related visits by type of university and sponsorship since the winter semester 2013/14^{1,2}



Source: Federal Statistical Office, “Statistik der Studierenden”

proportion in engineering are particularly striking when compared to international students pursuing a degree in Germany. The same state of affairs applies in comparison to German students. Students undertaking temporary study visits to Germany evidently have different subject-related intentions than students seeking a degree in Germany. The relatively high share of short-term enrolments in the humanities can be primarily explained by the keen interest of international students of German studies in a visit to a university in Germany. They regard it as a way of improving their German language skills, conducting research on specific subject areas and experiencing the culture and language of a German-speaking country. In contrast, international engineering students appear to be much less interested in a temporary visit of this kind to a university in Germany than in a full course of study.

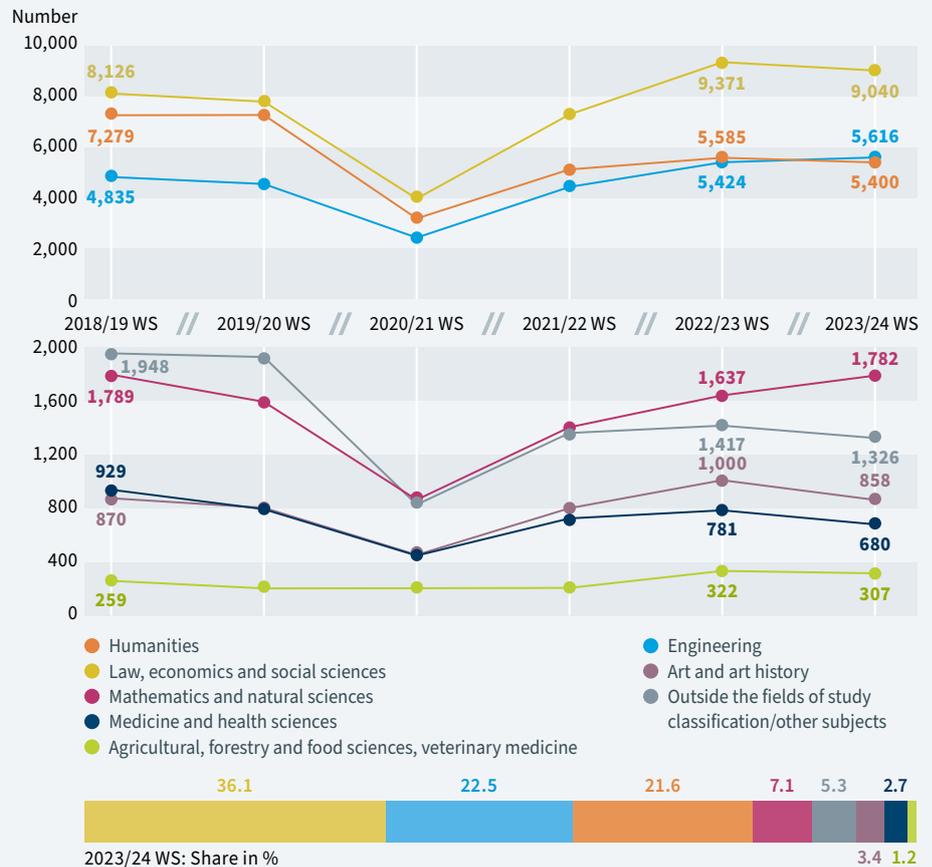
Setting international students on temporary visits in relation to international students seeking a degree in Germany reveals that the share of the former is by far the highest in the humanities (16%), followed by law, economics and social sciences (9%) as well as art and art history (5%).

Relatively speaking, there are considerable variations across types of university with regard to this proportion in the subject groups of law, economics and social sciences (universities: 12%, UAS: 6%), mathematics and natural sciences plus medicine and health sciences (universities: 4% each, UAS: 1% each), as well as agricultural, forestry and food sciences (universities: 5%, UAS: 2%).

*** Footnotes**

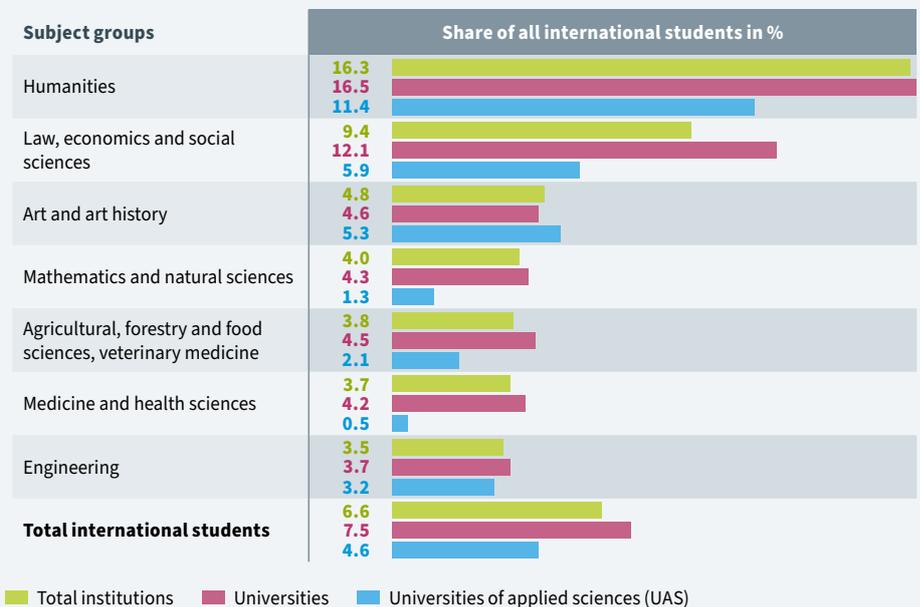
- 1 Figures for public universities including colleges of art, music and education.
- 2 Figures for private universities including church-run universities.
- 3 Deviations from 100% are due to rounding.

B3.2 Number and share of international students on temporary study-related visits by subject group since the 2018/19 winter semester³



Source: Federal Statistical Office, "Statistik der Studierenden"; DZHW calculations

B3.3 Share of international students on temporary study-related visits of all international students by subject group and type of university in the 2023/24 winter semester



Source: Federal Statistical Office, "Statistik der Studierenden"; DZHW calculations

3 International students on temporary study-related visits in Germany

3.2 Regions and countries of origin

In the 2023/24 winter semester, well over half (58%) of international students on temporary study visits (see the glossary in the appendix) at universities in Germany came from European regions. Western Europe (32%) topped the list of European regions of origin, followed by Central and Southeastern Europe plus Eastern Europe and Central Asia (13% each). Some 20% of visiting and exchange students came to Germany from Asia and Pacific. The other regions of origin played a much less significant role: almost 8% of visiting and exchange students were from North Africa and Middle East, a good 7% from Latin America, 5% from North America and just 2% from Sub-Saharan Africa. Compared to the pre-pandemic era (2019/20 winter semester), the number of visiting and exchange students from Eastern Europe and Central Asia (+156%), North Africa and Middle East (+55%) and Sub-Saharan Africa (+37%) has increased particularly strongly. This steep rise in mobility flows coincides with the influx of refugees from these regions. The number of visiting and exchange students from Latin America (+2%) barely fluctuated during the same period. Finally, the numbers of students from Central and Southeastern Europe (-7%), Western Europe (-10%), Asia and Pacific (-17%) and North America (-31%) have all decreased.

By comparison with international students seeking a degree in Germany, it is striking that a higher share of visiting and exchange students are from Western Europe, Eastern Europe and Central Asia, as well as North

America. They are much less likely to come from the regions of Asia and Pacific, North Africa and Middle East or Sub-Saharan Africa. Even considering the temporary mobility restrictions caused by the Covid-19 pandemic, the figures attest to the success of European higher education policy in developing the European Higher Education Area and the Erasmus programme. The associated funding and support structures have been instrumental in instituting and establishing a keen interest in

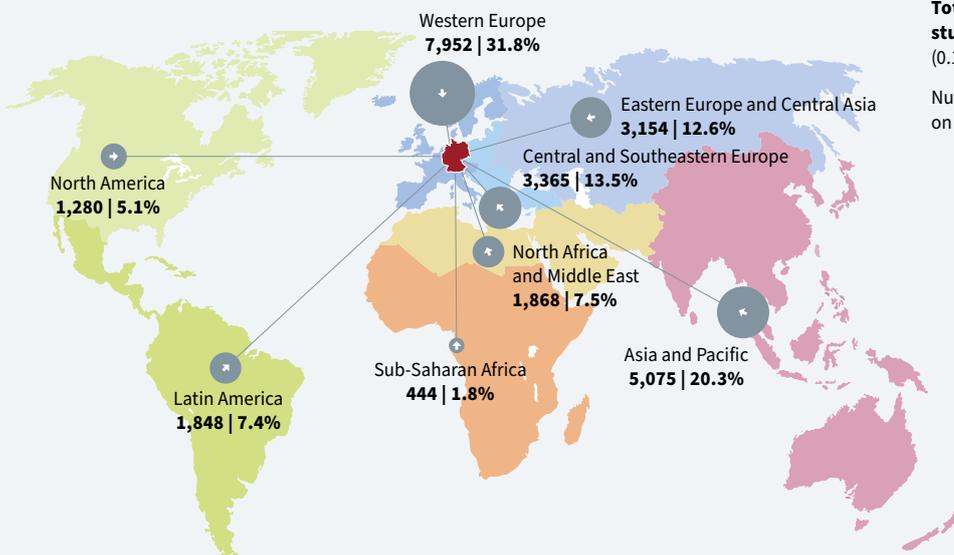
temporary mobility in Europe. Nonetheless, the (predominantly European) regional background of the students involved highlights the fact that it may be difficult, especially for students from countries with lower average incomes, to undertake temporary study visits in Germany without this support and aid in the form of well-funded mobility programmes. Specifically,

students from African, Latin American, Asian and Pacific regions often face the challenge of having to, firstly, organise their visit without an established structural framework and, secondly, cover the comparatively high cost of living in Germany. Furthermore, their relatively brief visits, lasting just a few months, and often weaker German language skills mean that they do not have the same opportunities of earning sufficient additional income in Germany through gainful employment as Europeans or their fellow students who complete their entire studies in Germany.

An analysis differentiating by individual countries of origin shows that Ukraine is now the most important country of origin of international visiting and exchange students in Germany. In the 2023/24 winter

“ The number of students on temporary study visits from Ukraine to Germany has soared by 921% since the 2020/21 winter semester.

B3.4 International students on temporary study-related visits by region of origin in the 2023/24 winter semester^{1,2}



Total international students on temporary study-related visits: 25,009 (including 23 students (0.1%) who cannot be assigned to any region of origin)

Number and share in % of all international students on temporary study-related visits

* Footnotes

- 1 Unlike in previous editions of *Wissenschaft weltweit*, Greece and Cyprus are now classified as part of Central and Southeastern Europe rather than Western Europe.
- 2 Deviations from 100% are due to rounding.
- 3 Including Hong Kong and Macao.
- 4 Only countries with at least 50 international students on temporary visits in the 2023/24 winter semester (increase) and/or the 2020/21 winter semester (decrease), respectively.

semester, some 11% of these students were from Ukraine. Since the 2018/19 winter semester, when Ukraine was not even in the top 20 key countries of origin of international visiting and exchange students in Germany, their number has skyrocketed by 852% due to Russia's war of aggression. Although the numbers of students from the classic Erasmus countries of Spain (-6%), Italy (-19%) and France (-12%) have fallen over the five-year period under investigation, they still topped the ranking of key countries of origin in the 2023/24 winter semester. Meanwhile, the proportion of Chinese students of all international visiting and exchange students has tumbled (-40%). Whereas China was the key country of origin of visiting and exchange students in Germany in the 2018/19 winter semester, it only came in fifth place in the 2023/24 winter semester.

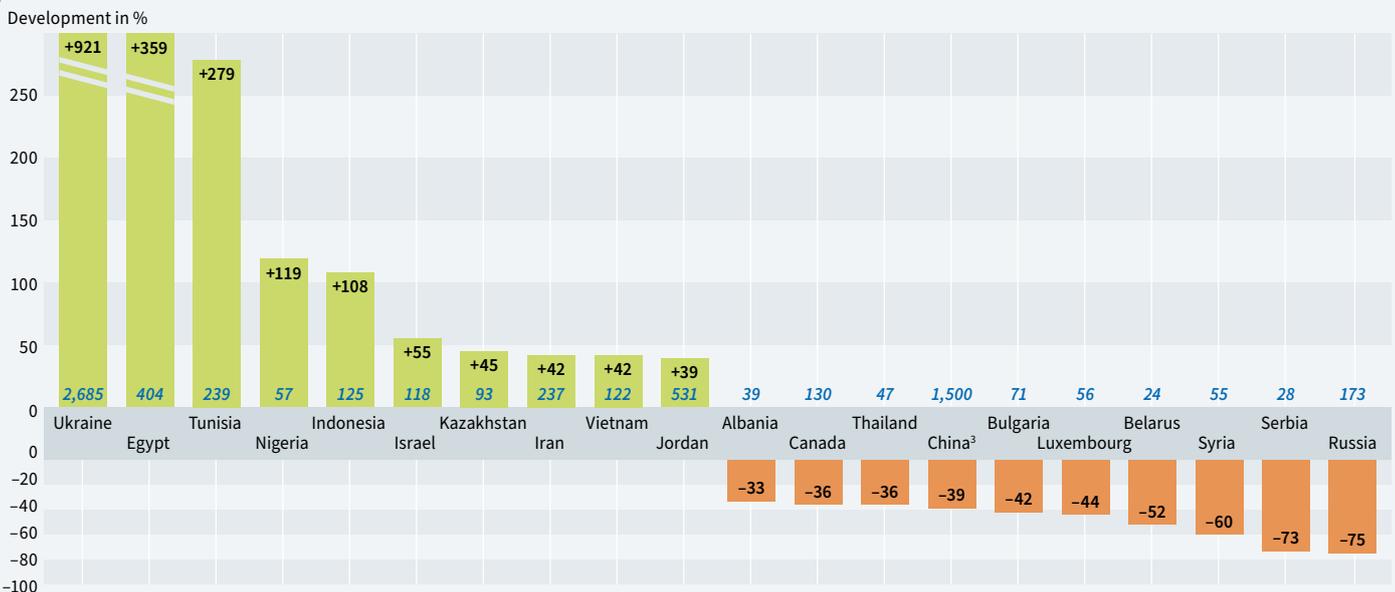
In addition to the developments outlined above, there was particularly marked relative growth between the 2020/21 and 2023/24 winter semesters among visiting and exchange students from Ukraine (+921%), Egypt (+359%), Tunisia (+279%), Nigeria (+119%) and Indonesia (+108%), along with sharp relative declines in the number of students from Syria (-60%), Serbia (-73%) and Russia (-75%). When interpreting these figures, it should be noted that case numbers are rather low for some countries.

B3.5 International students on temporary study-related visits by key countries of origin in the 2018/19 and 2023/24 winter semesters

Country of origin	2018/19 WS		Country of origin	2023/24 WS	
	Number	Share in %		Number	Share in %
China ³	2,498	9.6	Ukraine	2,685	10.7
Italy	2,323	8.9	Spain	2,013	8.0
Spain	2,131	8.2	Italy	1,872	7.5
France	1,760	6.8	France	1,549	6.2
US	1,695	6.5	China ³	1,500	6.0
Turkey	1,077	4.1	South Korea	1,301	5.2
South Korea	983	3.8	Turkey	1,300	5.2
Poland	757	2.9	US	1,150	4.6
Brazil	696	2.7	Japan	640	2.6
United Kingdom	675	2.6	Brazil	609	2.4
Japan	669	2.6	Mexico	595	2.4
Russia	652	2.5	Jordan	531	2.1
Mexico	548	2.1	Poland	498	2.0
Taiwan	512	2.0	Taiwan	496	2.0
India	479	1.8	India	414	1.7
Jordan	411	1.6	Egypt	404	1.6
Switzerland	397	1.5	United Kingdom	402	1.6
Czech Republic	343	1.3	Switzerland	320	1.3
Hungary	310	1.2	Portugal	284	1.1
Finland	300	1.2	Czech Republic	272	1.1

Source: Federal Statistical Office, "Statistik der Studierenden"; DZHW calculations

B3.6 Countries of origin with the greatest relative changes in the number of international students on temporary study-related visits between the 2020/21 and 2023/24 winter semesters⁴



XXX Number of international students on temporary study-related visits from a respective country of origin in the 2023/24 winter semester

Source: Federal Statistical Office, "Statistik der Studierenden"; DZHW calculations

3 International students on temporary study-related visits in Germany

3.3 Erasmus visits

For this edition of *Wissenschaft weltoffen*, the allocation of Erasmus participants to Erasmus funding periods was adjusted for funding periods from 2020 onwards to increase comparability with funding periods before 2020. The funding periods were extended in 2020 and 2021 due to the pandemic; as a result, some visits that took place during these funding periods were only included in the reporting on the following funding period. These statistical shifts have now been corrected.¹

Overall, in the 2023 funding period, approximately 30,800 students travelled to Germany for an Erasmus visit, of which approximately 20,900 (68%) came to study and approximately 9,900 (32%) for a placement.²

Compared to the (readjusted) 2022 funding period, the number of Erasmus study visits in Germany rose by 10% and the number of Erasmus placement visits in Germany by 14%. However, the number of Erasmus visits is still not back to the level of the funding periods directly preceding the pandemic, nor to the level of the 2021 funding period. The peak in the 2021 funding period can be explained by the pandemic-related extension of this funding period, which no longer applied from the following period onwards.

France was again the key country of origin of Erasmus participants in Germany during the 2023 funding period, with students from France making up almost 19% of all Erasmus participants in Germany. Other major countries of origin were Italy (almost 15%), Spain (almost 13%) and Turkey (almost 9%). Collectively, more than half (54%) of Erasmus participants in Germany came from these four countries of origin. Other major countries of origin – albeit at a lower level – were the neighbouring countries Austria (5%), Poland (almost 5%), the Netherlands (over 4%) and the Czech Republic (almost 4%).

Data

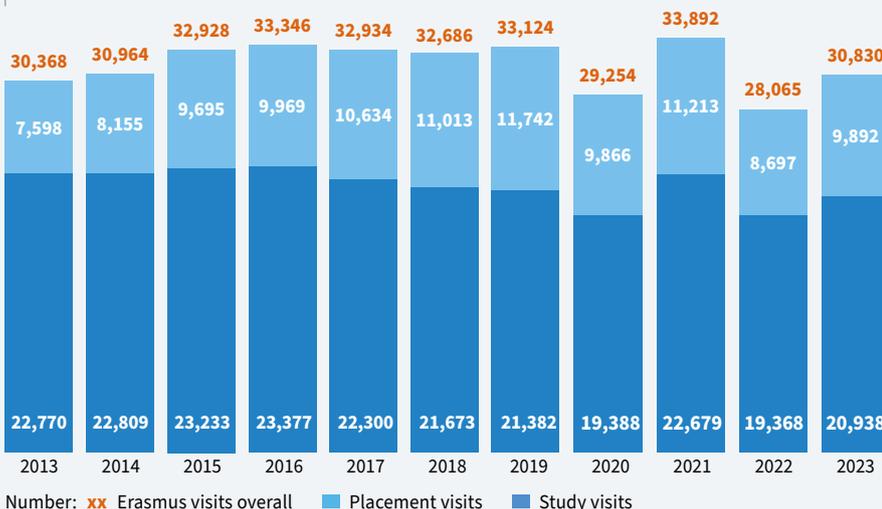
The data illustrated here refer exclusively to study visits (see the glossary in the appendix) and placement visits undertaken as part of the EU's Erasmus+ mobility programme. The basis for the data analysis are the Erasmus statistics prepared by the DAAD. 33 countries are currently associated to the Erasmus+ Programme. Since the introduction of the new programme cycle (2021–2027), there are also third countries in addition to fully participating countries in which Erasmus visits are possible. For example, the former associated countries Switzerland and the United Kingdom are now involved as third countries. International students undertaking an Erasmus visit in Germany must be enrolled at a university in their home country and have completed the first year of their studies. Their university must participate in Erasmus+ and have concluded an Erasmus cooperation agreement with the German host university. Erasmus participants coming to Germany from other countries may hold a citizenship other than that of their actual country of study.

Students in certain subject groups are over-represented among Erasmus participants. As in the past, the subject group of business, administration and law accounted for a particularly high proportion of Erasmus participants, namely 22%, in the 2023 funding period. Among international students in Germany overall (see Chapter B1), the corresponding figure was just under 20% in 2023. Moreover, Erasmus participants were greatly over-represented compared to all international students in the arts and humanities (21% versus 12%), social sciences, journalism and information (almost 12% versus 6%) and health and welfare (9% versus 5%). By contrast, Erasmus participants were markedly under-represented in engineering, manufacturing

* Footnotes

- 1 Erasmus statistics until 2014: the respective funding period starts in the winter semester and ends in the summer semester of the following year (e.g. 2014 = WS 2013/14 and SS 2014). Erasmus+ statistics from 2015 to 2019: the funding period starts on 1 June of the previous year and ends on 31 May of the following year (e.g. 2019 = 1 June 2018 to 31 May 2020). Erasmus+ statistics from 2020 to 2021 (special Covid-19 rules): funding periods were all extended by ten months (e.g. 2021 = 1 June 2020 to 31 March 2023). Erasmus+ statistics from 2022: due to a restructuring of the programme, the funding periods now last 26 months and start on 1 June of the previous year and end on 31 July of the following year (e.g. 2023 = 1 June 2022 to 31 July 2024).
- 2 Since June 2020, Erasmus figures have also included hybrid visits, in other words, combinations of physical and virtual visits. Visits that were purely virtual or not actually undertaken were not included.
- 3 Deviations from 100% are due to rounding.

B3.7 Erasmus participants from other countries in Germany by type of visit since the 2013 funding period^{1,2}

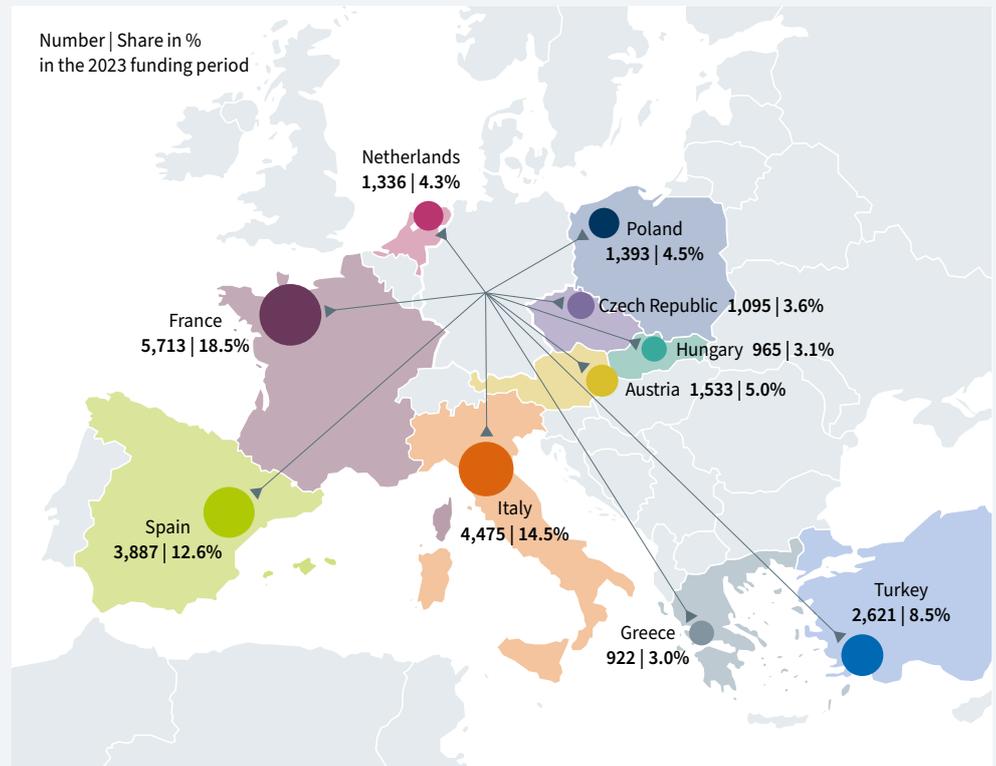


Source: DAAD, Erasmus statistics

and construction (just under 18% versus over 27%), natural sciences, mathematics and statistics (8% versus 11%) and particularly in information and communication technologies (4% versus 13%). In the remaining subject groups, Erasmus participants and international students overall accounted for similarly low shares.

The variations in the subjects favoured by Erasmus as opposed to other international students are also linked to the different regional background of both groups of students. Unlike Erasmus participants, students from Asia, North Africa and Middle East, who represent a significant percentage of all international students in Germany (see Chapter B1.2), frequently come to Germany to study engineering (finding not displayed graphically).

B3.8 Erasmus participants from other countries in Germany by key countries of origin in the 2023 funding period^{1,2}



Source: DAAD Erasmus statistics; DZHW calculations

B3.9 Erasmus participants from other countries compared to all international students in Germany by subject group in the 2023 funding period^{1,2,3}

Share of all Erasmus participants in Germany in %	Subject groups	Share of all international students in Germany in %
2.9	Education	1.7
20.9	Arts and humanities	11.9
11.5	Social sciences, journalism and information	5.8
22.0	Business, administration and law	19.5
7.8	Natural sciences, mathematics and statistics	11.2
4.3	Information and communication technologies	13.3
17.5	Engineering, manufacturing and construction	27.4
1.6	Agriculture, forestry, fisheries and veterinary	1.6
9.0	Health and welfare	5.3
2.5	Services	2.1

Sources: DAAD, Erasmus statistics; Federal Statistical Office, "Statistik der Studierenden"; DZHW calculations

1 Students from Germany intending to graduate abroad

1.1 Mobility trends and major host countries

In 2022, around 138,800 German nationals were studying abroad. Although a slight year-on-year increase can be observed here (roughly 137,500)¹, there has been a decline of 2% since the number of German students abroad peaked in 2016 (roughly 141,200). Nonetheless, from a broader perspective, the number of German students abroad (see the glossary in the appendix) has quadrupled since 1991 and more than doubled since 2000. Between 2002 and 2010, in other words, during the introduction of the new, tiered study system, above-average growth rates of 10% and more were reported in one year. During this period, the proportion of German students abroad in relation to the total number of German students rose from 3.3% to 5.6%. This suggests that the international comparability of degrees that is now in place has given rise to significant momentum in terms of mobility.² Above all, the option provided by the new study system of following a bachelor's programme in Germany with a master's programme abroad undoubtedly played an important role here. Nevertheless, since the introduction of the new types of degrees, this expansion in mobility can be regarded as having largely come to an end. Since then, the absolute number of German students abroad has barely fluctuated. In fact, their share of all German students has fallen slightly since 2011, mainly on account of the sharp rise in the number of students in Germany up to 2015, coming in at 5.2% in 2022. The downturn in degree-related student mobility from Germany between 2019 and 2020 is easily explained by the mobility restrictions due to the pandemic, which were more or less severe depending on the region or country.

The majority of German nationals studying abroad recorded by official statistics also aim to obtain a degree abroad (see the info box on the data). The motives for this form of mobility differ fundamentally from those for temporary study-related mobility (see Chapter C2).

Data

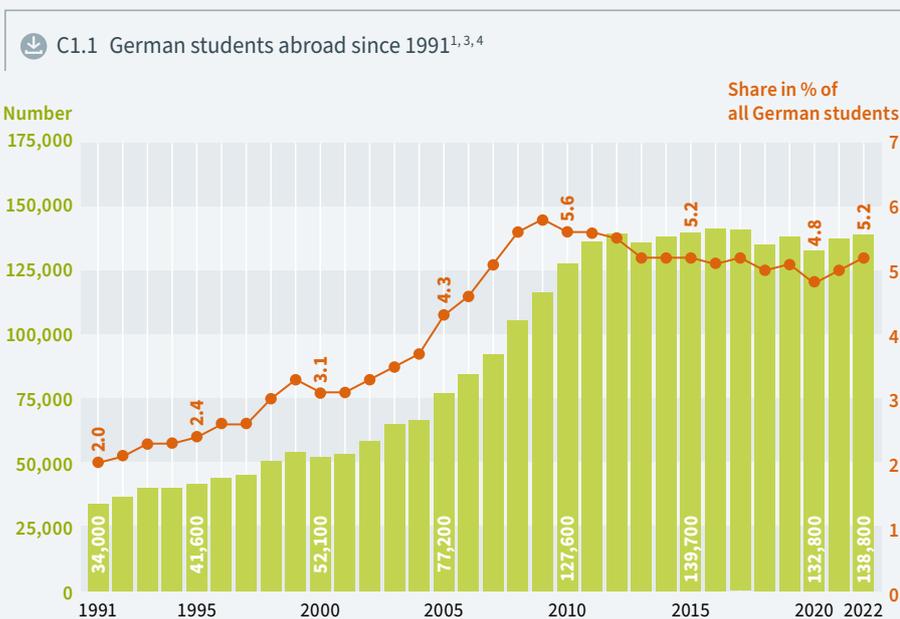
The evaluations presented in Chapters C1.1 and C1.2 are primarily based on data provided by the Federal Statistical Office. The Federal Statistical Office conducts an annual survey of the institutions responsible for national education statistics in around 40 major host countries of German students. The Federal Statistical Office also supplements the survey with UNESCO and Eurostat data on other host countries, in which at least 125 German students were registered in the current year. These students are predominantly, but not exclusively, seeking a degree abroad. The data for some countries include Erasmus students and other students on temporary study-related visits. Not all of these countries are able to quantify the exact number or proportion of these temporarily mobile students. However, as the majority of the recorded students are seeking a degree abroad, the data presented here can primarily be interpreted as data on degree-related student mobility.

While degree-related international mobility generally stems from the individual's endeavour to complete specific study programmes abroad and to improve their life and career prospects by graduating from a foreign university, temporary study-related mobility tends to be characterised by motives such as broadening horizons, honing language skills and personal development.

The motives for mobility also strongly influence the choice of the respective host country or host university. Three quarters of all German

students intending to graduate abroad are in Western European countries (75%). The regions of Central and Southeastern Europe (13%), North America (7%) and Asia and Pacific (3%) follow at a considerable distance. The other regions of the world are negligible regarding the degree-related international mobility of German students, with each accounting for less than 1%. By contrast, regions such as Latin America or Sub-Saharan Africa figure somewhat more prominently in temporary study-related international mobility – presumably on account of the different motives for mobility behind these visits (see Chapter C2.1).

The four most popular host countries among German students pursuing a degree abroad are still Austria, the Netherlands, Switzerland and the United Kingdom. Nevertheless, while numbers of German students in the United Kingdom (–32%) have plummeted even further, the numbers for Austria (+25%),



Source: Federal Statistical Office, "Deutsche Studierende im Ausland" survey; country-specific reporting periods

Switzerland (+8%) and the Netherlands (+1%) continued to rise between 2019 and 2022. Among the major host countries reporting an exceptionally noticeable upswing in German students between 2019 and 2022, Portugal (+85%) is at the forefront, along with Bulgaria (+24%), Sweden (+21%), Denmark (+16%) and Greece (+13%).

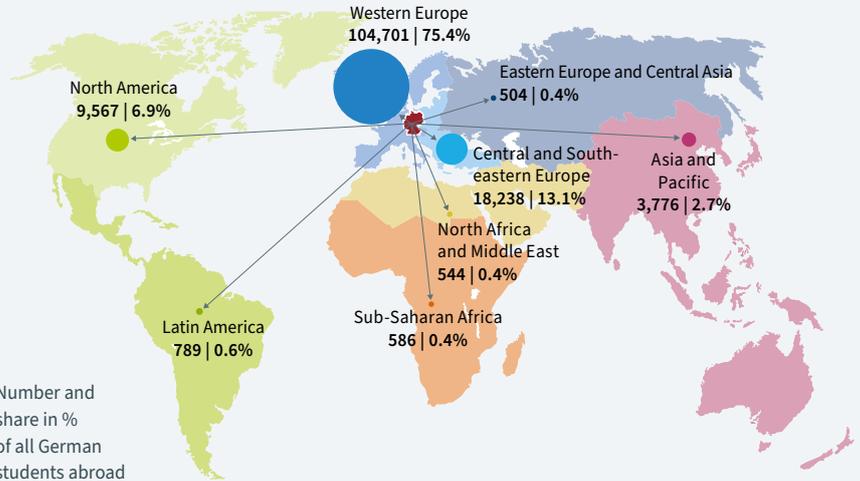
By contrast, significant declines can be seen over the same period, above all in China (-78%), the United Kingdom (-32%), Poland (-25%), Australia (-12%) and the US (-7%).

An analysis of the number of first-year students in the ten key host countries that are able to provide these data reveals rising numbers in seven of these countries. These increases are particularly noticeable in France (+117%), Portugal (+75%) and Sweden (+36%). On the other hand, dwindling numbers of German first-year students are recorded in Denmark (-13%), the Netherlands (-16%) and, first and foremost, the United Kingdom (-36%). There may be signs of a shift in student mobility from Germany, which can probably be attributed to Brexit, along with the steep rise in tuition fees and the cost of living in the United Kingdom.

* Footnotes

- 1 Deviations in the total figures compared with previous issues of *Wissenschaft weltoffen* are due to recalculations by the Federal Statistical Office.
- 2 However, this momentum was limited to degree-related international mobility, see Chapter C2.1.
- 3 From 2010, including numbers of doctoral students from the Federal Statistical Office's survey of doctoral students (*Promovierendenerhebung*); from 2019, including numbers from the official doctoral statistics (*Promovierendenstatistik*).
- 4 2022: 2,550,961 German students in Germany.
- 5 In addition to the host countries covered by the Federal Statistical Office, this includes those countries in which, according to UNESCO student statistics, more than ten German students were enrolled in 2021 or 2022.
- 6 95 visits (0.1%) could not be assigned to any region.
- 7 From 2020: break in the time series as German students with dual citizenship were no longer classified as German, but as Canadian students.
- 8 Figure from 2021, rather than 2022, as no data are currently available for 2022.

C1.2 German students abroad by host region in 2022^{5,6}



Number and share in % of all German students abroad

Sources: Federal Statistical Office, "Deutsche Studierende im Ausland" survey; UNESCO, student statistics; country-specific reporting periods; DAAD calculations

C1.3 German students abroad by key host countries in 2019 and 2022 plus development between 2019 and 2022

Host country	Number		Development 2019-2022 in %
	2019	2022	
Austria	30,231	37,766	+24.9
Netherlands	22,439	22,637	+0.9
Switzerland	11,536	12,485	+8.2
United Kingdom	14,145	9,625	-32.0
US	9,242	8,550	-7.5
France	4,715	4,701	-0.3
Turkey	4,022	4,448	+10.6
Hungary	3,447	3,340	-3.1
Portugal	1,771	3,268	+84.5
Denmark	2,805	3,240	+15.5
Sweden	2,092	2,534	+21.1
Spain	1,965	2,311	+17.6
Bulgaria	1,467	1,813	+23.6
China	8,108	1,787	-78.0
Romania	1,605	1,713	+6.7
Italy	1,533	1,534	+0.1
Greece	1,169	1,324	+13.3
Poland	1,653	1,244	-24.7
Australia	1,166	1,027	-11.9
Canada ⁷	1,044	1,017	-2.6

Source: Federal Statistical Office, "Deutsche Studierende im Ausland" survey; country-specific reporting periods; DAAD calculations

C1.4 German first-year students abroad by key host countries in 2019 and 2022 plus development between 2019 and 2022

Host country	Number		Development 2019-2022 in %
	2019	2022	
Austria	9,084	10,607	+16.8
Netherlands	6,564	5,515	-16.0
United Kingdom ⁸	7,960	5,136	-35.5
Switzerland	3,391	3,465	+2.2
Portugal	1,475	2,577	+74.7
Spain	846	999	+18.1
Turkey	844	982	+16.4
France	344	746	+116.9
Sweden	521	709	+36.1
Denmark ⁸	809	708	-12.5

Source: Federal Statistical Office, "Deutsche Studierende im Ausland" survey; country-specific reporting periods; DAAD calculations

1 Students from Germany intending to graduate abroad

1.2 Subject groups and types of degree

The majority of German students abroad (see the glossary in the appendix) are enrolled in the subject groups of business, administration and law (24%), as well as the social sciences, journalism and information (20%), followed by health and welfare (13%), arts and humanities (11%), engineering, manufacturing and construction (10%), natural sciences, mathematics and statistics (9%) plus information and communication technologies (4%).¹ Compared to German students studying in Germany, a considerably larger percentage of those enrolled abroad are thus pursuing a degree in social sciences, journalism and information, with a noticeably smaller percentage in engineering, manufacturing and construction.

“ Particularly in Central and Southeastern European countries such as Bulgaria, Latvia, Poland, Romania, Slovakia and Hungary, more than three quarters of all German students are enrolled in master’s programmes.

The distribution of German students abroad across subject groups varies greatly depending on the host country. Above all in Portugal and Spain, they are particularly likely to enrol in business, administration and law. The high proportion of students found in health and welfare subjects in the Eastern European host countries of Bulgaria, Poland and Hungary is also striking. This may be a consequence of the admission restrictions for medical study programmes at universities in Germany, which prompt some applicants to look for alternatives abroad. Moreover, the aforementioned countries highlight the good reputation of their medical education specifically to attract international students, with degree programmes in English in Bulgaria and Poland, while Hungary even offers programmes in German. In addition, the structure of medical studies in these countries is very similar to that in Germany; in Hungary, these study programmes also conclude with a state examination.

Slightly less than half of German students abroad (46%) aim for a bachelor’s degree there, over a third (39%) for a master’s degree.² A further 11% complete a doctorate abroad, while 4% pursue other types of degree, including unspecified degrees. Compared to German students at universities in Germany, master’s students are thus clearly over-represented among German students abroad, whereas bachelor’s students are markedly under-represented.

The distribution of the types of degree across the host countries also shows enormous variation. For example, 98% of German students in Greece, 90% in Turkey and 72% in the Netherlands are pursuing a bachelor’s degree. By contrast, in the Central and Southeastern European countries of Bulgaria, Latvia, Poland, Romania, Slovakia and Hungary, more than three quarters of all German students are enrolled

in master’s programmes. Above all, doctoral students represent a sizable proportion of the German students hosted in Anglo-Saxon and Scandinavian host countries such as Australia, Canada, Norway and Sweden. The same is true for German students in Switzerland and the Czech Republic.

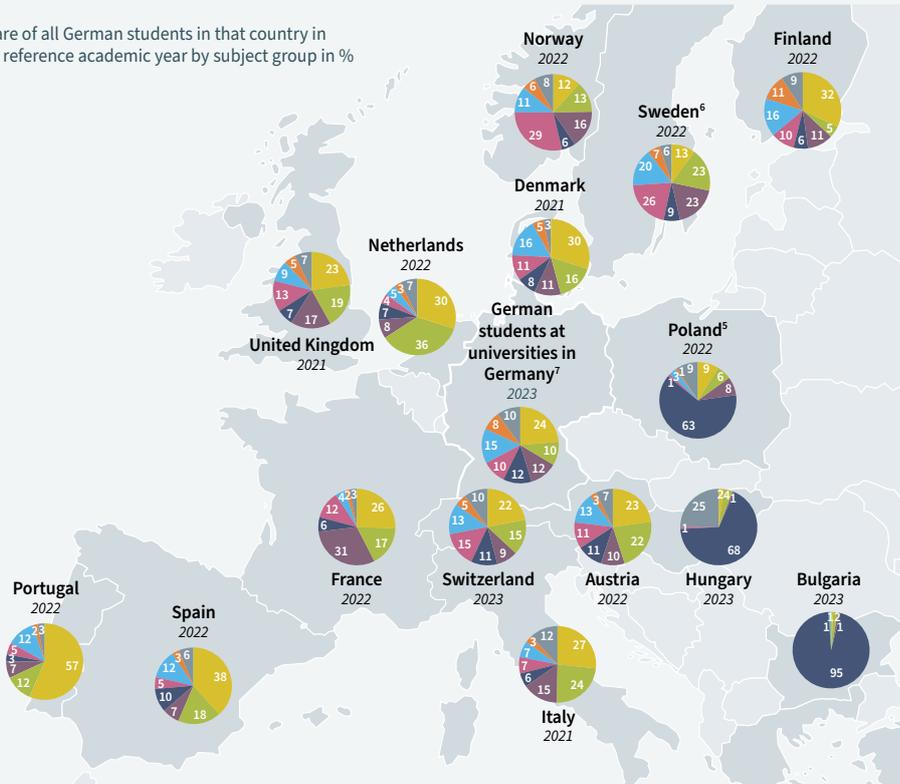
“ Compared to German students studying in Germany, a considerably larger percentage of those enrolled abroad are pursuing a degree in social sciences, journalism and information, with a noticeably smaller percentage pursuing a degree in engineering, manufacturing and construction.

* Footnotes

- 1 Basis: countries that supply the Federal Statistical Office with differentiated data on German students and doctoral students at their universities, broken down by subject group. These countries host around 94% of German students abroad. With the exception of China, Italy and Romania, these countries also include all 20 key host countries of German students abroad.
- 2 Basis: countries for which differentiated data on German students by type of degree are available from the Federal Statistical Office or the OECD. These countries host around 89% of German students abroad and, with the exception of China, include all 20 key host countries of German students abroad.
- 3 Since the 2018 issue of the survey “Deutsche Studierende im Ausland”, the subject groups have been categorised according to ISCED standards and therefore deviate from the Federal Statistical Office’s standard classification system.
- 4 Deviations from 100% are due to rounding.
- 5 Doctoral students and postdocs have been included in “Other/unknown” as they cannot be broken down according to subjects.
- 6 Double counting is possible as students in Sweden can enrol in more than one subject in any academic year.
- 7 Data on German students at universities in Germany refer to the 2022/23 winter semester.
- 8 The number of German students in the Netherlands contains the number of doctoral students in 2021 as numbers of doctoral students were not available for 2022 at the time of writing.
- 9 OECD data as they are more complete, more up-to-date or more accurate than data from the Federal Statistical Office.
- 10 OECD data as they are not included in the data from the Federal Statistical Office.
- 11 Data on doctoral students from the database of the US Student and Exchange Visitor Information System (SEVIS) as they are not included in OECD data.

C1.5 German students in selected host countries by subject group^{1,3,4}

Share of all German students in that country in the reference academic year by subject group in %



All countries¹



Greece



Turkey



US



Canada



Australia

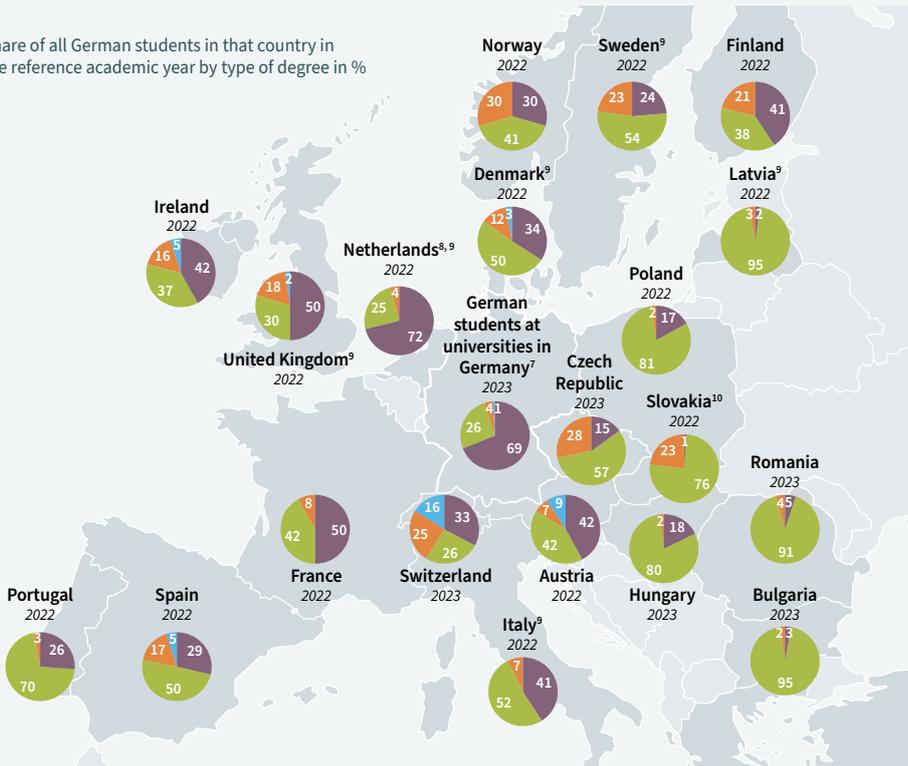


- Business, administration and law
- Social sciences, journalism and information
- Arts and humanities
- Health and welfare
- Natural sciences, mathematics and statistics
- Engineering, manufacturing and construction
- Information and communication technologies
- Other/unknown

Source: Federal Statistical Office, "Deutsche Studierende im Ausland" survey; country-specific reporting periods

C1.6 German students in selected host countries by type of degree⁴

Share of all German students in that country in the reference academic year by type of degree in %



All countries²



Turkey



Greece



US^{10,11}



Canada



Australia



- Bachelor's
- Master's
- Doctorate
- Other degrees/type of degree unknown

Sources: Federal Statistical Office, "Deutsche Studierende im Ausland" survey; OECD, student statistics; country-specific reporting periods

2.1 Mobility trends, host regions and host countries

The findings of the Social Surveys commissioned by the German National Association for Student Affairs (DSW) show that, between 1991 and 2000, the share of students in later semesters with study-related visits abroad rose sharply (from 20% to 32%), stabilising at this level until 2006¹ before falling to 30% in 2009.

“Western Europe is by far the most favoured host region for study-related visits abroad undertaken by students from Germany.

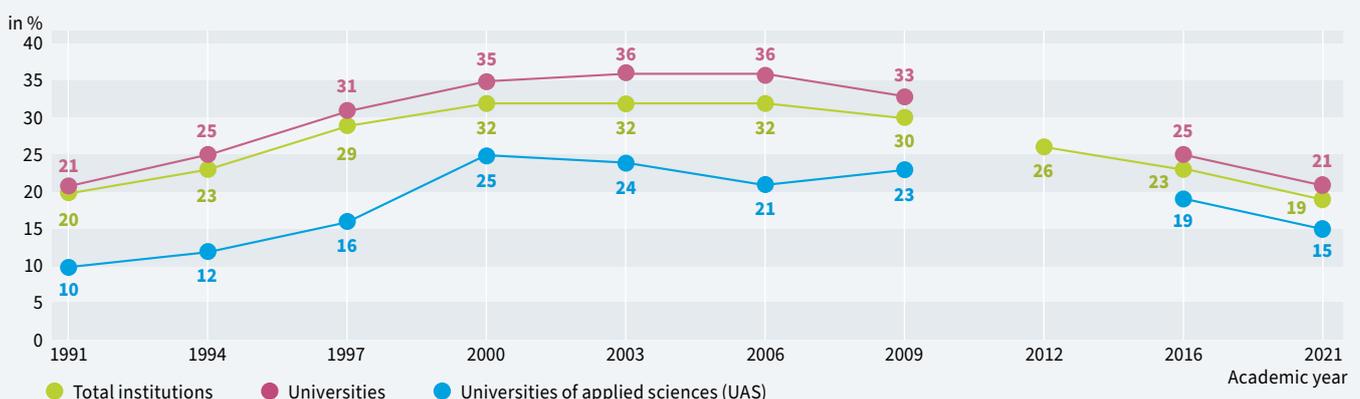
Since 2021, the DZHW has continued the Social Surveys with “The Student Survey in Germany”. In this context, the calculation of the share of students in later semesters was adapted to the bachelor’s/ master’s system (from the 2012 Social Survey).² Due to these changes in the method of calculation, the revised percentages can only be compared directly with those of the Social Surveys after 2012. The new calculations show that 26% of all domestic students in later semesters had completed study-related visits abroad in 2012, as opposed to 23% in 2016 and just 19% in 2021. This decline in the mobility rate can be observed – at varying levels – at both universities and universities of applied sciences (UAS). Unlike degree-related international mobility (see Chapter C1.1), there was no increase in the rate for temporary study-related international mobility while the two-cycle study system of bachelor’s and master’s programmes was in the process of being established. In fact, temporary international mobility even declined during this period.

Possible reasons for this are the more strongly structured study and examination system, introduced as part of the Bologna reform, and the reduction of standard study periods. From the students’ point of view, both aspects may have led to the fact that the newly introduced study programmes offer less scope for study-related visits abroad than was previously the case.

Data

The data situation regarding the temporary study-related international mobility (see the glossary in the appendix) of German students and *Bildungsinlaender* at universities in Germany (referred to hereinafter as domestic students) must be described as unsatisfactory at present, especially by comparison with other countries. In 2017, the reformed Higher Education Statistics Act introduced the mandatory survey of study-related visits abroad undertaken by students at universities in Germany. However, this requirement of the new Higher Education Statistics Act still poses major challenges for many universities. Although the Federal Statistical Office now publishes university-specific data on the temporary study-related international mobility of graduates, these figures highlight the fact that many universities and universities of applied sciences are not yet in a position to document the requested data. Furthermore, it should be noted that these data must conform to the definition of the EU mobility benchmark (see also Chapter A1.4). This requirement means that mobility rates calculated on this basis will be considerably lower than the mobility rates previously recorded on the basis of survey data. Given the unsatisfactory situation of the official statistics, the findings of the Social Surveys commissioned by the German National Association for Student Affairs (DSW), which were conducted by the German Centre for Higher Education Research and Science Studies (DZHW) until 2016, represent the most reliable source of data for analysing the development of temporary study-related mobility among students at universities in Germany. Since 2021, this time series has been continued in the nationwide, representative follow-up study entitled “The Student Survey in Germany” (SID), by the DZHW, the DSW and the University of Konstanz.³ Their data form the basis for calculating the existing quotas of international mobility for 2021.

C2.1 Domestic students in later semesters with temporary study-related visits abroad by type of university since 1991^{1,2,4,5}



Share of all domestic students in later semesters in %

Sources: DSW/DZHW, Social Surveys 1991–2016; DZHW, The Student Survey in Germany (2021)

Western Europe is by far the most favoured host region for study-related visits abroad undertaken by domestic students, with 59% of all visits taking place there. Specifically, this is also a result of the extremely popular Erasmus+ programme, in which all Western European countries were involved during the period under review. Moreover, the proximity of neighbouring countries plus students' experience of them on holiday trips and their familiarity with the local language are likely to also be deciding factors. A further 12% of study-related visits abroad were undertaken in Asia and Pacific and 9% in Central and Southeastern Europe. 8% of students flew to North America for their visits abroad. By contrast, visits to Latin America (5%), Sub-Saharan Africa, North Africa and Middle East (3% each) plus Eastern Europe and Central Asia (2%) were much less common.

These findings suggest that the majority of host countries that are particularly relevant for the temporary international mobility of students from Germany are in Western Europe. Thus, almost 10% of visits abroad saw students travel to the United Kingdom, 9% to France, 8% to Spain, just under 5% to Italy and 4% to Sweden. With a share of 6%, the US is the only non-Western European country ranking among the top ten host countries.

* Footnotes

- 1 The mobility rate of students in later semesters or at the end of their studies provides a rough estimate of study-related international mobility over the course of an entire degree programme. It is thus more conclusive than mobility rates in relation to all students, which also include first-year students. Students in later semesters from 1991 to 1994 are: students from the 8th semester (university) or the 6th semester (UAS) (1991: West Germany only); 1997 to 2009: students from the 9th to the 14th semesters (university) or the 7th to the 11th semester (UAS); from 2012: students from the 6th university semester.
- 2 For 2012, no separate rates could be calculated for universities and UAS due to the data situation.
- 3 See Kroher et al. (2023) and the project website at www.die-studierendenbefragung.de/en/the-student-survey.
- 4 Reference group: 1991–2009: German nationals and *Bildungsinlaender*; from 2012: German nationals and *Bildungsinlaender*, not including students in part-time, distance learning and on-the-job degree programmes.
- 5 Surveys in 2016 and 2021 include students who were undertaking a temporary study-related visit abroad at the time of the survey.
- 6 Reference group: German nationals and *Bildungsinlaender*, not including students in part-time, distance learning and on-the-job degree programmes.

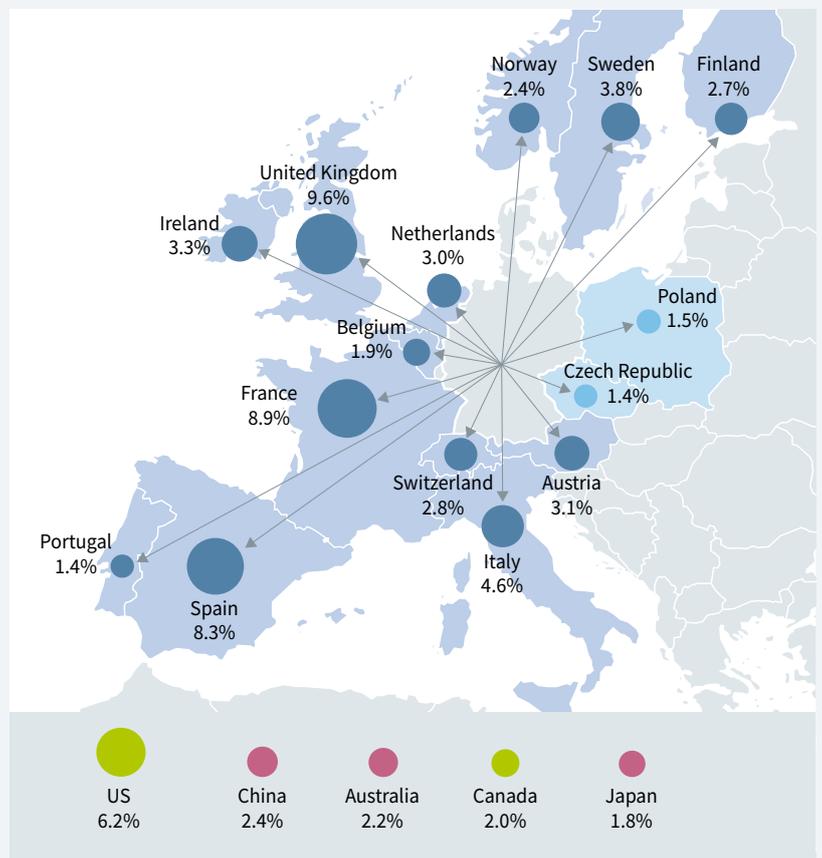
📍 C2.2 Study-related temporary visits abroad undertaken by domestic students by host region in 2021⁶



Share of all study-related visits abroad undertaken by domestic students in %

Source: DZHW, The Student Survey in Germany (2021)

📍 C2.3 Study-related temporary visits abroad undertaken by domestic students by key host countries in 2021⁶



Share of all study-related visits abroad undertaken by domestic students in %

Source: DZHW, The Student Survey in Germany (2021)

2.2 Organisation and funding

How do students in Germany organise and fund their study-related visits abroad (see the glossary in the appendix)? The second Student Survey in the DAAD project “Benchmark internationale Hochschule” (BintHo) examined this question in the 2023/24 winter semester.¹

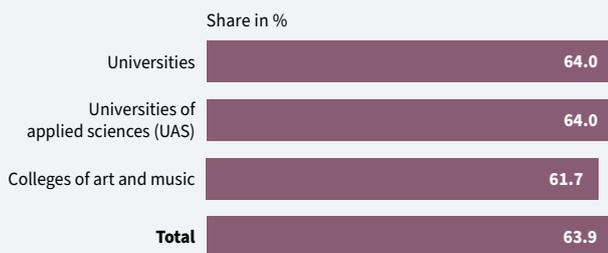
The BintHo findings reveal that institutional conditions are a significant organisational factor when undertaking study-related visits abroad. One notable example are international university partnerships: almost two thirds (64%) of the domestic² students with study-related visits abroad polled in the 2023/24 winter semester had carried out their visits at partner universities of their respective home university. The percentage was similar at universities, universities of applied sciences (UAS) and colleges of art and music. In other words, the importance of university partnerships as an institutional factor is largely unrelated to the type of university.

Another major institutional driver of study-related international mobility is the structural integration of these visits in the corresponding study programme. Almost 20% of the domestic BintHo respondents with study-related visits abroad stated that their (last) visit was a mandatory visit as part of their curriculum in Germany. Another 46% indicated

Data

In the 2023/24 winter semester, the DAAD invited all state-recognised universities to take part in the “Benchmark internationale Hochschule” (BintHo) project for the second time.¹ The 132 participating universities from all 16 federal states included 64 universities of applied sciences (UAS), 52 universities (including twelve technical universities), twelve colleges of art and music and four colleges of education. Most of these universities invited all students to take part in the online survey via email and/or other communication channels (individual universities only sent invitations to selected groups of students). The field phase of the survey ran from 1 December 2023 to 15 February 2024. All in all, around 100,000 domestic students and doctoral candidates (German nationals and *Bildungsinlaender*) and at least 20,000 international students and doctoral candidates took part in the survey. To enhance the informative value and representativeness of the findings presented here, the data were weighted according to relevant characteristics used in official student statistics (e.g. types of degree, subject groups).

C2.4 Domestic students abroad undertaking visits to foreign partner universities by type of university in the 2023/24 winter semester²

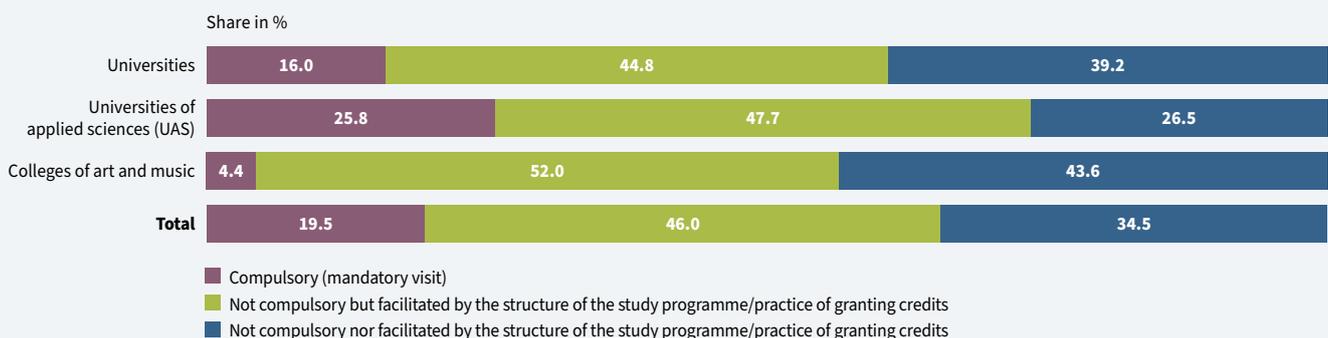


Source: DAAD, BintHo survey 2023/24, weighted figures

that, although study-related visits abroad were not a requirement of their degree programme, they were facilitated by the course structure or by the practice of granting credits. The remaining third (just under 35%) of domestic students with study-related visits abroad claimed that they were enrolled in a degree programme that neither required study-related visits abroad nor facilitated such visits as a result of the course structure or the practice of granting credits. A comparison of these findings by type of university shows that UAS students were most likely, and students at colleges of art and music least likely, to cite the structural facilitation of study-related visits abroad.

For many students, funding is a major organisational obstacle to planning and undertaking study-related visits abroad.³ A closer look at the importance of funding sources indicated by the domestic BintHo respondents with regard to study-related visits abroad reveals that

C2.5 Structural integration of the last study-related visit abroad undertaken by domestic students by type of university²



Source: DAAD, BintHo survey 2023/24, weighted figures

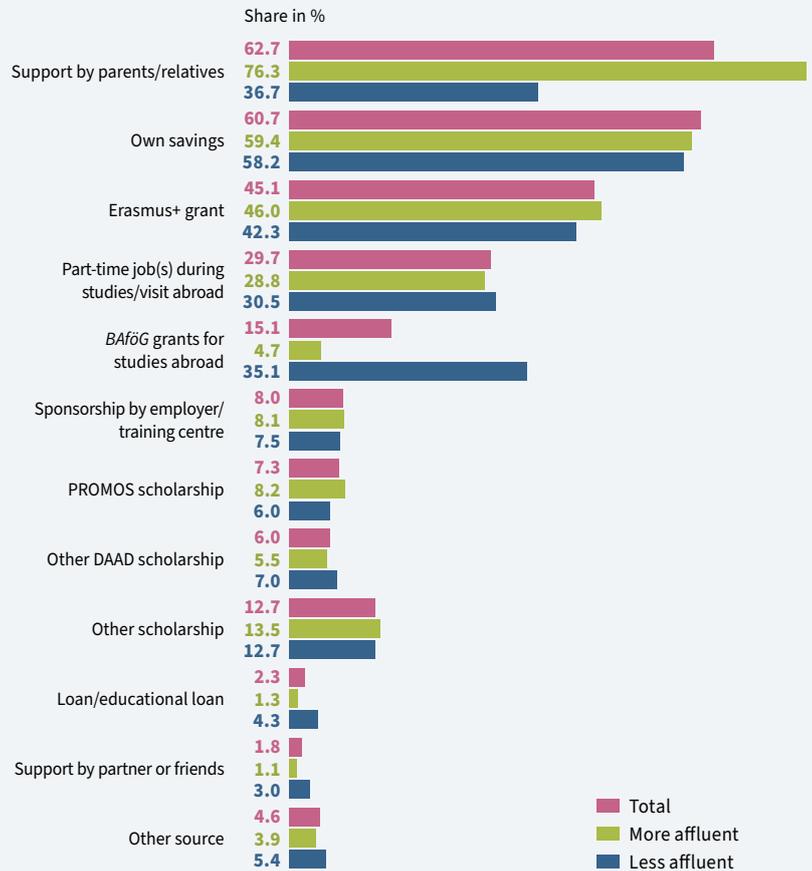
financial support from their parents or other relatives (63%) predominates, along with students' own savings (61%) and Erasmus grants (45%). Focusing on those respondents who regard their parents as either more or less affluent than the majority of society, it becomes clear that the importance of individual funding sources varies enormously in the two groups.⁴ This applies in particular to support provided by parents or other relatives and those receiving public financial aid for their studies (*BAföG*) that is topped up for their studies abroad (*Auslands-BAföG*). The great discrepancy in the relevance of support from parents or other relatives in both groups demonstrates the potential for strong social selectivity in study-related international mobility in cases where funding is not also provided by financial support programmes such as *BAföG* grants or scholarships for studies abroad.

An additional organisational challenge that has increasingly come to the fore in recent years is being mindful of sustainability issues and climate protection when arranging study-related visits abroad. The findings of the BintHo survey underline that the significance of this aspect is largely dependent on the students' faculties. More than half of students with study-related visits abroad in the subject groups of food sciences and veterinary medicine (57%), art and art history (52%) and natural sciences (50%) indicated that sustainability aspects were fairly or even very important when planning their study-related visits abroad. This puts them well above the average of around 36% for all students. By contrast, the corresponding share in the subject groups of law (30%), information technology (30%) and economics (28%) is below average.

* Footnotes

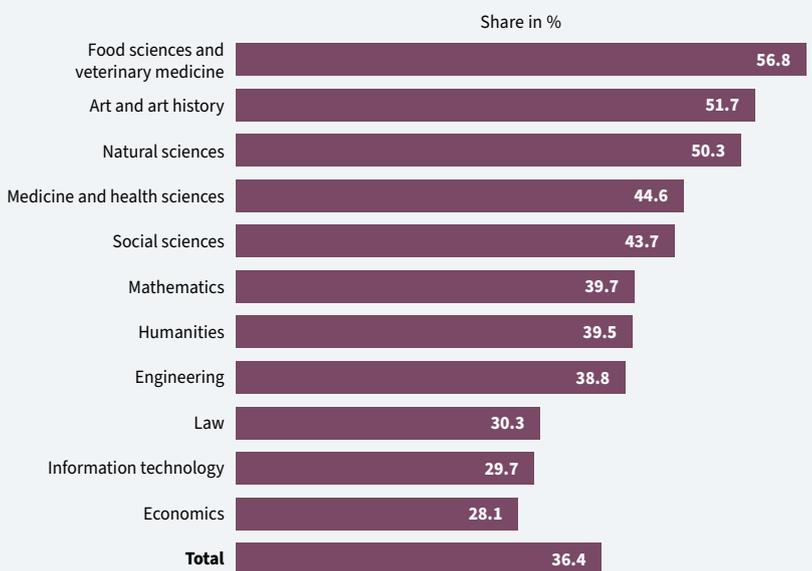
- 1 For further information on the BintHo project (in German only), see DAAD (2023, 2025) and www.daad.de/bintho.
- 2 Domestic students are defined as German and foreign students who have been awarded a university entrance certificate by a German school.
- 3 See Hauschildt et al. (2015, p. 196); Lörz et al. (2016, p. 163ff); Heublein et al. (2024, p. 72); DAAD (2025, p. 38ff).
- 4 Respondents grouped by self-assessment of their parents' affluence as fairly or much less affluent as opposed to fairly or a great deal more affluent than the majority of society. Not including respondents who rated their parents' affluence as average.
- 5 Summary of the responses "fairly important" [4] and "very important" [5] on a five-point scale to assess the relevance of sustainability aspects when arranging study-related visits abroad.

📌 C2.6 Funding sources for study-related visits abroad undertaken by domestic students by affluence of their parents^{2,4}



Source: DAAD, BintHo survey 2023/24, weighted figures

📌 C2.7 Significance of sustainability issues when arranging study-related visits abroad undertaken by domestic students by selected subject groups in the 2023/24 winter semester^{2,5}



Source: DAAD, BintHo survey 2023/24, weighted figures

2 Students with temporary study-related visits abroad

2.3 Virtual experience abroad

The objective of higher education policy in Germany is to offer as many students as possible the opportunity to spend time abroad as part of their studies. Nevertheless, only just under a fifth of students actually undertake a visit abroad in person during their studies (see Chapter C2.1). In addition to physical international mobility, students can now also take advantage of virtual options to obtain study-related experience abroad. This raises the question of how students rate the attractiveness of these options, which aspects, in their view, speak for or against using such options and how many students actually take advantage of them. These questions were the subject of the Binto survey¹ conducted by the DAAD in the 2023/24 winter semester.

The findings show that the perceived attractiveness of the virtual options for study-related experience abroad differs enormously depending on the mobility status of the domestic students.^{2,3} Just over 4% of the domestic students with physical visits abroad consider a virtual experience abroad to be a rather attractive or very attractive alternative to undertaking a conventional physical visit abroad. By contrast, around 23% of domestic students without physical visits abroad regard a virtual study visit at a foreign university as a rather attractive or very attractive opportunity of gaining study-related experience abroad. Moreover, when this group was asked to rate the attractiveness of a purely virtual placement visit abroad, the share of positive assessments was even slightly higher (27%).

Domestic students without physical visits abroad at the time of the Binto survey were asked to indicate their three main reasons for and against virtual forms of study-related experience abroad.^{4,5} By far the most frequently cited argument *in favour* of using virtual forms of study-related experience abroad was the associated cost savings (71%), followed by not being separated from the social network (54%) and the fact that virtual visits require less organisation (43%). From the students' point of view, the reasons for *not* using virtual alternatives to physical visits abroad were, first and foremost, the resulting lack of intercultural experience (58%), the absence of any experience outside

the university or the employer abroad (50%) and lacking benefits for their own personal development (46%).

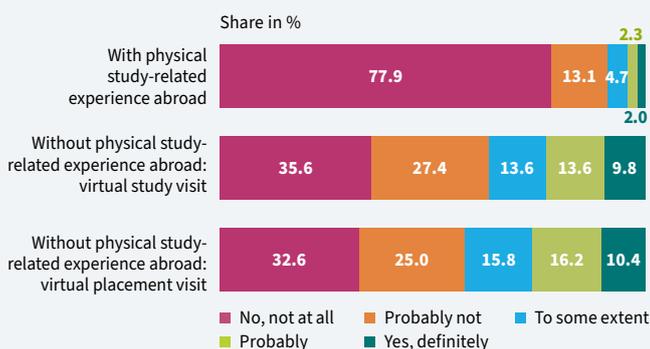
Finally, a closer look at the *actual* use of virtual options for study-related experience abroad reveals that only a small minority of students take advantage of these forms. At the same time, there are considerable differences between various types of virtual formats as well as between students with and without physical visits abroad.

Overall, only around 7% of the domestic students surveyed had completed online seminars offered by their own university in collaboration with a foreign university. Approximately half of these students had received credit points for these seminars (3%). Among students who had undertaken at least one physical visit abroad as part of their studies, the share was 11%, more than twice that of those who were not physically internationally mobile.

Online seminars that are offered by a foreign university alone achieve even lower usage rates. In total, only 4% of domestic students had taken part in virtual programmes of this kind, with significantly higher shares again observed among domestic students with physical visits abroad than among those without physical visits abroad (8% versus 3%). When it comes to online lectures held at foreign universities, the usage rates are identical to those of the online seminars described above: 4% of domestic students overall, 8% of domestic students with physical visits abroad and 3% of domestic students without such visits.

Complete online study visits to a foreign university and complete online placements with an employer abroad are particularly rare. Only 2% of all domestic students surveyed, 2% and 1% respectively of students with and without physical visits abroad, respectively, claim to have taken advantage of these options. In conclusion, it can be stated that students who are (or were) physically abroad as part of their studies are also more likely to gain purely virtual experience abroad than students without physical visits abroad, although the latter view this experience

C2.8 Evaluation of the attractiveness of purely virtual experience abroad by domestic students by mobility status^{2,3}



Source: DAAD, Binto survey 2023/24, weighted figures

* Footnotes

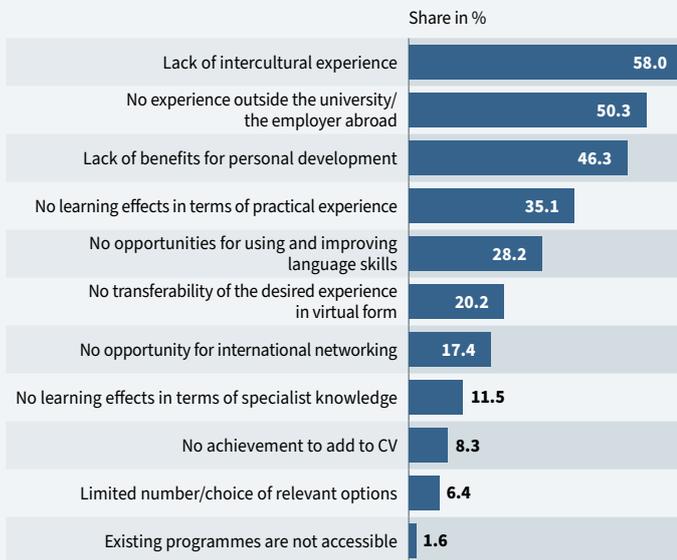
- For further information on the Binto project, see the info box in Chapter C2.2, DAAD (2023,2025) and www.daad.de/bintho (in German only).
- Domestic students are defined as German and foreign students who have been awarded a German university entrance certificate.
- Wording of the question: Suppose you had also been able to access all teaching programmes and examinations during your study-related visit abroad online from Germany. Would you have considered such a purely "virtual visit abroad" an attractive alternative to your physical visit abroad? / Imagine that, instead of undertaking a physical visit abroad, it would also be possible to complete a study visit at a foreign university or a placement with an employer abroad entirely online from Germany. Would such a purely "virtual visit abroad" be an attractive option for you?
- Wording of the question: In your view, what are the most important reasons for undertaking a virtual form of study-related visit abroad? Please select up to three aspects.
- Wording of the question: In your view, what are the most important reasons for not undertaking a virtual form of study-related visit abroad? Please select up to three aspects.

C2.9 Reasons in favour of virtual study-related experience abroad from the perspective of domestic students without physical study-related experience abroad^{2,4}



Source: DAAD, BintHo survey 2023/24, weighted figures

C2.10 Reasons against virtual study-related experience abroad from the perspective of domestic students without physical study-related experience abroad^{2,5}

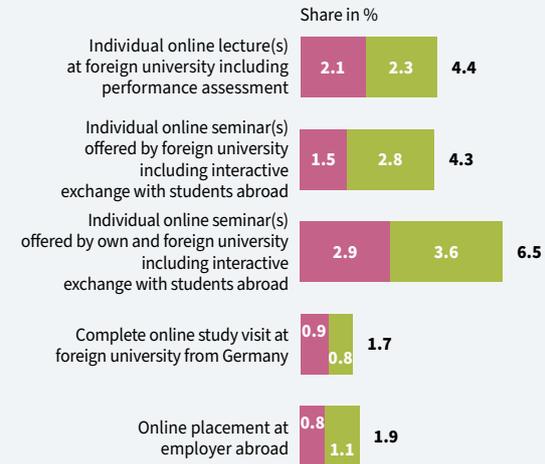


Source: DAAD, BintHo survey 2023/24, weighted figures

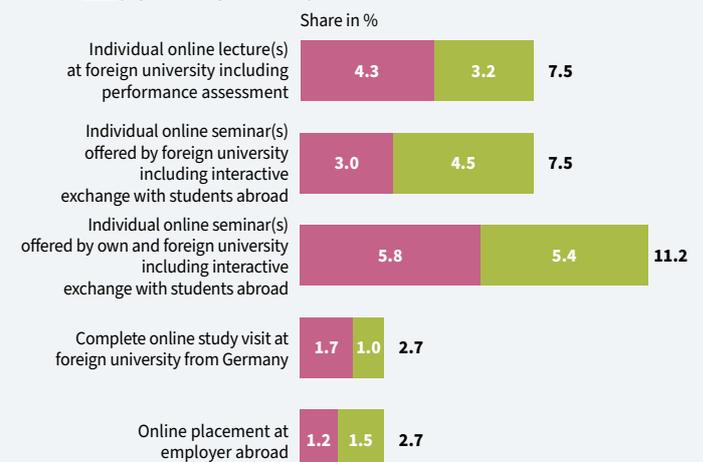
much more positively. Until now, virtual visits abroad have probably been regarded as supplementary educational options, rather than as substitutes for physical visits abroad. Nonetheless, the comparatively positive evaluations of virtual visits abroad among students who have not previously been physically internationally mobile show that virtual visits may well offer easy access to study-related experience abroad and, ideally, help overcome obstacles in subsequently planning and undertaking physical visits abroad.

C2.11 Domestic students with virtual experience abroad by mobility status and type of virtual experience abroad²

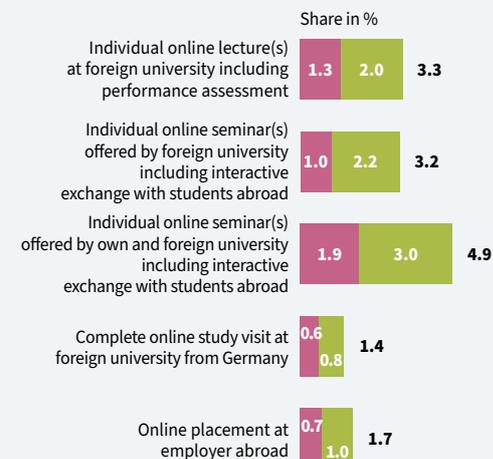
All domestic students



Students with physical study-related experience abroad



Students without physical study-related experience abroad



Legend:
■ Credit points awarded
■ Only participated/completed (no credit points)

Source: DAAD, BintHo survey 2023/24, weighted figures

2 Students with temporary study-related visits abroad

2.4 Erasmus visits

The number of annual Erasmus visits undertaken by students at universities in Germany increased from 33,400 to 44,800 between the 2012 and 2023 funding periods.¹ Consequently, since the 2012 funding period, the number of all Erasmus participants from Germany has seen greater growth (+34%) than the number of all students in Germany (+23%). In the 2021 funding period, the number of Erasmus participants returned to the pre-pandemic level of 2019, following the downshift in the number of participants due to Covid-19. However, the number dropped back to the 2020 level in the 2022 funding period, probably due to a budget cut during this time, the introduction of a new Erasmus programme generation and the associated change in project life spans.¹ The 2023 funding period saw a new high of 44,825 Erasmus participants. Over the last ten funding periods, the number of Erasmus participants rose more rapidly at universities of applied sciences (UAS: +36%) than at universities (+19%).² Compared to the 2022 funding period, however, the number of participants at UAS increased by just 1% and their share of all Erasmus participants declined to 30% (2022 funding period: 33%). In contrast, the number of participants at universities went up by 17% in the 2022 funding period, thereby exceeding the previous record of 2019.

“ Compared to the 2022 funding period, the number of visits to the ten key host countries has increased.

As in the pre-2023 funding periods, Spain was still the most popular destination for Erasmus participants from Germany in the 2023 funding period, followed by France and Italy. Compared to the 2022 funding period, the number of visits to the ten key host countries has increased. The strongest gains were observed in the Scandinavian countries of Finland (+55%), Norway (+48%) and Sweden (+35%), followed by the

Data

The data presented here refer exclusively to study visits (see the glossary in the appendix) and placement visits undertaken as part of the EU's Erasmus+ mobility programme. The basis for these data are the Erasmus statistics prepared by the DAAD. According to the findings of the DAAD's BinTHo (Benchmark internationale Hochschule) survey, almost half of all temporary study-related visits abroad by students from Germany are undertaken and funded through Erasmus+ (DAAD, 2025, p. 30). Both German and international students wishing to complete a study or placement visit in one of the 33 participating programme countries are eligible for funding if they have completed their first academic year, are enrolled at a university in Germany, their university participates in Erasmus+ and the home university and the desired host university have concluded an Erasmus cooperation agreement. Since the introduction of the new Erasmus+ programme generation (2021–2027), there are also partner countries around the world in which Erasmus placements are possible, in addition to fully associated countries. For example, Switzerland and the United Kingdom, formerly associated to the Programme, have been partner countries since 2021.

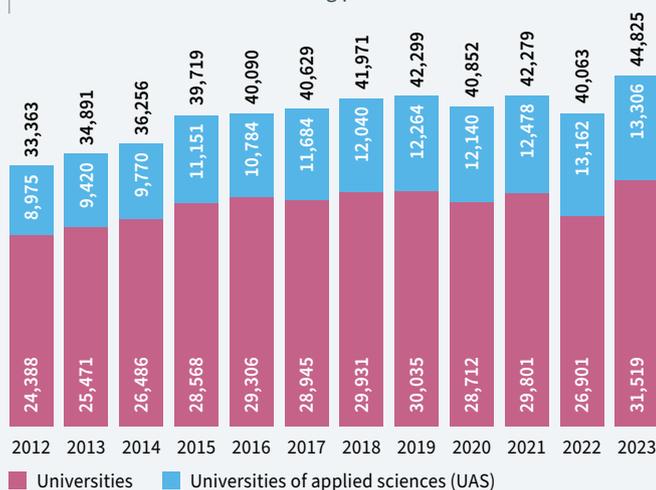
host countries Italy (+30%), Turkey (+25%), France (+23%), Spain (+16%), Portugal (+9%), the Netherlands (+8%) and Austria (+1%).

The distribution of Erasmus participants from Germany across different subject groups shows that students of the arts and humanities account for an above-average proportion of Erasmus participants.⁴ Their share among Erasmus participants (16%) is almost double that of their share of all students in Germany (9%). Students of the social sciences,

* Footnotes

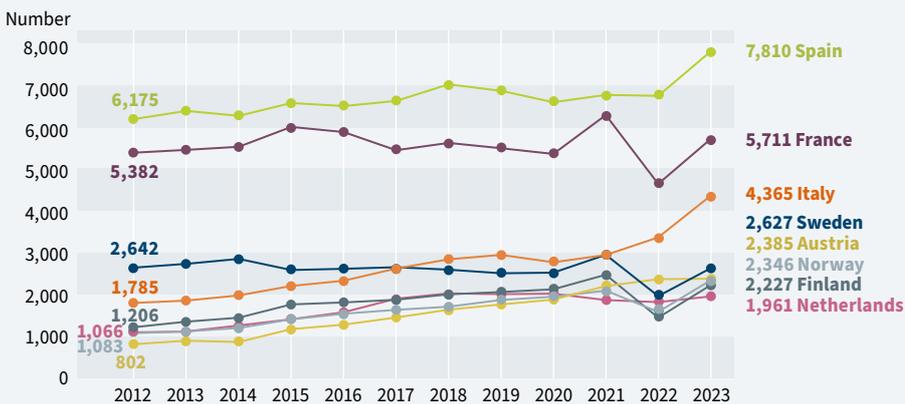
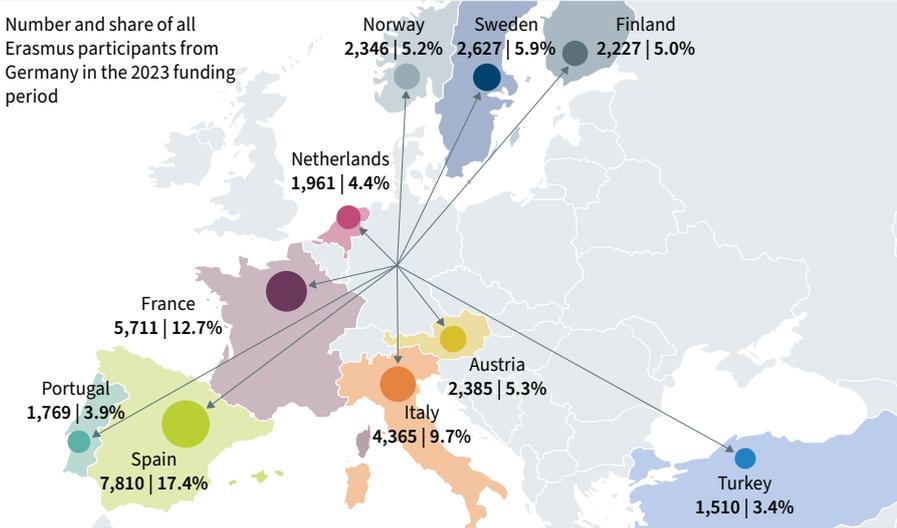
- 1 Erasmus statistics until 2014: the respective funding period starts in the winter semester and ends in the summer semester of the following year (e.g. 2014 = WS 2013/14 and SS 2014). Erasmus+ statistics from 2015 to 2019: the funding period starts on 1 June of the previous year and ends on 31 May of the following year (e.g. 2019 = 1 June 2018 to 31 May 2020). Erasmus+ statistics from 2020 to 2021 (special Covid-19 rules): funding periods were all extended by ten months (e.g. 2021 = 1 June 2020 to 31 March 2023). Erasmus+ statistics from 2022: due to a restructuring of the programme, the funding periods now last 26 months and start on 1 June of the previous year and end on 31 July of the following year (e.g. 2023 = 1 June 2022 to 31 June 2024).
- 2 Colleges of art and music and other higher education institutions were added to the universities. Students at these universities account for approximately 2.4% of all Erasmus visits.
- 3 Since June 2020, Erasmus mobility statistics have also included hybrid visits, in other words, a combination of physical and virtual visits. Visits that were purely virtual or not actually undertaken were not included.
- 4 Subject group distribution for all students in Germany in the 2022/23 winter semester.
- 5 The number and shares of all students in Germany refer to the 2022/23 winter semester.
- 6 For the sake of clarity, Portugal and Turkey are not included in the lower section of the figure.

C2.12 Erasmus participants from Germany by type of university since the 2012 funding period^{1,2,3}



Source: DAAD, Erasmus statistics

C2.13 Erasmus participants from Germany by key host countries in the 2023 funding period and since the 2012 funding period^{1,3,6}



Source: DAAD, Erasmus statistics

journalism and information are also clearly over-represented, while students in the subject groups of information and communication technologies, engineering, manufacturing and construction plus education are distinctly under-represented. At 4%, the share of students in information and communication technologies of all Erasmus participants is just over one third that of all students in Germany (9%).

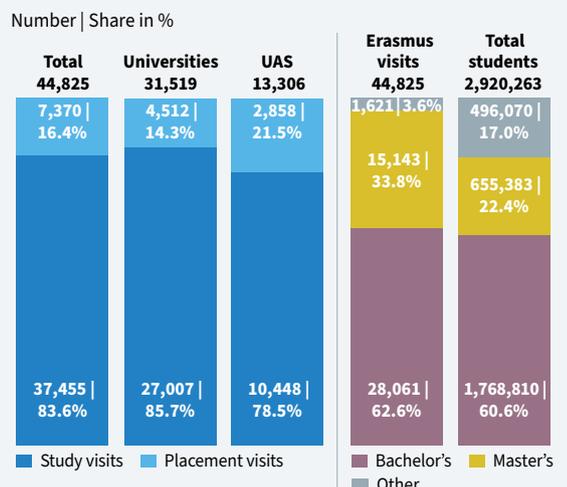
84% of all Erasmus visits undertaken by students from Germany in the 2023 funding period were study visits, while 16% were placement visits. The share of placement visits of all visits is higher among students at UAS (almost 22%) than among students at universities (14%). In total, bachelor's students completed 63% and master's students 34% of all funded Erasmus visits. A comparison of this distribution with the corresponding distribution of all students in Germany reveals that above-average proportions of Erasmus participants are enrolled in bachelor's and master's degree programmes.⁵ By contrast, students enrolled in state examinations, doctorates and other types of degree are strongly under-represented.

C2.14 Erasmus participants from Germany and all students in Germany by subject group in the 2023 funding period^{1,3,4}

Share of all students in Germany in %	Subject group	Share of all outgoing Erasmus participants in %
11.0	Education	5.5
8.8	Arts and humanities	16.3
8.4	Social sciences, journalism and information	13.8
25.9	Business, administration and law	26.4
8.3	Natural sciences, mathematics and statistics	8.9
8.7	Information and communication technologies	4.3
16.6	Engineering, manufacturing and construction	13.3
1.4	Agriculture, forestry, fisheries and veterinary	1.2
8.9	Health and welfare	8.5
2.0	Services	1.8

Sources: DAAD, Erasmus statistics, DAAD calculations; Federal Statistical Office, "Statistik der Studierenden", DZHW calculations

C2.15 Erasmus participants from Germany by type of university, visit and degree in the 2023 funding period^{1,2,3,5}



Sources: DAAD, Erasmus statistics; Federal Statistical Office, "Statistik der Studierenden"; DAAD calculations

1 International academics and researchers at universities in Germany

1.1 Mobility trends, regions of origin and countries of origin

In 2023¹, there were 65,500 international academic staff at universities in Germany. In Chapters D1 and D2, international academic staff (see the glossary in the appendix) are defined as contractually employed academics and researchers with foreign citizenship.² Since 2018, their number has increased by 32%, while the number of German academics and researchers has risen by only 2% over the same period.

The increases in international academic staff were not equally pronounced for all staff categories. For example, the number of international professors saw below-average growth. Since 2018, their number had climbed by 21% to approximately 4,100 international professors in 2023. The lower growth rate compared to other international personnel can also be explained by the fact that, unlike the recruitment of most other academic staff, professors are generally appointed for life. Professorships often only become vacant when incumbents retire.

While a good 15% of international academic staff are foreign nationals, this is only the case for 8% of professors. To date, the small share of international professors of the total professorial body may be

attributed to both specific appointment hurdles and the smaller pool of international candidates. Above all, professorships at universities of applied sciences (UAS) may not be attractive enough for international applicants due to a lack of recognition and prestige.

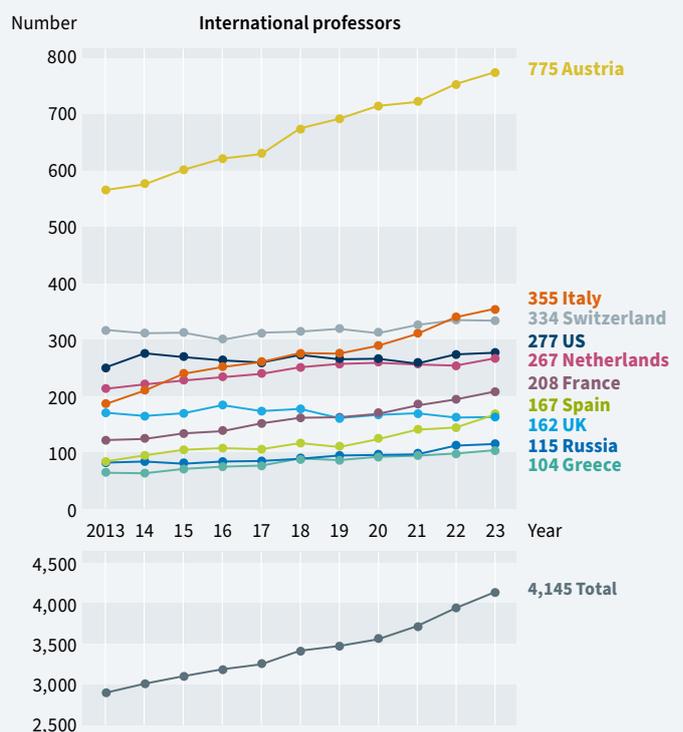
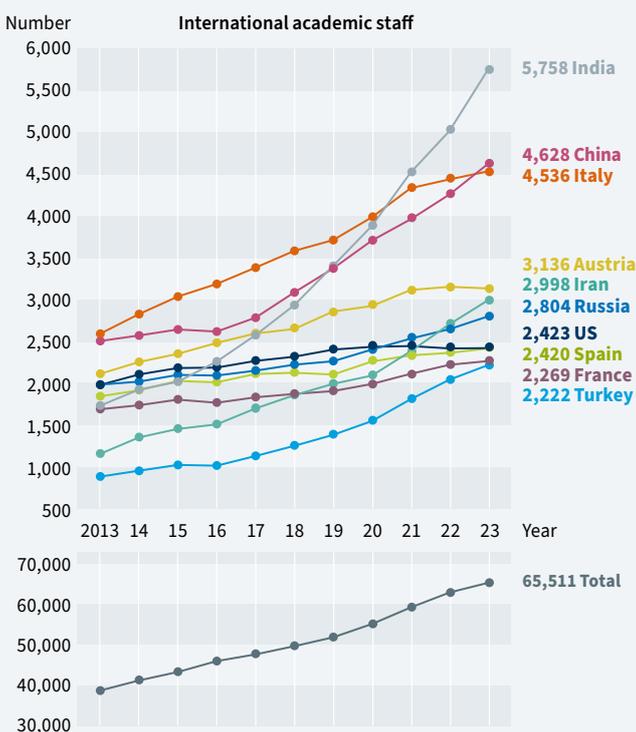
In fact, the proportion of international professors among all professors was particularly low at UAS in 2023 (3%). By comparison, this figure was significantly higher

at universities (11%) and especially striking at colleges of art and music (almost 23%). Moreover, colleges of art and music are also unusual in that the share of international professors of all professors is higher than the share of international academic staff of all academic staff.

In 2023, India, China, Italy, Austria, Iran and Russia were the key countries of origin of international academic staff at universities in Germany. The number of academics and researchers who were nationals of India (+96%), Turkey (+78%), Iran (+61%) and China (+50%) skyrocketed between 2018 and 2023. Remarkable growth can also be observed in the number of academics and researchers who were citizens of Italy (+27%), Russia (+26%) and France (+21%).

“ The number of Indian academics and researchers in Germany almost doubled between 2018 and 2023.

D1.1 Total international academic staff and international professors by key countries of origin since 2013^{1,2}



Source: Federal Statistical Office, “Statistik des Hochschulpersonals”

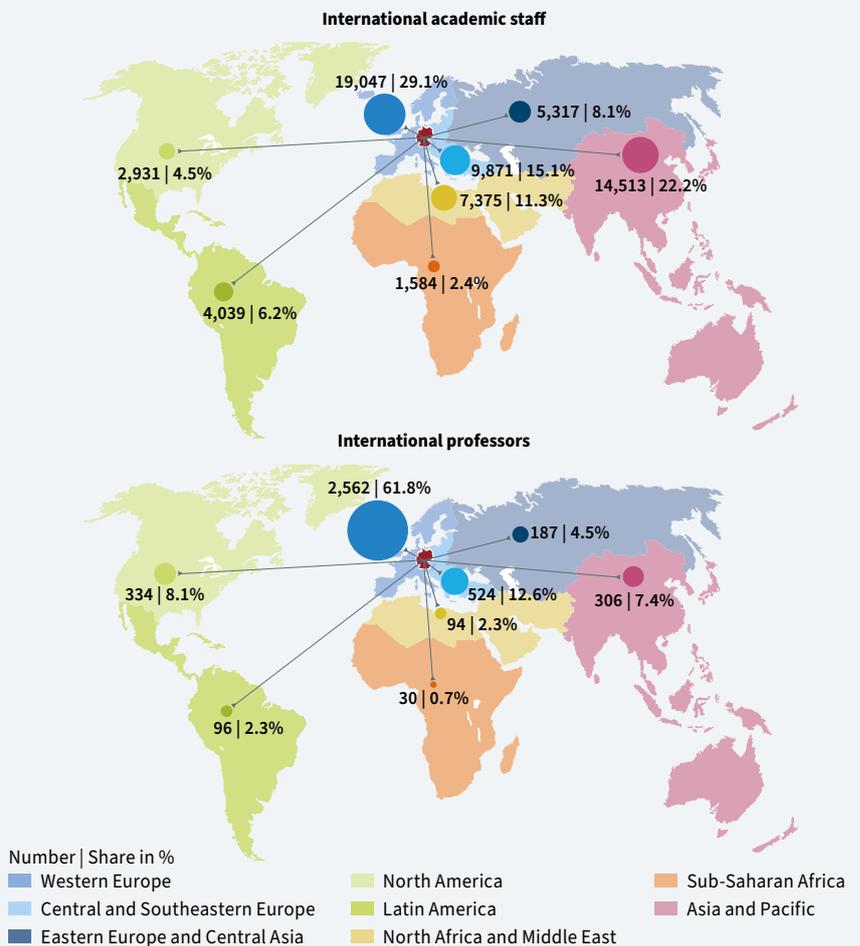
Among international professors, Austria remained by far the most important country of origin in 2023, followed by Italy, Switzerland, the US, the Netherlands and France. In 2023, 27% of all international professors in Germany were from Austria or Switzerland. Between 2018 and 2023, the numbers of international professors from Spain (+44%), Russia (+31%), Italy and France (+29% each) showed pronounced growth. Numbers for Switzerland, the Netherlands (+6% each) and the US (+1%) only rose moderately, while a drop was recorded for the United Kingdom (-8%).

Western Europe dominated the regions of origin of the total international academic staff, but especially of international professors. In 2023, some 29% of international academic staff and 62% of international professors came from Western Europe. Other major regions of origin of international academic staff were Asia and Pacific (22%), Central and Southeastern Europe (15%) and North Africa and Middle East (11%). Among professors, Central and Southeastern Europe (almost 13%), North America (8%) and Asia and Pacific (7%) were further major regions of origin. To date, universities in Germany seem to have attracted international professors from other regions of the world to a much lesser extent.

*** Footnotes**

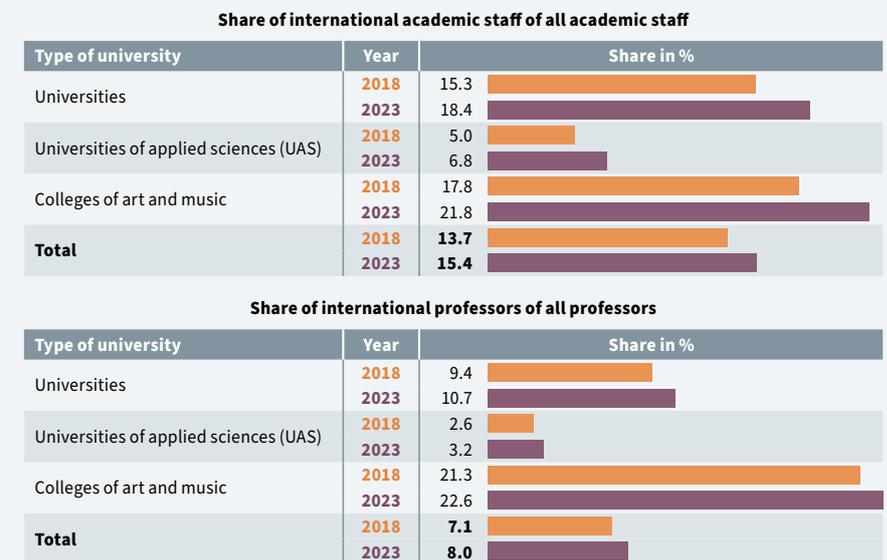
- 1 Data from the German Federal Statistical Office on academic staff at universities refer to calendar years (January–December) and not to academic years.
- 2 International academic staff comprise all academic and artistic personnel at universities in Germany who are foreign nationals, including academic and artistic staff whose citizenship is unknown. The following groups are included in academic and artistic staff: professors, lecturers and assistants; academic and artistic staff; specialised teaching staff; visiting professors and emeriti; assistant lecturers and honorary professors; private lecturers and graduate student research assistants (i.e. with a degree).
- 3 No concrete details have been released regarding the citizenship of 834 academic and artistic staff members, including twelve professors. They represent approximately 1% of international academic staff.
- 4 Unlike in previous editions of *Wissenschaft weltoffen*, Greece and Cyprus are now classified as part of Central and Southeastern Europe rather than Western Europe.

D1.2 Total international academic staff and international professors by region of origin in 2023^{1,2,3,4}



Source: Federal Statistical Office, "Statistik des Hochschulpersonals"; DZHW calculations

D1.3 Total international academic staff and international professors by type of university in 2018 and 2023^{1,2}



Source: Federal Statistical Office, "Statistik des Hochschulpersonals"; DZHW calculations

1 International academics and researchers at universities in Germany

1.2 Federal states and subject groups

Most academic and artistic personnel with foreign citizenship work at the universities in North Rhine-Westphalia (12,300), Baden-Württemberg (11,900) and Bavaria (10,800). These three federal states alone employ over half of international academic staff (see the glossary in the appendix) at universities in Germany. A similar pattern can also be observed with regard to international professors. The number of international staff depends not only on the number and size of the universities in a federal state, but also on structural aspects such as the proportion of different types of universities and the subjects offered. Proximity to other countries' borders and the attractiveness of certain locations are also factors. The universities in Berlin and Saarland (20% each) and Brandenburg (19%) have particularly high shares of international staff, in contrast to relatively low shares in Schleswig-Holstein and Mecklenburg-Western Pomerania (12% each). A similar picture emerges for international professors as a share of the total professorial body. In this regard, Berlin's universities lead the field with almost 12%, while in Mecklenburg-Western Pomerania just 4% of professors are foreign nationals.

Between 2018 and 2023, the different federal states saw varying quantitative increases in international academic staff. Hamburg (+63%) and Thuringia (+52%) experienced particularly high relative growth,

“ 42% of international academic staff at universities in Germany work in STEM subjects.

while pro-rata gains in Bremen (+18%), Lower Saxony (+17%) and Saarland (+16%) were much less strong. The development in the number of international professors revealed a similar trend. Regarding professors, the greatest growth rate between 2018 and 2023 was recorded for Brandenburg (+76%), as opposed to a marked plunge for Bremen (-20%). When interpreting these findings, it should be noted that the

differences between the federal states are also linked to the respective state-specific expansion of staffing levels at universities.

Broken down by type of university, there are sizeable variations in the proportion of employees with foreign

citizenship. The share of international academic staff of all staff (universities: almost 19%, UAS: 7%) and the share of international professors of all professors (universities: 12%, UAS: 3%) are both considerably higher at universities than at universities of applied sciences (UAS).

In this respect, the subject groups of mathematics and natural sciences as well as engineering are especially international at universities, with art and art history also scoring highly among professors. By contrast, the degree of internationalisation is below average in medicine and health

↓ D1.4 Share of international academic staff of all academic staff and share of international professors of all professors by federal state in 2023 and development since 2018

Federal states	International academic staff		International professors		Development 2018–2023 in %	
	Number	Share in %	Number	Share in %	Academic staff	Professors
Baden-Württemberg	11,874	15.1	691	8.8	+28	+18
Bavaria	10,809	17.3	753	9.4	+35	+34
Berlin	5,696	20.1	463	11.7	+45	+15
Brandenburg	1,531	19.3	90	8.5	+44	+76
Bremen	697	15.0	47	6.5	+18	-20
Hamburg	2,519	14.1	154	7.8	+63	+28
Hesse	4,011	14.4	296	7.3	+29	+23
Lower Saxony	4,045	13.8	244	6.5	+17	+21
Mecklenburg-Western Pomerania	798	11.9	37	4.1	+40	+32
North Rhine-Westphalia	12,333	13.9	755	7.1	+26	+13
Rhineland-Palatinate	2,315	14.5	142	6.3	+32	+12
Saarland	897	19.8	50	9.6	+16	+43
Saxony	3,741	16.4	186	7.7	+45	+41
Saxony-Anhalt	1,190	13.0	67	6.2	+23	+2
Schleswig-Holstein	1,136	12.0	84	6.8	+26	+18
Thuringia	1,919	17.1	86	6.4	+52	+21
Total	65,511	15.4	4,145	8.0	+32	+21

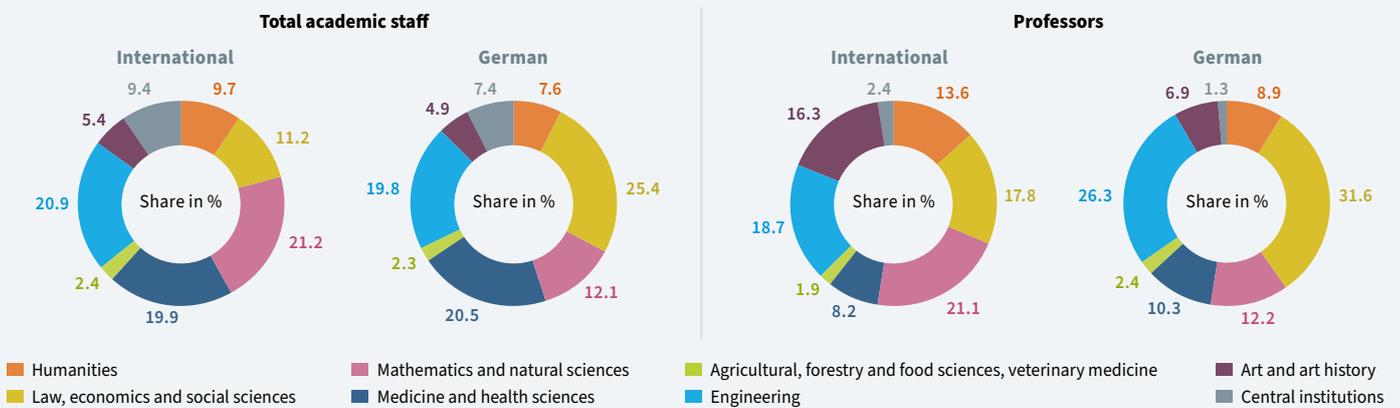
Source: Federal Statistical Office, "Statistik des Hochschulpersonals"; DZHW calculations

D1.5 Share of international academic staff of all academic staff and share of international professors of all professors by type of university and subject group in 2023

Subject groups	Universities		UAS	
	Share of all academic staff in %		Share of all professors in %	
Humanities	18.9	20.9	12.2	6.9
Law, economics and social sciences	10.3	4.7	7.4	2.8
Mathematics and natural sciences	25.0	8.6	14.3	3.7
Medicine and health sciences	16.0	2.9	7.4	2.5
Agricultural, forestry and food sciences, veterinary medicine	20.3	6.3	9.8	3.1
Engineering	23.4	6.6	12.3	3.0
Art and art history	18.7	9.8	20.7	6.2
Central institutions	19.5	16.8	17.5	5.6
Total	18.5	6.8	11.7	3.2

Source: Federal Statistical Office, "Statistik des Hochschulpersonals"; DZHW calculations

D1.6 Total international and German academic staff and international and German professors by subject group in 2023¹



Source: Federal Statistical Office, "Statistik des Hochschulpersonals"; DZHW calculations

sciences plus strikingly so in law, economics and social sciences. At UAS, staff in the humanities and at the central institutions are particularly strongly internationalised – once again, along with art and art history among the professors. Exceptionally low shares of international academic staff can be found at UAS in law, economics and social sciences, medicine and health sciences, agricultural, forestry and food sciences plus engineering.

Compared to German academic staff, how are international academic staff distributed across subject groups? With shares of 21%, respectively,

most international personnel work in mathematics and natural sciences as well as engineering.

Medicine and health sciences (20%) are of similar importance, whereas relatively few international staff are reported in the subject groups of art and art history (5%) and agricultural, forestry and food sciences (2%). Two fundamental differences emerge in contrast to German academic staff: while international academic staff are proportionately less than half as likely to work in law, economics and social sciences (11% versus 25%), they are almost twice as likely to be employed in mathematics and natural sciences (21% versus 12%).

International professors are more likely than German professors to be employed in mathematics and natural sciences (21% versus 12%), art

* Footnote

1 Deviations from 100% are due to rounding.

1 International academics and researchers at universities in Germany

1.3 Doctorates and habilitations

Germany continues to be popular as a centre of research and science among international junior researchers. This is reflected not only in the steadily growing number (see Fig. A2.10 in Chapter A2.4) of international doctoral students (see the glossary in the appendix), but also in the number of doctorates they complete. Continually rising for some years, the sum of these doctorates reached a new high of 5,561 in 2023. Since 2013, it has increased by 31%. This uptick was greater than that among German doctoral candidates, explaining why a remarkable 21% of all doctorates in Germany were awarded to international academics and researchers in 2023.

Habilitations are far less likely to be completed by international academics and researchers, not only in absolute but also in relative terms. Despite a new record of 201 habilitations by international academics and researchers in 2023, representing an increase of 55% since 2013, the proportion of habilitations obtained by international academics and researchers of all habilitations amounted to a mere 13% in 2023. This probably reflects the fact that, in other science systems, habilitation is not a requirement in qualifying for a professorship. Therefore, habilitation is perhaps less attractive for international academics and researchers who intend to return to their home country.¹

In 2023, international professors constituted just 8% of the total professorial body (see Chapter D1.1). Consequently, there is a pattern (which should be examined in more detail in further research) that the share of international academics and researchers tends to decline the further the phase in the academic career under investigation.

In pro-rata terms, international academics and researchers who gain a doctorate in Germany are most likely to come from the region of Asia and Pacific (33%). High proportions of researchers completing a doctorate in Germany also come from Western Europe (almost 22%), Central and Southeastern Europe (almost 12%) as well as North Africa and Middle East (almost 14%). Proportionately speaking, habilitations are obtained frequently by international academics and researchers from Western Europe (over 41%) as well as Central and Southeastern Europe (over 25%). In total, Europeans complete 76% of all habilitations obtained by international academics and researchers in Germany.

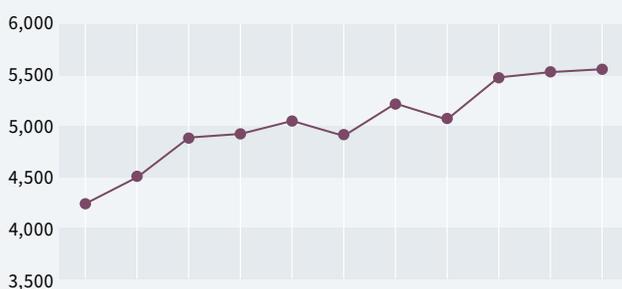
By far the largest share of doctorates awarded to international academics and researchers in Germany are completed in the field of mathematics and natural sciences (42%), followed by engineering (over 19%) as well as medicine and health sciences (almost 18%). The vast majority of habilitations completed by international academics and researchers are in medicine and health sciences (40%), followed by mathematics and natural sciences (over 22%) and the humanities (over 20%).

A different picture emerges when looking at the shares of doctorates and habilitations completed by international academics and researchers of all doctorates and habilitations obtained in Germany. Particularly large shares of doctorates awarded to international academics and researchers can be observed in mathematics and natural sciences (over 31%) and the humanities (28%), compared to proportionately few

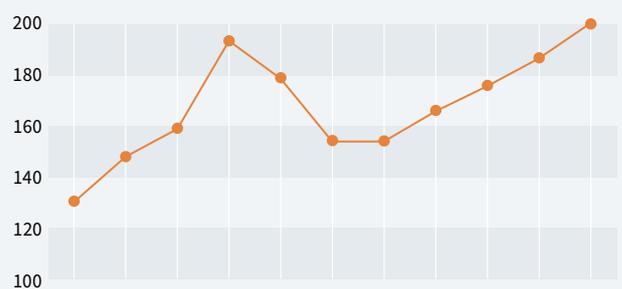
“In 2023, more international academics and researchers completed a doctorate or habilitation in Germany than ever before.”

D1.7 Number of doctorates and habilitations of international academics and researchers and their share of all doctorates and habilitations since 2013²

		Doctorates of international academics and researchers										
Year		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Share in %		15.3	16.0	16.7	16.8	17.8	17.6	18.5	19.3	19.5	20.0	20.9
Number		4,237	4,497	4,887	4,923	5,051	4,903	5,222	5,065	5,480	5,532	5,561

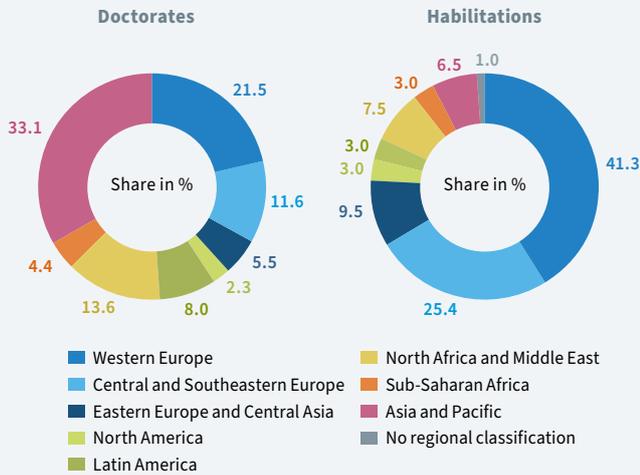


		Habilitations of international academics and researchers										
Year		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Share in %		8.3	9.1	9.8	12.3	11.3	10.1	10.1	10.8	10.9	12.2	12.6
Number		130	148	159	194	179	154	154	166	176	187	201



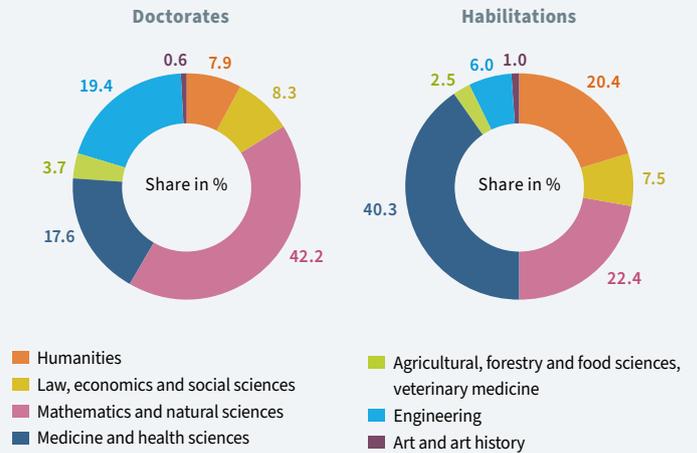
Sources: Federal Statistical Office, “Statistik der Prüfungen” and “Statistik des Hochschulpersonals”; DZHW calculations

D1.8 Doctorates and habilitations of international academics and researchers by region of origin in 2023



Sources: Federal Statistical Office, "Statistik der Prüfungen" and "Statistik des Hochschulpersonals"; DZHW calculations

D1.9 Doctorates and habilitations of international academics and researchers by subject group in 2023³



Sources: Federal Statistical Office, "Statistik der Prüfungen" and "Statistik des Hochschulpersonals"; DZHW calculations

D1.10 Share of doctorates and habilitations of international academics and researchers of all doctorates and habilitations by subject group in 2023

Doctorates of international academics and researchers in %	Subject groups	Habilitations of international academics and researchers in %
31.4	Mathematics and natural sciences	23.0
28.2	Humanities	22.0
24.5	Agricultural, forestry and food sciences, veterinary medicine	25.0
24.1	Engineering	23.5
16.1	Art and art history	22.2
12.2	Law, economics and social sciences	9.0
12.1	Medicine and health sciences	8.5
20.9	Total	12.6

Sources: Federal Statistical Office, "Statistik der Prüfungen" and "Statistik des Hochschulpersonals"; DZHW calculations

doctorates in law, economics and social sciences as well as medicine and health sciences (12% each). In most subject groups, the share of

habilitations gained by international academics and researchers of all habilitations is between 22% and 25%; it is only significantly lower in law, economics and social sciences as well as medicine and health sciences (about 9% each).

* Footnotes

- 1 Apart from the habilitation, other qualification paths may lead to a professorship in Germany. Especially in natural science and engineering at universities, as well as generally at universities of applied sciences, equivalent achievements are (increasingly) being taken into account when appointing professors.
- 2 Data from the German Federal Statistical Office on doctorates and habilitations completed at universities in Germany refer to calendar years (January–December).
- 3 Deviations from 100% are due to rounding.

A guest article by Dr. Isabelle Schiffer-Fiedler and Marie Lena Muschik



Dr. Isabelle Schiffer-Fiedler is a researcher in the Nacaps project. She works at the German Centre for Higher Education Research and Science Studies (DZHW) in Hannover, in the research area Educational Careers and Graduate Employment.



Marie Lena Muschik is a researcher in the Nacaps project. She works at the German Centre for Higher Education Research and Science Studies (DZHW) in Hannover, in the research area Educational Careers and Graduate Employment.

International doctoral students make a significant contribution to Germany's academic excellence and innovative capacity. Moreover, their successful integration into the labour market also offers a long-term opportunity for meeting Germany's growing demand for skilled workers. To develop their full potential, it is imperative that the general conditions for international doctoral students be improved on an ongoing basis, while consolidating Germany's position as a hotspot for research.

The share of international doctoral students at universities in Germany is an important indicator of the success of these endeavours. According to official student statistics, the percentage of international (enrolled) doctoral students (measured by obtaining university entrance certificates outside Germany, see also the info box on the data) has risen steadily in Germany in the last few years (see Fig. DS1). Only at the onset of the pandemic was a slight decline observed (from WS 2019/20 to 2020/21). Since then, the numbers have recovered and the positive growth trend continues. Most recently, the share of international doctoral students enrolled at universities in Germany in the 2023/24 winter semester was a record high of 28%, some six percentage points higher than ten years ago.

This growth trend is corroborated by the data of the National Academics Panel Study (Nacaps) (see Fig. DS2). While 18% of those who embarked on their doctoral studies in 2017/18 were international doctoral students, this number had risen to 25% in the most recent doctoral cohort of 2021/22. For reference: according to student statistics, the respective figure for the 2021/22 winter semester was 27%. In other words, the findings of the Nacaps survey largely correspond to the percentage reported in the student statistics.

Nacaps data provide a reliable and multifaceted basis for analysing international doctoral students in Germany that complements data from official statistics (see the info box on the data). Similar to student statistics, Nacaps data define international doctoral students according to the country in which they received their (first) university entrance certificate. The data also include the country of their last educational qualification. The data reveal that approximately 30% of international doctoral students had graduated from a university in Germany, qualifying them for admission to a doctoral programme. Almost a third were thus

Data

The development in the number of international doctoral students in Germany is illustrated by official student statistics (*Statistik der Studierenden*), which distinguish between domestic doctoral students holding a German university entrance certificate and international doctoral students. International doctoral students are defined as doctoral candidates who obtained their (first) university entrance certificate abroad. One shortcoming of student statistics is that they only include doctoral students who are enrolled at a university. The introduction of doctoral statistics following the amended German Higher Education Statistics Act in 2016 bridged this gap. These statistics reflect all persons in doctoral programmes, regardless of whether they are enrolled. However, they currently only classify candidates based on citizenship, without differentiating between domestic and international doctoral students. Therefore, data from the DZHW's National Academics Panel Study (Nacaps) – a survey of all persons admitted to doctoral programmes, regardless of whether they were enrolled – were also taken into consideration, thereby identifying international doctoral students via the country of their (first) university entrance certificate, similar to student statistics (Briedis et al., 2024). Topics covered by Nacaps data include the mobility aspirations, career paths and personal background of international doctoral candidates (Briedis et al., 2022). The analyses presented here are based on the most recent cohort of doctoral students, who were first surveyed in 2023.¹

integrated in the German higher education system before starting their doctorate. However, the majority only come to Germany to pursue a doctorate after completing their studies.

According to Nacaps data, international doctoral students are particularly well-represented in certain subject groups (see Fig. DS3), such as mathematics and natural sciences (32%) plus agricultural, forestry and food sciences and veterinary medicine (31%). Above-average shares are also found in engineering (29%) and the humanities (28%). The lowest percentages of international doctoral students are reported in medicine and health sciences (18%) and in law, economics and social sciences (15%).

DS1 International doctoral students at universities in Germany since the 2013/14 winter semester



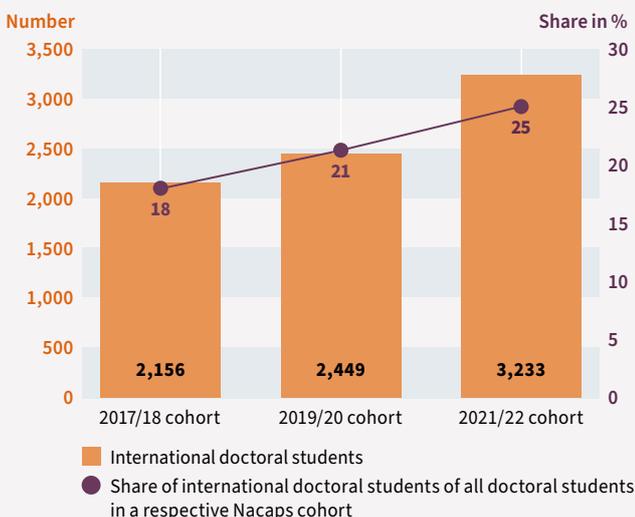
Source: Federal Statistical Office, "Statistik der Studierenden"; DZHW calculations

The growing numbers and shares of international doctoral students (see Figs. DS1 and DS2) highlight Germany's increasing attractiveness as a location of science and research. Nonetheless, how many intend to remain in academia after completing their doctorate – and who means to leave Germany? According to Nacaps data, almost 40% of international doctoral students are planning to leave Germany temporarily or permanently while pursuing their future career. It should

be noted that these plans are not always by choice: residence permits may be provisional or only granted for specific purposes, thereby obliging international doctoral candidates to leave the country after completing their doctorate.

Nacaps data also distinguish between plans for temporary and permanent visits abroad. 24% of international doctoral students intend to take up a permanent position abroad in the future (see Fig. DS4) – an indication that they mean to leave Germany in the long term. First and foremost, they are looking for long-term employment related to research in other countries. Plans to undertake temporary visits abroad, chiefly for research or teaching assignments, are much less likely (13%). Just 14% of international doctoral students have no plans to relocate abroad, while almost half (49%) are still undecided.²

DS2 International doctoral students in Nacaps cohorts

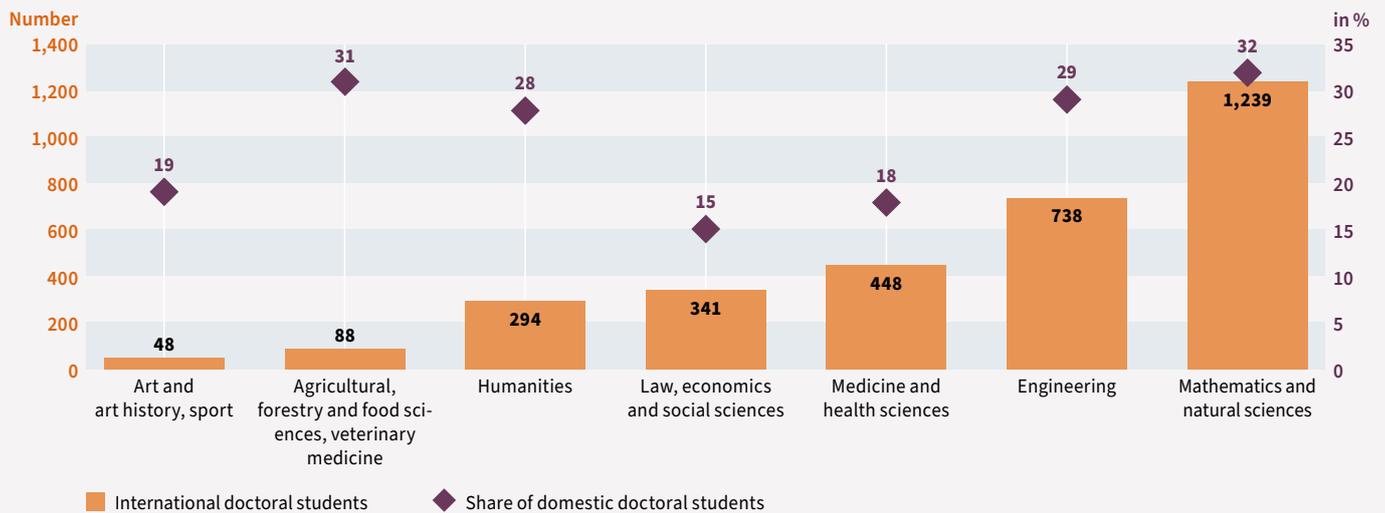


Sources: Nacaps 2018, 2020 and 2022, first waves only; DZHW calculations

* Footnotes

- 1 The population of this cohort consists of doctoral students who embarked on their doctoral studies at one of the 66 participating universities in 2021 and 2022. Respondents who were not part of the population were excluded from the analyses.
- 2 The high proportion of doctoral students who are undecided may be attributed to the fact that respondents are at the beginning of their doctoral phase at the time of the survey (in the third year at the latest). It may be assumed that this indecision will decline as their studies progress.
- 3 Scale of responses from 1 (not important at all) to 5 (extremely important), categories 4 and 5 combined.
- 4 For further information on the research project, related publications and data sets, please see the project website https://www.dzhw.eu/en/forschung/projekt?pr_id=706.
- 5 Deviations from 100% are due to rounding.

DS3 International doctoral students of Nacaps cohort 2021/22 by subject group



Source: Nacaps 2022, first wave; DZHW calculations; N = 12,850

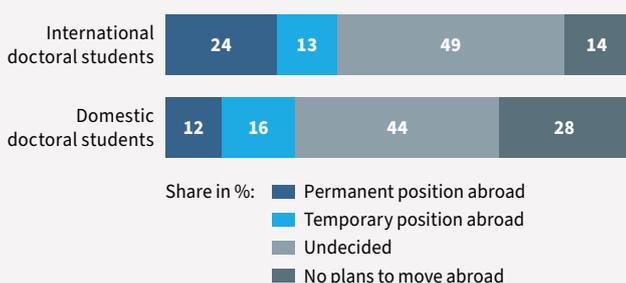
Overall, domestic doctoral students (that is, doctoral candidates holding a German university entrance certificate) are less willing to relocate: just 12% plan to move abroad in the long term, while 28% are not considering mobility at all, whether temporary or permanent. In this group, too, the share of those still undecided is the largest category at 44%.

Broken down by subject groups, international doctoral students' plans to move abroad vary only slightly. Remarkably, international doctoral students in the field of medicine are less likely to intend to relocate overseas than other subject groups (35%). This pattern corresponds to findings on the overall international mobility of doctoral students, according to which medical students are the least mobile of all subject groups (Heublein et al., 2024).

International doctoral students' preference for research positions also reflects the fact that many indicate a desire to stay in academia after completing their doctorate (see Fig. DS5). The proportion of those intending to remain in the scientific sector is significantly higher than doctoral students without an international educational background (63% vs 25%). A remarkable 37% of domestic doctoral students are undecided, as opposed to just 26% of international doctoral students. 12% of international doctoral students want to leave academia (for now, at least). At 38% of domestic doctoral students, this proportion is significantly higher.

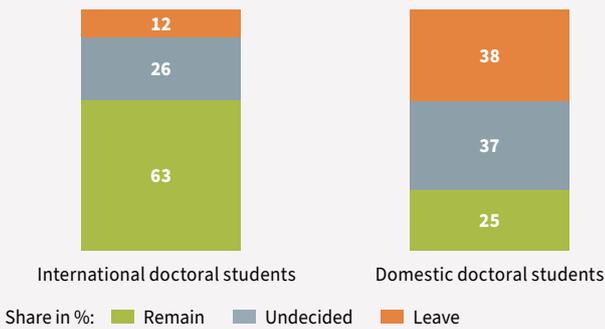
A finer-grained analysis within individual subject groups also demonstrates that the majority of international doctoral students intend to remain in academia (see Fig. DS6). The figure shows that the differences do not correlate with particularly high proportions of international doctoral students in subject groups with a high quota of those intending to stay. Sizeable variations among doctoral students can also be observed across the individual subject groups. In the humanities, for example, the subject group with the highest quota of those intending to stay overall, the share of domestic doctoral candidates wishing to remain in academia is 42%, compared to 71% for international doctoral students in the same subject group. The same applies at the other end of the spectrum: the lowest proportions of those intending to remain in academia are found among both international and domestic doctoral students in medicine and health sciences. However, there is also a striking disparity within medicine and health sciences: just 17% of domestic doctoral students aspire to an academic career as opposed to 53% of international doctoral students.

DS4 Doctoral students' plans to move abroad in the Nacaps cohort 2021/22



Source: Nacaps 2022, first wave; DZHW calculations; N = 12,807

DS5 Intention of international and domestic doctoral students of Nacaps cohort 2021/22 to remain in academia⁵



Source: Nacaps 2022, first wave; DZHW calculations; N = 12,875

Apart from their intention to remain in academia, other indicators also suggest the preference of international doctoral students for the scientific sector. 64% of international doctoral students regard a career in academia as a major professional goal.³ Moreover, 30% of international doctoral students are aiming at a professorship. For reference: a career in academia constitutes a major professional goal for 26% of domestic doctoral students, while a mere 11% aspire to a professorship.

In summary, not only are there large numbers of international doctoral students at universities in Germany, they also have a much greater

research focus than domestic doctoral students. This is true for most subject groups; therefore, these individuals may be viewed as resources of enormous scientific potential for Germany as a research location. At the same time, their long-term commitment remains uncertain: a substantial proportion would consider a permanent position outside Germany, while many are still undecided in this regard. These unresolved prospects raise a few questions: what factors influence students' decision to stay or leave? What makes Germany attractive as a research location and where do the challenges lie? The research project "International Academics at German Universities: From Postdoc to Professorship (InWiDeHo)", carried out by the DZHW and the DAAD, provides initial answers to these questions. The project's key findings were presented in the previous issue of *Wissenschaft weltoffen* (Jaudzims & Oberschelp, 2024).⁴ Accordingly, international academics and researchers particularly appreciate the scientific freedom, academic environment and support services, but also cite obstacles such as the non-transparent appointment procedure, language barriers and administrative challenges (Jaudzims & Oberschelp, 2024). To consolidate the insights gained and identify areas for improvement at an early stage, the DZHW will undertake further comprehensive analyses of the situation of international doctoral students during the doctoral phase.

Suggested citation

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DS6 Intention of international and domestic doctoral students of Nacaps cohort 2021/22 to remain in academia by subject group⁵

Subject groups	Doctoral student group	Share in %		
Humanities	International	71	5	24
	Domestic	42	17	41
Art and art history, sport	International	73	7	20
	Domestic	35	22	43
Agricultural, forestry and food sciences, veterinary medicine	International	72	14	15
	Domestic	29	34	38
Mathematics and natural sciences	International	66	11	23
	Domestic	30	33	38
Engineering	International	61	13	26
	Domestic	21	40	38
Law, economics and social sciences	International	58	10	31
	Domestic	24	38	38
Medicine and health sciences	International	53	18	29
	Domestic	17	48	35

Share in %: Remain Undecided Leave

Subject groups sorted by percentage of "remain" among all doctoral candidates in the subject group

Source: Nacaps 2022, first wave; DZHW calculations; N = 12,748

2 International academics and researchers at non-university research institutes in Germany

2.1 Mobility trends and regions of origin

In 2023¹, roughly 17,500 international academics and researchers were contractually employed by the four largest non-university research institutes (NURI, see the glossary in the appendix) in Germany. In Chapters D1 and D2, international academics and researchers, also referred to as international academic staff, are defined as all employed academics and researchers with foreign citizenship (see the glossary in the appendix). Except for a slight dip in 2014, their number grew consistently and noticeably between 2013 and 2023 (+94%). Between 2018 and 2023, there was an upturn of 34% and growth of 5% alone between 2022 to 2023. During the periods under review, the relative increase in the number of international academics and researchers at the four largest NURI was thus even greater than that of international academics and researchers at universities in Germany (see Chapter D1.1).

“ In 2023, 31% of the academic staff contractually employed at the four largest non-university research institutes were foreign nationals.

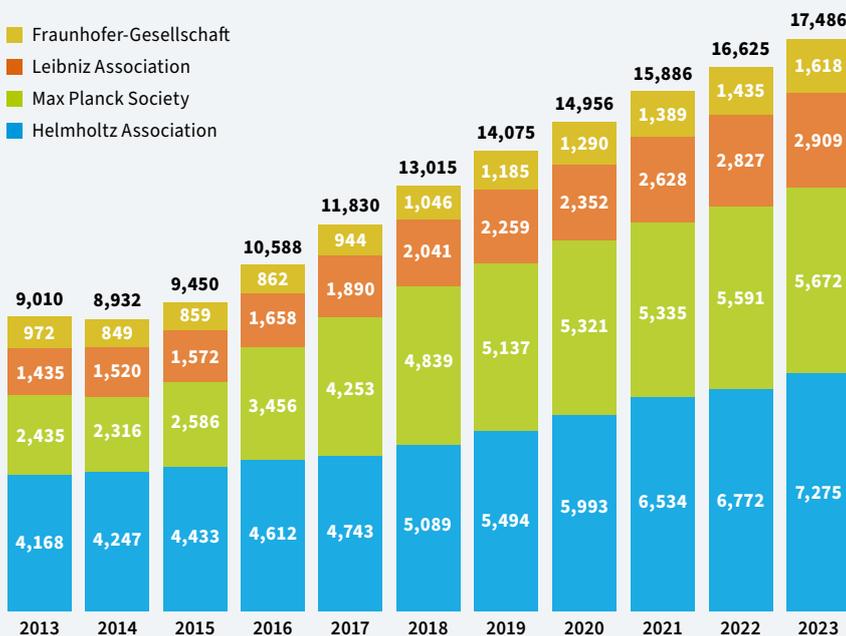
The growth rates differ depending on the NURI. Between 2018 and 2023, they were highest at the Fraunhofer-Gesellschaft (+55%), followed by the Helmholtz Association and the Leibniz Association (+43% each), with the Max Planck Society bringing up the rear (+17%). The Fraunhofer-Gesellschaft also showed particularly strong relative growth (+13%) and the Max Planck Society comparatively weak relative growth (+1%) between 2022 and 2023.

Data

Given their special relevance to Germany as a location of science and research, this chapter takes an in-depth look at foreign academics and researchers who are contractually employed by the four largest non-university research institutes (NURI) according to the personnel statistics of the German Federal Statistical Office. These NURI are the Helmholtz Association, the Max Planck Society, the Leibniz Association and the Fraunhofer-Gesellschaft. Guest visits to these four NURI by academics and researchers from abroad are analysed in Chapter D3.3. The data presented here refer to headcounts and not – as in the data published by the Federal Statistical Office itself – to full-time equivalents.

As a result of the described developments, the proportion of international academics and researchers of all academics and researchers employed at the four largest NURI has climbed steadily in recent years. Totalling 31% in 2023, it was double that at the universities in Germany (see Chapter D1.1). This is partly due to the subject profile of the academics and researchers who are contractually employed at the four largest NURI, which – with the exception of the Fraunhofer-Gesellschaft – tend to be active in the highly internationalised field of natural sciences (see Chapter D2.2). Academics and researchers in the natural sciences at universities are also more likely than average to come from abroad (see

D2.1 International academic staff at the four largest non-university research institutes since 2013^{1,2}



Source: Federal Statistical Office, “Personal für Forschung und Entwicklung”

* Footnotes

- 1 Data from the Federal Statistical Office on staff at non-university research institutes in Germany refer to calendar years (January-December). Between 2015 and 2016, the number of international academics and researchers at the Max Planck Society shot up inordinately because doctoral students from abroad were no longer funded by means of scholarships but were awarded fixed-term employment contracts from then on.
- 2 The statistics presented here for 2023 were statistically superposed by the Federal Statistical Office using the cell key method for reasons of data protection. Therefore the total figure does not correspond to the sum of the figures for the individual non-university research institutes.
- 3 In the official statistics on non-university research institutes, the origin of international staff is not broken down by more differentiated world regions, but by continents.
- 4 Deviations from 100% are due to rounding.
- 5 Unlike in previous editions of *Wissenschaft weltoffen*, Greece and Cyprus are now classified as part of Central and Southeastern Europe rather than Western Europe.

Chapter D1.2).

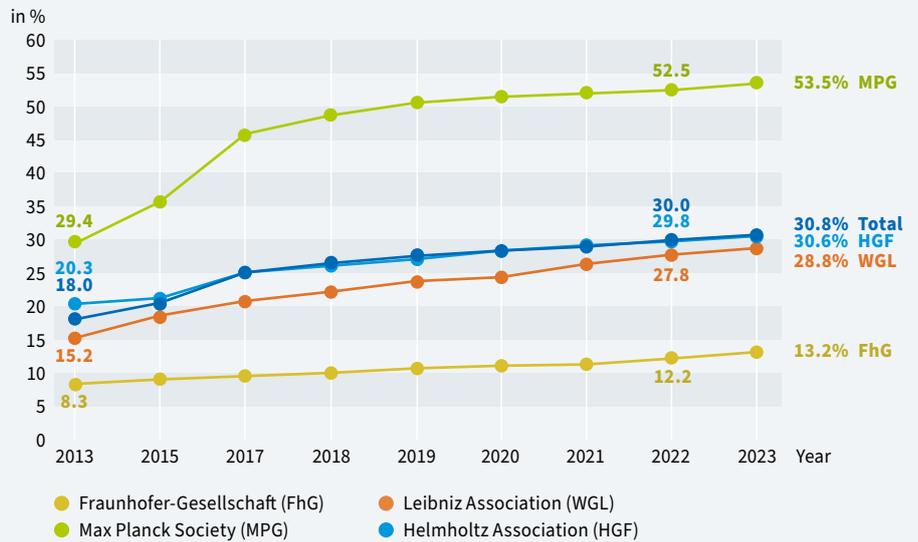
However, in many cases, NURI are probably even more attractive for foreign academics and researchers than universities. Most positions at NURI offer excellent research conditions, rarely include teaching obligations and language barriers are lower as English is generally the working language in NURI labs.

In 2023, the Max Planck Society reported by far the highest share of international academics and researchers of all employed academics and researchers (almost 54%). This reflects the fact that, since 2016, unlike other NURI, it has granted doctoral students from abroad fixed-term contracts rather than scholarships. In 2023, almost 31% of the academics and researchers contractually employed at institutes of the Helmholtz Association were foreign nationals, along with 29% at the Leibniz Association and just 13% at the Fraunhofer-Gesellschaft, which is primarily oriented towards engineering.

Like the international academic staff at universities in Germany (see Chapter D1.1), international academic staff at the four largest NURI often come from other European countries. In 2023, 34% of international academics and researchers at the four largest NURI were EU citizens, while a further 15% were from the rest of Europe. Moreover, many international academics and researchers employed at these NURI came from Asia (35%). Academics and researchers from Latin America (7%), North America (5%), Africa (just under 4%) and Australia and Oceania (1%) represented noticeably smaller shares.

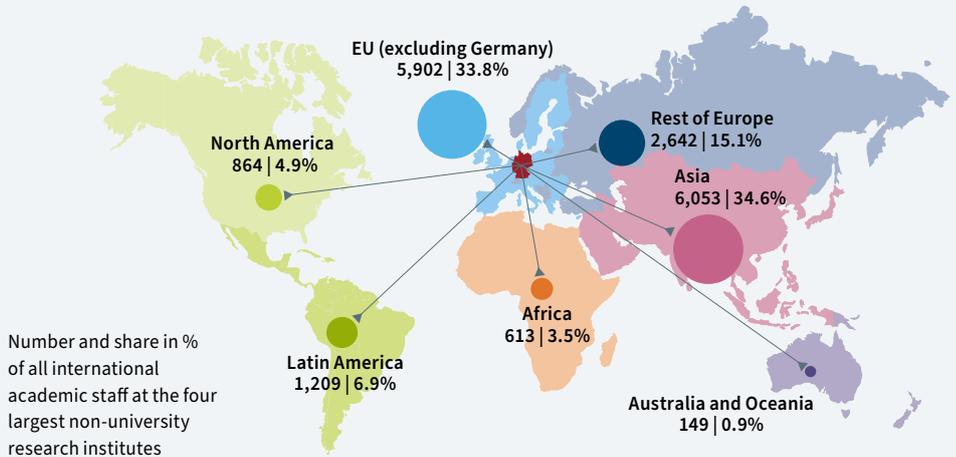
There were no fundamental differences between the four largest NURI with regard to the regions of origin of international academics and researchers. In 2023, relatively high percentages of academics and researchers at the Helmholtz Association came from EU countries (35%), at the Max Planck Society from North America (8%), at the Fraunhofer-Gesellschaft from Asia (almost 41%) and at the Leibniz Association from the rest of Europe (17%), Latin America (8%) and Africa (5%).

D2.2 Share of international academic staff of the total academic staff at the four largest non-university research institutes since 2013¹

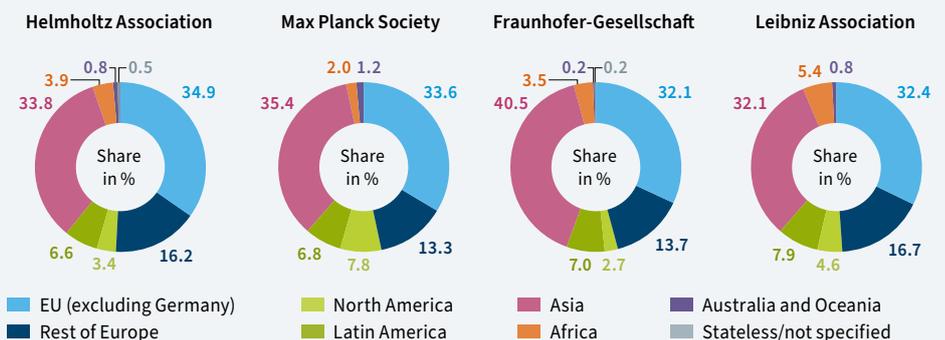


Source: Federal Statistical Office, "Personal für Forschung und Entwicklung"; DZHW calculations

D2.3 International academic staff at the four largest non-university research institutes by region of origin in 2023^{2, 3, 4, 5}



Total international academic staff: 17,486 (including 37 academic staff (0.2%) who cannot be assigned to any region of origin, thereof 34 at the Helmholtz Association and 4 at the Fraunhofer-Gesellschaft; the difference to the



Source: Federal Statistical Office, "Personal für Forschung und Entwicklung"; DZHW calculations

2 International academics and researchers at non-university research institutes in Germany

2.2 Subject groups and occupational position

In 2023, the majority (67%) of international academic staff (see the glossary in the appendix) working at the four largest non-university research institutes (NURI) were active in mathematics and natural sciences.

A further 18% were recorded in engineering, about 7% each in the social sciences and humanities as well as medicine and health sciences plus 2% in agricultural, forestry and food sciences.

In comparison with international academic staff, German academic staff at the four largest NURI are proportionately much less likely to work in mathematics and natural sciences (48%) and proportionately much more likely to work in engineering (34%). At just under 11%, German academic staff are also more likely than international academic staff to work in the social sciences and humanities. In contrast to academic staff at universities in Germany (see Chapter D1.2), the strong focus on mathematics and natural sciences at the four largest NURI becomes apparent with regard to both international and German academics and researchers.

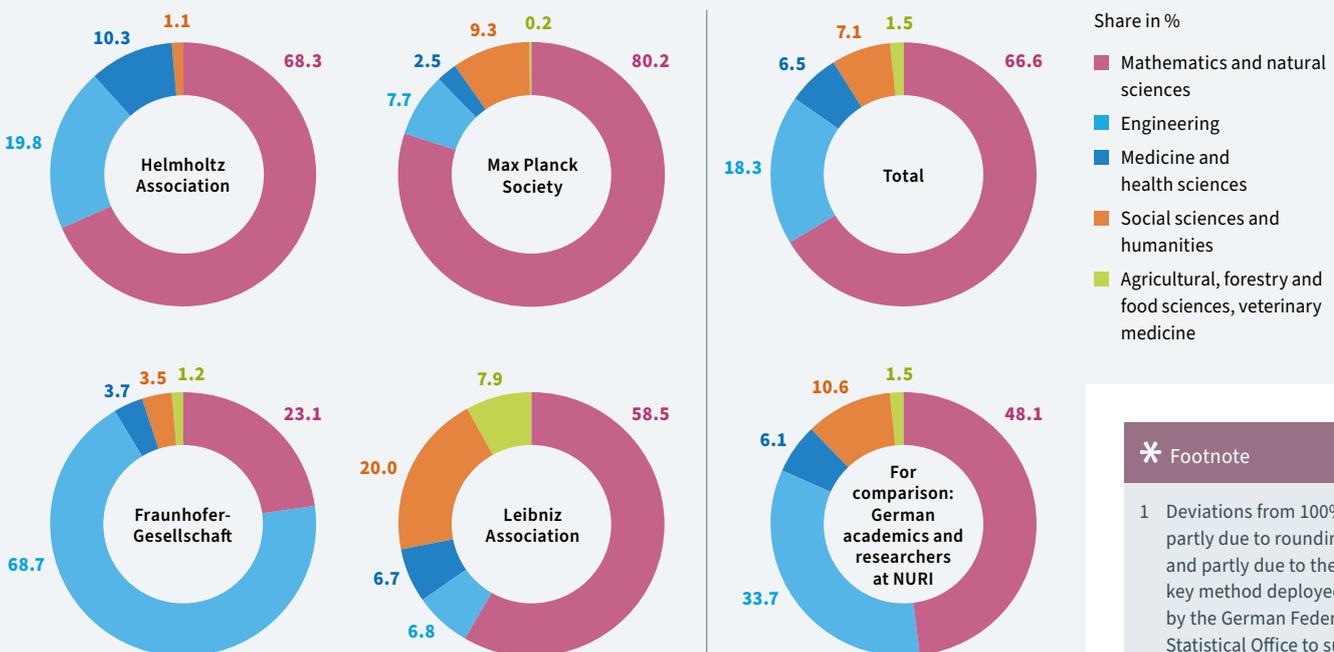
In a comparison of the four largest NURI, the particularly high share of international academics and researchers in mathematics and

natural sciences at the Max Planck Society (80%) stands out. Apart from mathematics and natural sciences (68%), relatively large shares of international academics and researchers work in engineering (20%) as well as medicine and health sciences (10%) at the Helmholtz Association. A comparatively high share (20%) of international academics and researchers in the social sciences and humanities is characteristic of the Leibniz Association. With its exceptionally high proportion of international academics and researchers in engineering (69%), the subject group distribution at the Fraunhofer-Gesellschaft differs the most from that at the other three large NURI.

Overall, 31% of the academics and researchers contractually employed at the four largest NURI hold a foreign citizenship. However, this percentage varies widely depending on the occupational position. While 51% of academic staff with an obligation to pursue a doctorate hold a foreign citizenship, the corresponding share among heads of research groups and heads of departments is just 23%. At almost 30%, the share of the remaining academic staff corresponds more or less with the average for academic staff as a whole.

“Two thirds of international academic staff at the four largest non-university research institutes work in mathematics and natural sciences.”

D2.4 International academic staff at the four largest non-university research institutes by subject group in 2023¹



* Footnote

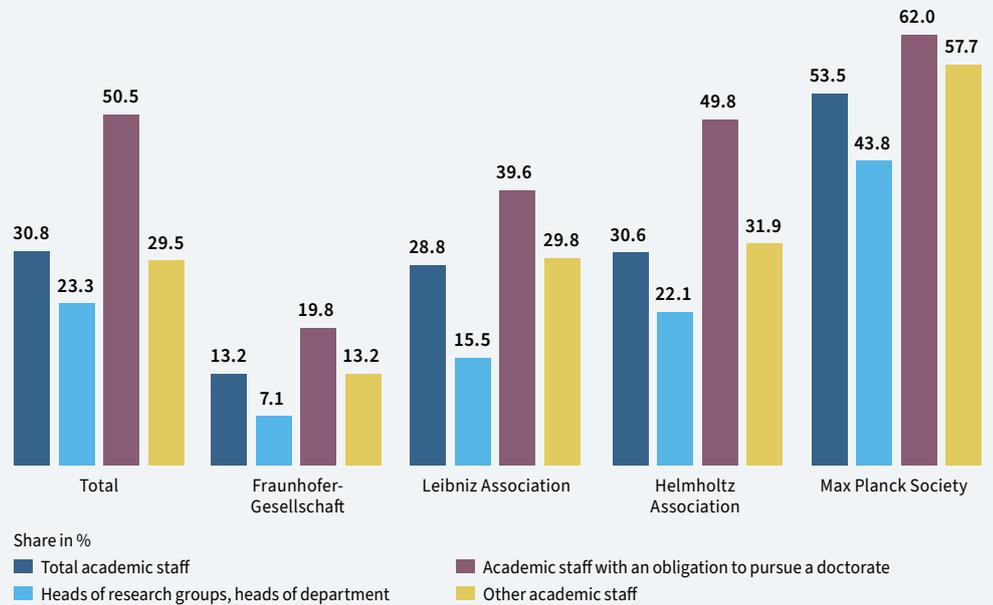
1 Deviations from 100% are partly due to rounding and partly due to the cell key method deployed by the German Federal Statistical Office to superpose the presented statistics for data protection reasons.

Source: Federal Statistical Office, “Personal für Forschung und Entwicklung”; DZHW calculations

In a comparison of the four largest NURI, there are not just fundamental differences in the share of international academic staff of all staff (see also Chapter D2.1), the under-representation of foreign nationals in management positions as opposed to doctoral positions also varies across the NURI. In relative terms, this under-representation is especially pronounced at the Fraunhofer-Gesellschaft, where the share of foreign nationals in management positions is just 7%, as opposed to 20% in doctoral positions, almost triple this figure. In the case of the Helmholtz Association (22% versus 50%) and the Leibniz Association (almost 16% versus almost 40%), the share of international academic staff of all staff is less than half in management positions than it is in doctoral positions. This discrepancy is smallest at the Max Planck Society, where 44% of management are foreign nationals, compared to 62% of doctoral candidates.

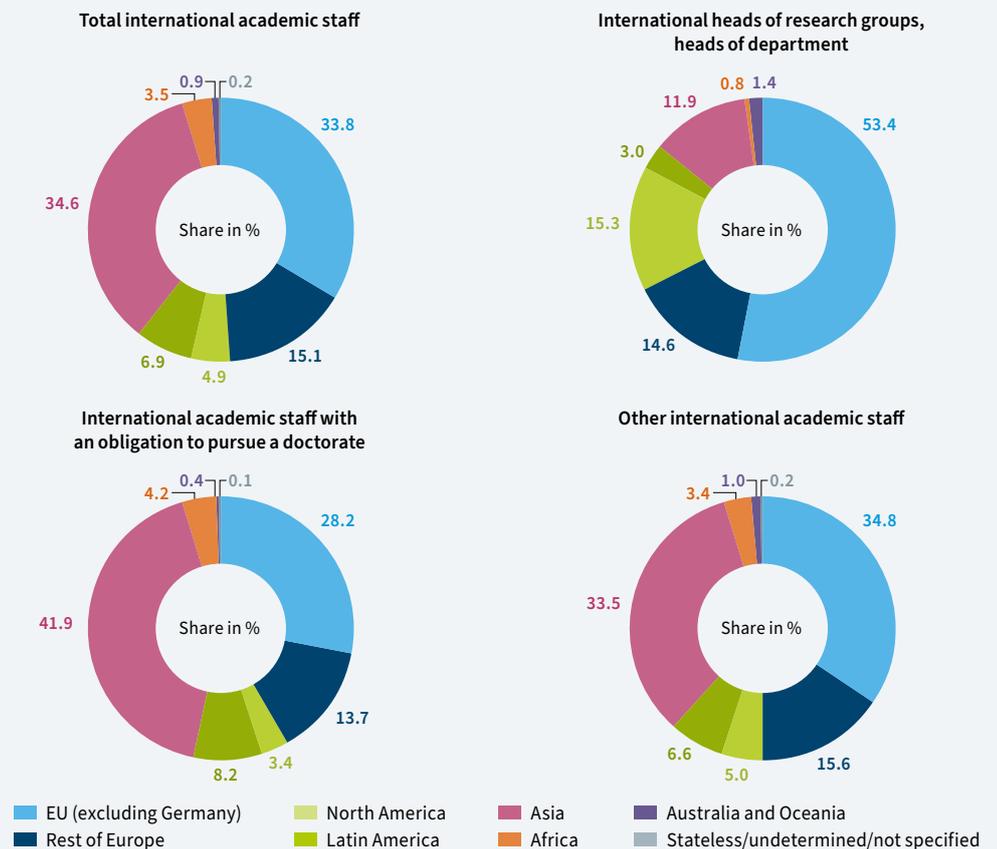
The majority (over 53%) of the heads of research groups and heads of departments at the four largest NURI come from other EU countries. Smaller shares come from the rest of Europe and North America (about 15% each) or Asia (12%). Collectively, just 5% of international management staff at the four largest NURI indicate other regions of origin. Among international academic staff with an obligation to pursue a doctorate, academics and researchers from Asia (42%) are the largest group, followed by those from other EU states (28%), the rest of Europe (14%) and Latin America (8%). Comparatively few academics and researchers in this personnel group hail from North America (a good 3%).

D2.5 Share of international academic staff of the total academic staff at the four largest non-university research institutes by occupational position in 2023



Source: Federal Statistical Office, "Personal für Forschung und Entwicklung"; DZHW calculations

D2.6 International academic staff at the four largest non-university research institutes by occupational position and region of origin in 2023¹



Source: Federal Statistical Office, "Personal für Forschung und Entwicklung"; DZHW calculations

3 Guest researchers from abroad in Germany

3.1 Mobility trends, funding organisations and funded groups

In this chapter, guest researchers are considered persons who regularly work at academic teaching facilities or research institutes abroad and receive funding for a limited period of time for visits to universities or other research institutions in Germany without being contractually employed. Although the findings of the annual DZHW survey of funding organisations presented here do not relate to all funded guest visits to Germany, they are based on a significant percentage of these visits in reference to German funding organisations.^{1,2,3} With regard to funding provided by foreign organisations, however, the data have so far been limited to a few institutes and the Marie Skłodowska-Curie actions of the EU.

In 2023, the DZHW survey of domestic and foreign funding organisations recorded a total of roughly 29,900 visits to Germany by guest researchers from abroad. Since 2021, the number of sponsored visits to Germany undertaken by guest researchers has totalled approximately 30,000, slightly below the level recorded in the years preceding the Covid-19 pandemic.

Three large funding organisations still finance the vast majority of guest researchers' visits to Germany: the German Research Foundation (DFG), the German Academic Exchange Service (DAAD) and the Alexander von Humboldt Foundation (AvH). In 2023, the DFG alone sponsored more

than half (51%) of guest visits covered here, the DAAD almost one third (32%) and the AvH 8%. Together, they contributed to a good 91% of all recorded guest visits. In 2023, the DFG again funded more guest visits to Germany than in the previous year (+3%). The DAAD again sponsored considerably fewer guest visits (-11%) due to a restructuring of the DAAD funding framework, which accounted for a decline in the total number of funded visits undertaken by postgraduates.

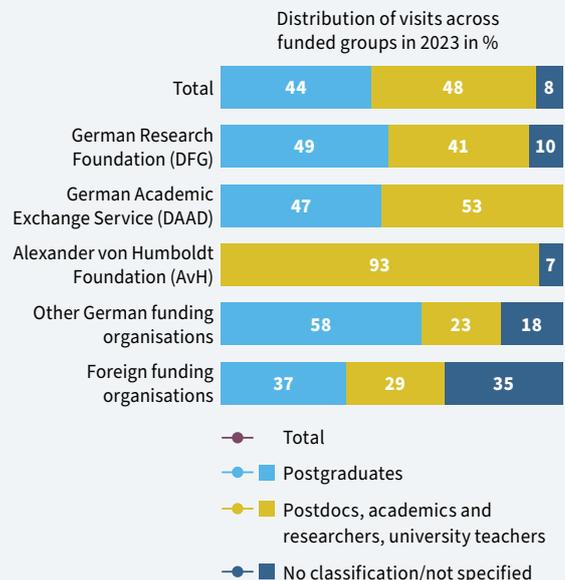
Following marked growth in the previous year, the corresponding AvH funding volume barely changed (-1%) in 2023.

In 2023, around 6% of the recorded visits of guest researchers were funded by a multitude of other German funding organisations. Although the scope of their funding activities may not seem impressive, their contribution to facilitating international scientific mobility should not be underestimated. By focusing on specific teaching and research fields, the smaller organisations often create valuable momentum for internationalisation. Moreover, their activities demonstrate that funds for the international mobility of academics and researchers to Germany are provided by a broad institutional framework.

Most smaller funding organisations have more or less upheld their funding budgets year-on-year. Increased activities, with some substantial upturns, were observed for the Konrad Adenauer

“ In 2023, the DFG again funded more guest visits to Germany by researchers than in the previous year (+3%), the DAAD again considerably fewer (-11%).

D3.1 Funded visits to Germany undertaken by guest researchers from abroad by funded group since 2013^{1,2,3}



Source: DZHW survey, data provided by funding organisations

Foundation, the Akademie Schloss Solitude, the Hanse-Wissenschaftskolleg and the Einstein Foundation Berlin in 2023. By contrast, the Katholischer Akademischer Ausländer-Dienst (scholarship organisation of the Catholic Church in Germany), the Hans Böckler Foundation, the Heinrich-Böll-Stiftung and the Fritz Thyssen Foundation all subsidised fewer guest visits.

The guest visits covered by foreign institutions account for just under 3% of the funding activities reviewed here. Due to a major expansion of the funding activities of the Japan Society for the Promotion of Science and a dramatic rise in the visits sponsored by the Marie Skłodowska-Curie actions, foreign institutions succeeded in further expanding their funding volume in 2023, following a downturn in the previous year.

Funding organisations set different priorities regarding the status groups they sponsor. For example, the DFG and the DAAD granted similar funding to doctoral students and other postgraduates as well as academics and researchers with doctorates (including professors and other experienced researchers, such as heads of research groups). By contrast, the AvH almost exclusively sponsored academics and researchers with doctorates.

Overall, 44% of the funded visits to Germany presented here were undertaken by doctoral students and other postgraduates in 2023. Guest visits by academics and researchers with doctorates accounted for 48%, while 8% of visits could not be assigned to any status group. The distribution of funded visits across status groups has remained fairly constant in recent years. All things considered, the funding activities of different organisations in Germany present a relatively consistent funding strategy.

*** Footnotes**

- 1 The figures presented in Chapters D3.1 and D3.2 do not contain any information on the guest visits funded by the major non-university research institutes: Helmholtz Association, Max Planck Society, Leibniz Association and Fraunhofer-Gesellschaft (see Chapter D3.3).
- 2 Not including Erasmus visits to Germany undertaken by guest researchers from abroad.
- 3 No information is available on university funding of visits by guest researchers.
- 4 Up to and including the reporting year 2022, only data from the former IASS Institute for Advanced Sustainability Studies, which was incorporated into the GFZ in 2023 as the Research Institute for Sustainability (RIFS), were taken into account and for the entire GFZ since the reporting year 2023.

D3.2 Funded visits to Germany undertaken by guest researchers from abroad by funding organisation in 2023^{1,2}

Funding organisations	Number
Key German funding organisations	
German Research Foundation (DFG)	15,218
German Academic Exchange Service (DAAD)	9,607
Alexander von Humboldt Foundation (AvH)	2,520
Other German funding organisations	
Konrad Adenauer Foundation	282
GFZ Helmholtz Centre for Geosciences ⁴	254
Gerda Henkel Foundation	201
Katholischer Akademischer Ausländerdienst	176
Akademie Schloss Solitude	109
Rosa Luxemburg Foundation	84
Hanse-Wissenschaftskolleg	82
German Federal Environmental Foundation	65
Friedrich Ebert Stiftung	60
Einstein Foundation Berlin	46
Herzog August Bibliothek Wolfenbüttel	45
Minerva Stiftung	43
German National Committee of the Lutheran World Federation/Bread for the World	42
Schneider-Sasakawa Fund of the University of Münster	39
Baden-Württemberg Stiftung	36
Friedrich Naumann Foundation	33
Boehringer Ingelheim Fonds	33
Hans Böckler Foundation	27
Heinrich Böll Foundation	17
Study Foundation of the Berlin House of Representatives	16
Klassik Stiftung Weimar	15
Alfried Krupp Institute for Advanced Study	10
The German National Academy of Sciences Leopoldina	9
Hanns Seidel Foundation	7
Heinrich Hertz Foundation	7
Fritz Thyssen Foundation	4
Stiftung Charité	4
DECHEMA-Forschungsinstitut	3
Alfred Toepfer Foundation	3
Zeit-Stiftung Ebelin und Gerd Bucerius	2
Avicenna-Studienwerk	1
Joachim Herz Foundation	0
Foreign funding organisations and programmes	
Marie Skłodowska-Curie actions of the EU	398
Japan Society for the Promotion of Science	329
Swiss National Science Foundation	67
German-American Fulbright Commission (US)	25
The Austrian Science Fund (FWF)	6
Total	29,925

Source: DZHW survey, data provided by funding organisations

3 Guest researchers from abroad in Germany

3.2 Regions and countries of origin and subject groups

According to the annual DZHW survey of funding organisations (see Chapter D3.1 for explanatory notes on the methodology), particularly high numbers of guest visits to Germany were funded in 2023 for academics and researchers from the regions of Asia and Pacific (23%) and Western Europe (22%). By comparison, fewer guest visits were funded for academics and researchers from Central and Southeastern Europe (12%), North Africa and Middle East (11%), Latin America and Eastern Europe and Central Asia (9% each), Sub-Saharan Africa (7%) and North America (5%). Once more, the distribution of funded guest visits across the regions of origin only changed slightly year-on-year.

The frequency of guest visits to Germany by academics and researchers from Western Europe and Asia and Pacific corresponds to the preponderance of these regions of origin among international academics and researchers employed at universities and non-university research institutes in Germany (see Chapters D1.1 and D2.1). The mobility flows of Western European and Asian guest researchers to Germany are not only a consequence of the high number of university-trained academics and researchers in these regions, they are also the result of long-standing economic and academic collaboration, including alliances between German universities and research institutes.

Individual funding organisations have set regional funding priorities.¹ For example, in 2023, the German Research Foundation (DFG) sponsored particularly high shares of guest researchers from the regions of Western

“ 45% of all funded guest visits to Germany were undertaken by academics and researchers in mathematics and natural sciences.

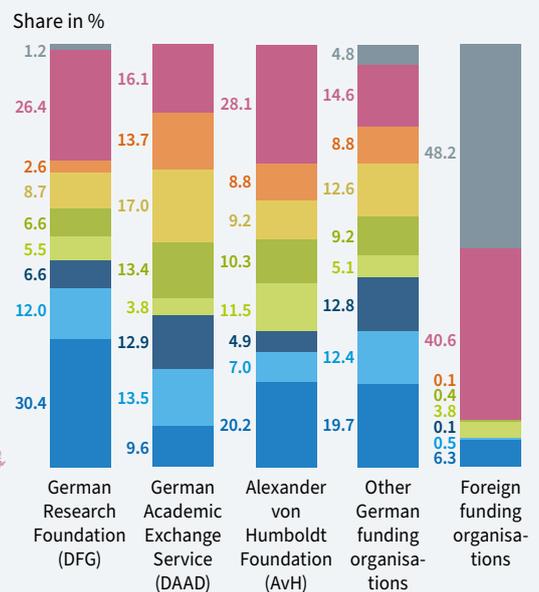
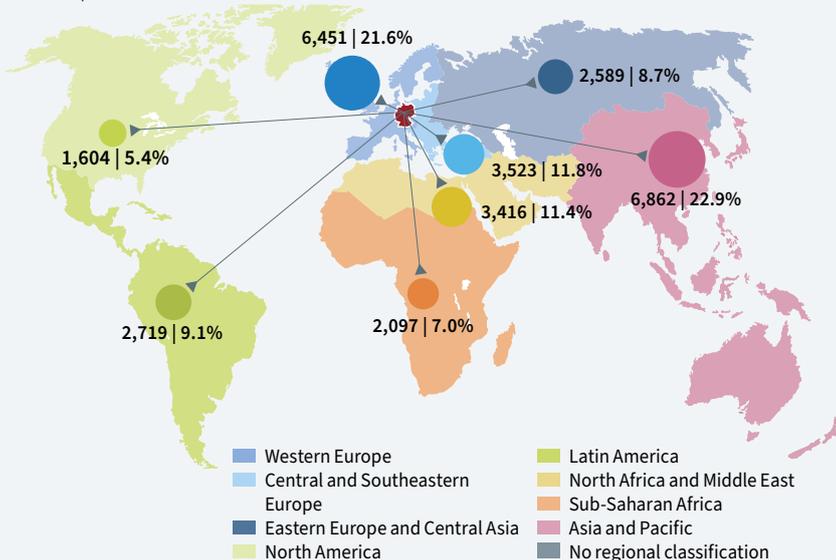
Europe (30%) and Asia and Pacific (26%), yet comparatively few guest researchers from Sub-Saharan Africa (just under 3%). The Alexander von Humboldt Foundation (AvH) granted funding to numerous academics and researchers from Asia and Pacific (28%), Western Europe (20%), North America (almost 12%) and Latin America (10%). On rare occasions, the AvH sponsored academics and researchers from Eastern Europe and Central Asia (5%). In contrast, the funding provided by the DAAD and smaller German funding organisations is more evenly spread across the regions. Unlike the DFG and the AvH, the DAAD funds a relatively large number of visits by guest researchers from North Africa and Middle East (17%), Sub-Saharan Africa (14%) and Eastern Europe and Central Asia (13%), and less frequently visits by guest researchers from Asia and Pacific (16%) and Western Europe (almost 10%).

As in previous years, most guest researchers who received funding in 2023 were from India and China. Other major countries of origin were Italy, the US, Iran and Ukraine (with over 1,000 funded guest visits each). While the number of funded guest visits has continued to rise in the case of India (+9%), Iran (+5%) and China (+4%), it has dwindled in the case of Ukraine (-13%), the US and Russia (-9% each) and Italy (-6%).

The largest share of funded visits in 2023 was again for academics and researchers in mathematics and natural sciences (45%), with the humanities and engineering (about 13% each) as well as law, economics and social sciences (12%) trailing far behind. Guest visits were sponsored

D3.3 Funded visits to Germany undertaken by guest researchers from abroad by region of origin and funding organisation in 2023^{1, 2, 3, 4}

Number | Share in %



Source: DZHW survey, data provided by funding organisations

less frequently for academics and researchers in medicine and health sciences (7%), agricultural, forestry and food sciences and veterinary medicine (3%) as well as art and art history (2%).

The dominance of the natural sciences among guest researchers from abroad corresponds to the importance of this subject area among international academics and researchers who are contractually employed at universities or non-university research institutes in Germany (see Chapters D1.2 and D2.2). Compared to employed academics and researchers, the disproportionately high share of academics in the humanities is striking among the guest researchers.

The individual funding organisations have clear priorities as regards the subject groups of the guest researchers they sponsor. For example, the DFG funded a high share of guest visits undertaken by academics and researchers in mathematics and natural sciences (just under 63%) in 2023. The same is true of the AvH (46%). However, the AvH also frequently financed guest visits by academics and researchers in the humanities (21%). Unlike the former funding organisations, the DAAD was particularly likely to finance visits carried out by academics and researchers in the fields of law, economics and social sciences (22%) and engineering (16%). Taken together, the smaller German funding organisations typically fund many guest visits of academics and researchers in mathematics and natural sciences (almost 26%), the humanities (22%) as well as law, economics and social sciences (19%).

* Footnotes

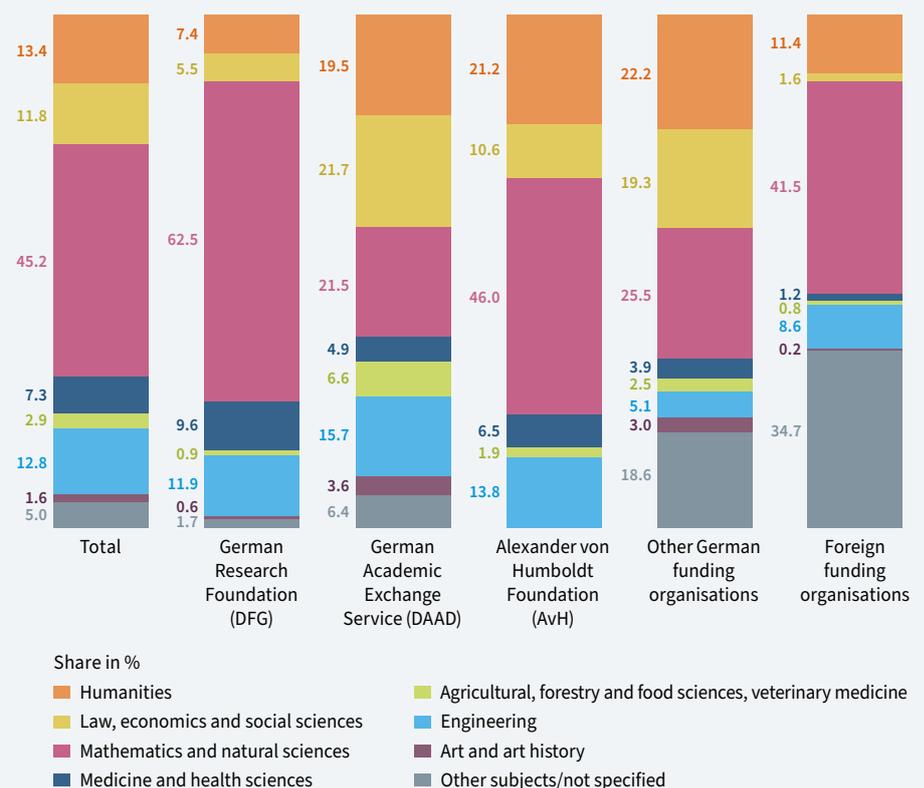
- 1 With the exception of EU funding under the Marie Skłodowska-Curie actions, foreign funding organisations generally sponsor visits to Germany by guest researchers from their respective countries of location.
- 2 Unlike in previous editions of *Wissenschaft weltoffen*, Greece and Cyprus are now classified as part of Central and Southeastern Europe rather than Western Europe.
- 3 664 funded visits (2.2%) could not be assigned to any region.
- 4 Deviations from 100% are due to rounding.

D3.4 Funded visits to Germany undertaken by guest researchers from abroad by key countries of origin since 2013



Source: DZHW survey, data provided by funding organisations

D3.5 Funded visits to Germany undertaken by guest researchers from abroad by funding organisation and subject group in 2023⁴



Source: DZHW survey, data provided by funding organisations

3 Guest researchers from abroad in Germany

3.3 Guest researchers from abroad at non-university research institutes

Non-university research institutes are instrumental in internationalising Germany as a centre of research and science not only by employing international academics and researchers (see Chapters D2.1 and D2.2) but also by sponsoring guest visits by researchers from abroad. In 2023, the Helmholtz Association, the Leibniz Association and the Max Planck Society together funded the visits to Germany of around 10,500 guest researchers from abroad, an increase of 21% in comparison to 2022. The Leibniz Association (+32%) reported the strongest gain, followed by the Helmholtz Association (+19%). By contrast, the Max Planck Society funded fewer guest visits than in the previous year (–4%). In 2023, the Helmholtz Association sponsored roughly 5,400 guest visits to Germany, the Leibniz Association roughly 4,100 and the Max Planck Society roughly 1,000. To get an idea of the extent to which the various institutes are driving their internationalisation by means of permanent employment as opposed to guest visits, these figures can be compared with data on international academics and researchers who are contractually employed (see Chapter D2.1). In 2023, the Max Planck Society¹ employed ten international academics and researchers for every guest researcher. This ratio was 4 to 1 at the Helmholtz Association and 2 to 1 at the Leibniz Association.

Moreover, the three research institutes have set different regional funding priorities. The regional funding profile of the Leibniz Association stands out most clearly from those of the other institutes. In 2023, the Leibniz Association financed a particularly high proportion of guest visits by academics and researchers from the EU (just under 35%), the rest of Europe (17%) and North America (just under 21%). By a clear margin, the key country of origin of guest researchers at the institutes of the Leibniz Association was the US (almost 19%), followed by the United

Data

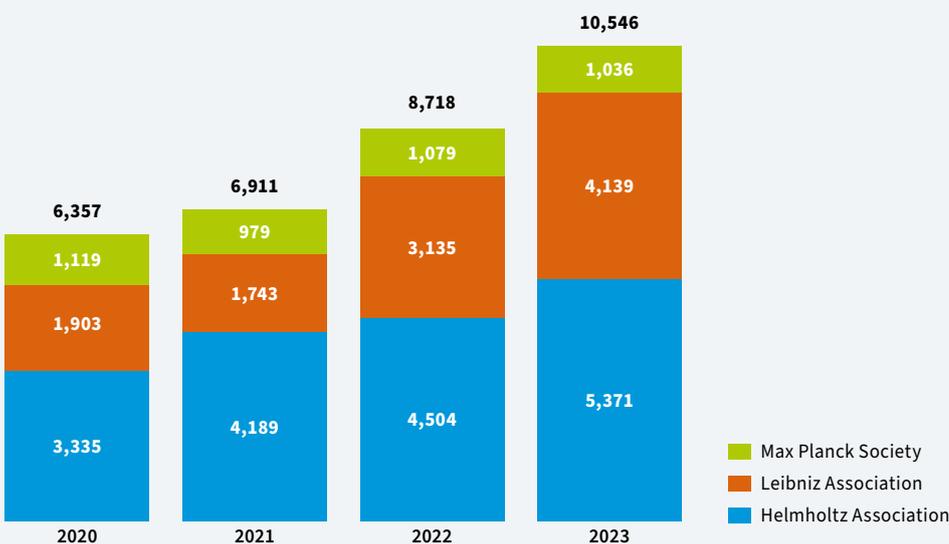
Guest visits to the large non-university research institutes (NURI) are primarily funded from the institutes' own resources. Nevertheless, some guest visits to these institutes are also subsidised by grants from other funding organisations (see Chapter D3.1). The data evaluated here on guest visits funded from the institutes' own resources have improved enormously in recent years. In particular, the Helmholtz Association and the Max Planck Society now have reliable data on the guest visits that they finance; this also applies to the Leibniz Association with regard to a smaller set of indicators. Although the Fraunhofer-Gesellschaft also records data on guest visits to Germany undertaken as part of its central funding programme, they are not directly comparable with the data provided by other NURI. They are thus not included in this chapter. Due to improvements in data collection methods, the information presented here can only be compared to a limited extent with that published in previous editions of *Wissenschaft weltoffen* for the years preceding 2020.

Kingdom and France (9% each). Unlike the other institutes, the Leibniz Association hosted only comparatively few guest researchers from Asia (just under 19%). The Helmholtz Association primarily supported guest researchers from the EU (37%) and Asia (35%), along with those from the rest of Europe, albeit to a lesser extent (12%). China (16%) and India (10%) were the key countries of origin here. The Max Planck Society

also financed a significant share of guest visits by academics and researchers from Asia (38%), chiefly from China (15%) and India (13%). Other than that, however, the Max Planck Society has adopted a more balanced regional funding policy than the Helmholtz Association.

For the Helmholtz Association and the Max Planck Society, information is also available on the duration of the funded visits. A comparison of the two institutes reveals that, in

D3.6 Funded visits to Germany undertaken by guest researchers from abroad by research institute since 2020



Source: DZHW survey, data provided by non-university research institutes

* Footnotes

- 1 When evaluating these data, it should be noted that, since 2015, the Max Planck Society has given both German and international doctoral students fixed-term contracts, thus they are no longer supported by scholarships.
- 2 Deviations from 100% are due to rounding.

D3.7 Funded visits to Germany undertaken by guest researchers from abroad by research institute, region and country of origin in 2023²

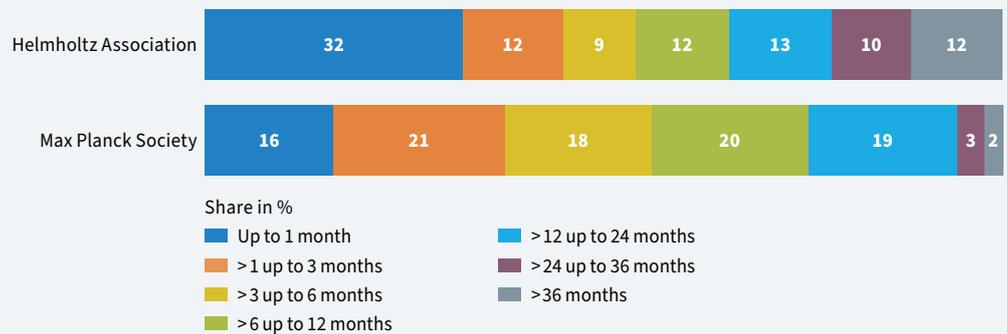
Regions of origin	Helmholtz Association	Leibniz Association	Max Planck Society	Helmholtz Association			Leibniz Association			Max Planck Society		
	Share in %			Countries of origin	Number	In %	Countries of origin	Number	In %	Countries of origin	Number	In %
EU (excluding Germany)	36.8	34.5	18.4	China	844	15.7	US	766	18.5	China	158	15.3
Rest of Europe	12.3	17.2	15.8	India	513	9.6	United Kingdom	372	9.0	India	132	12.7
North America	5.0	20.5	12.4	Italy	362	6.7	France	361	8.7	US	111	10.7
Latin America	5.4	4.2	10.7	France	246	4.6	China	264	6.4	Ukraine	65	6.3
Asia	35.1	18.5	38.3	United Kingdom	196	3.6	Italy	233	5.6	Italy	46	4.4
Africa	3.8	3.7	3.3	Other countries	3,210	59.8	Other countries	2,143	51.8	Other countries	524	50.6
Australia and Oceania	1.0	1.5	1.1	Total	5,371	100.0	Total	4,139	100.0	Total	1,036	100.0
Not specified	0.6	0.0	0.0									
Total	100.0	100.0	100.0									

Source: DZHW survey, data provided by non-university research institutes; DZHW calculations

2023, the Helmholtz Association placed greater emphasis on sponsoring shorter guest visits of up to three months and longer visits of more than two years. In contrast, the Max Planck Society subsidised guest visits of between one month and two years in almost 80% of cases.

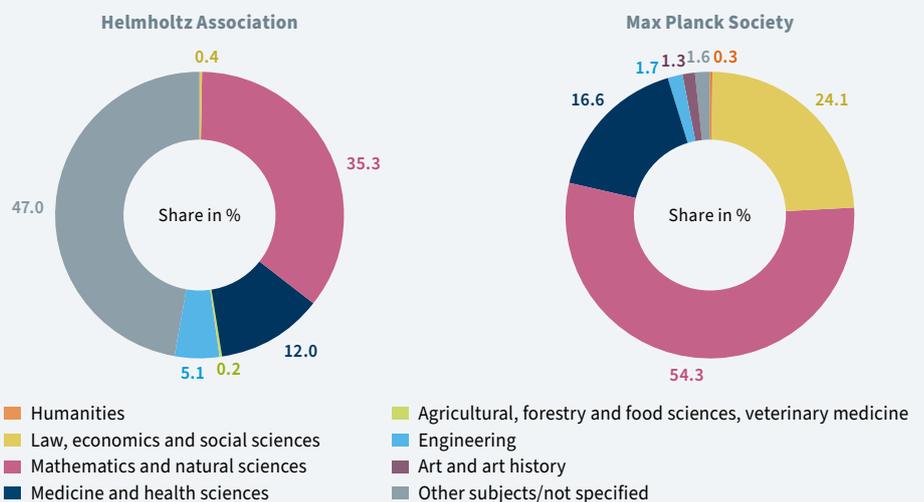
For the latter two institutes, data are also available on the subject groups of the sponsored guest researchers. In 2023, the Max Planck Society predominantly financed guest visits by academics and researchers in the field of mathematics and natural sciences (54%), along with visits undertaken by those in law, economics and social sciences (24%) as well as visits undertaken by those in law, economics and social sciences (24%) as well as medicine and health sciences (17%). The Helmholtz Association also funded numerous guest visits in mathematics and natural sciences (35%) as well as medicine and health sciences (12%). However, in many cases (47%), the subject group of the sponsored academics and researchers at the institutes of the Helmholtz Association is not known, thus the data are of limited value.

D3.8 Funded visits to Germany undertaken by guest researchers from abroad by research institute and visit duration in 2023²



Source: DZHW survey, data provided by non-university research institutes; DZHW calculations

D3.9 Funded visits to Germany undertaken by guest researchers from abroad by research institute and subject group in 2023²



Source: DZHW survey, data provided by non-university research institutes; DZHW calculations

3 Guest researchers from abroad in Germany

3.4 Erasmus guest lecturers

For this edition of *Wissenschaft weltoffen*, the allocation of guest visits to Erasmus funding periods was adjusted for funding periods from 2020 onwards to increase comparability with funding periods before 2020. The funding periods were extended in 2020 and 2021 due to the pandemic. As a result, some visits that took place during these funding periods were only included in the reporting on the following funding period. These statistical shifts have now been corrected.¹

“ In the 2023 funding period, Poland, Spain and Italy were once again the most important countries of origin of Erasmus guest lecturers in Germany.

During the 2023 funding period, a total of around 2,100 Erasmus guest lecturers came to Germany for teaching visits, an increase of 41% compared to the (readjusted) 2022 funding period. Despite this

Data

The data illustrated here refer exclusively to visits abroad undertaken as part of the EU's Erasmus+ mobility programme. The basis for the data analysis are the Erasmus statistics prepared by the DAAD (for details on the data source, see Chapter B3.3). The European Union's Erasmus+ Programme sponsors both temporary visits abroad by students and guest visits abroad by lecturers. These guest visits in Europe can last between two and sixty days. Academic staff and professors from universities and research institutes as well as business entrepreneurs are eligible for this funding. Recipients do not necessarily have to be nationals of the sending country. It is therefore possible for a few Erasmus guest lecturers in Germany to be German citizens.

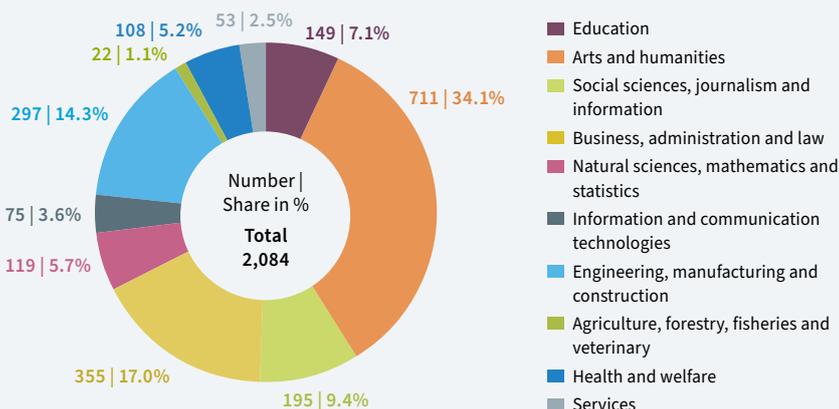
pronounced growth, the figures are still not back to the level of the funding periods preceding the pandemic, however. At 34%, the largest share of Erasmus guest lecturers in Germany in the 2023 funding period was in the arts and humanities.² Nonetheless, the subject groups of business, administration and law (17%) as well as engineering, manufacturing and construction (14%) also exhibited good percentages of Erasmus guest lecturers. Erasmus guest lecturers in the remaining subject groups accounted for less than 10% each of all Erasmus guest lecturers in Germany. There are only minor differences compared to the subject group distribution of

D3.10 Erasmus guest lecturers in Germany since the 2015 funding period¹



Source: DAAD, Erasmus statistics

D3.11 Erasmus guest lecturers in Germany by subject group in the 2023 funding period^{1,2}

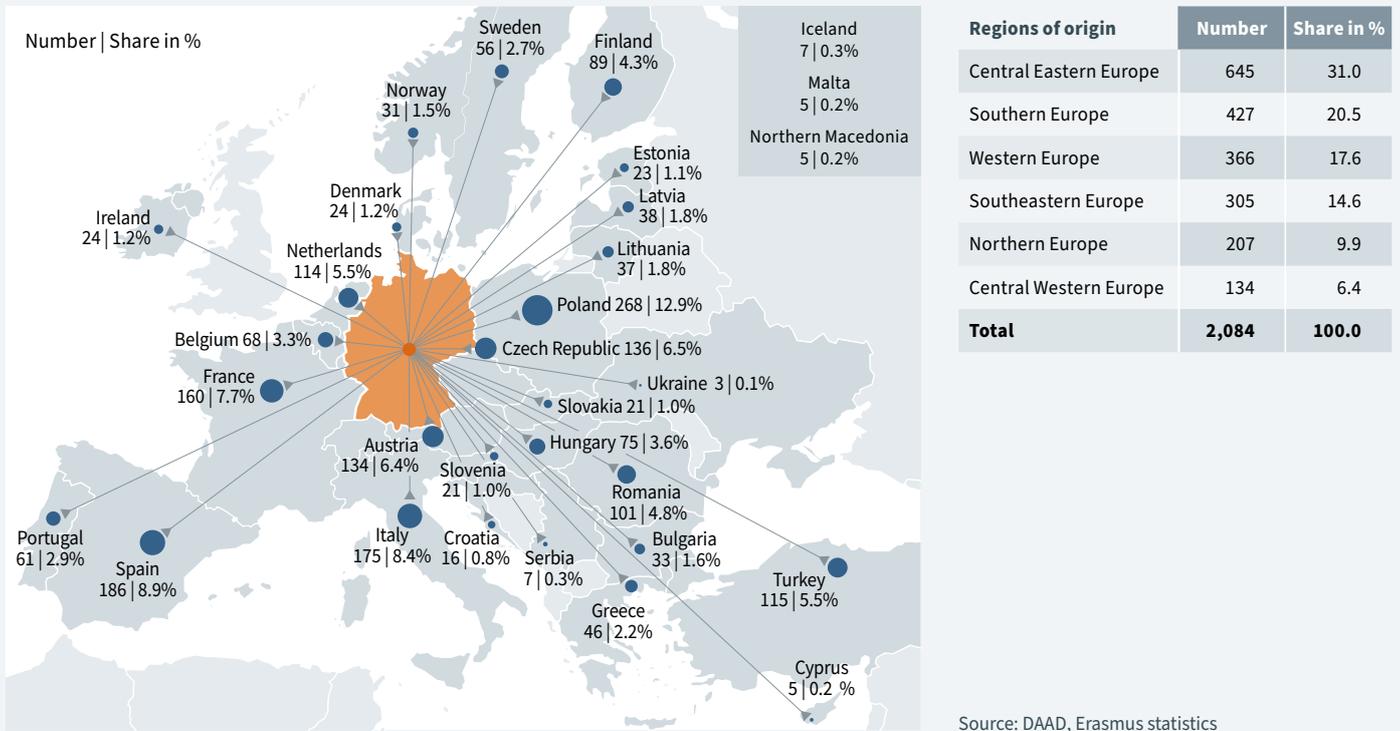


Source: DAAD, Erasmus statistics

* Footnotes

- Erasmus statistics until 2014: the respective funding period starts in the winter semester and ends in the summer semester of the following year (e.g. 2014 = WS 2013/14 and SS 2014). Erasmus+ statistics from 2015 to 2019: the funding period starts on 1 June of the previous year and ends on 31 May of the following year (e.g. 2019 = 1 June 2018 to 31 May 2020). Erasmus+ statistics from 2020 to 2021 (special Covid-19 rules): funding periods were all extended by ten months (e.g. 2021 = 1 June 2020 to 31 March 2023). Erasmus+ statistics from 2022: due to a restructuring of the programme, the funding periods now last 26 months and start on 1 June of the previous year and end on 31 July of the following year (e.g. 2023 = 1 June 2022 to 31 July 2024).
- The distribution of Erasmus guest lecturers by subject groups is only available in the ISCED classification system.
- Since the 2022 funding period, visits by guest lecturers from Ukraine have been financed. They were included in the region of Central Eastern Europe.
- In the 2023 funding period, there was no Erasmus mobility to Germany by guest lecturers from Luxembourg or Liechtenstein.
- Deviations from 100% are due to rounding.

D3.12 Erasmus guest lecturers in Germany by region and country of origin in the 2023 funding period^{1,3,4,5}



Source: DAAD, Erasmus statistics

Erasmus guest lecturers who leave Germany for a guest lectureship abroad (see Chapter E2.3).

In the 2023 funding period, the largest group of Erasmus guest lecturers travelled to Germany from Central Eastern Europe (31%), followed by just under 21% from Southern Europe, just under 18% from Western Europe, just under 15% from Southeastern Europe, 10% from Northern Europe and a good 6% from Central Western Europe.

As in previous funding periods, Poland (13%) was the key country of origin of Erasmus guest lecturers in Germany, with Spain (9%)

and Italy (over 8%) trailing some way behind. Other major countries of origin were France, the Czech Republic, Austria, Turkey and the Netherlands.

Although Erasmus guest lectureships can last up to two months, Erasmus guest lecturers only stayed in Germany for an average of five days in the 2023 funding period – just like in the previous funding periods. On average, the longest visit durations were reported for guest lecturers from Croatia, Cyprus and Slovenia (7 days) and the shortest visit duration for guest lecturers from Malta (3 days). However, these averages are, in part, calculated based on a small number of cases.

D3.13 Erasmus guest lecturers in Germany by country of origin and average visit duration in the 2023 funding period^{1,4}

Country of origin	Duration Ø	Country of origin	Duration Ø	Country of origin	Duration Ø
	Days		Days		Days
Croatia	7.3	Northern Macedonia	5.2	France	4.6
Cyprus	7.0	Sweden	5.2	Greece	4.5
Slovenia	6.8	Hungary	5.2	Serbia	4.4
Bulgaria	5.6	Norway	5.2	Austria	4.3
Spain	5.6	Romania	5.1	Netherlands	4.2
Italy	5.5	Ireland	4.9	Iceland	4.1
Czech Republic	5.4	Latvia	4.8	Belgium	3.9
Turkey	5.4	Poland	4.8	Lithuania	3.7
Ukraine	5.3	Slovakia	4.8	Malta	3.4
Estonia	5.3	Denmark	4.8	Total	5.0
Portugal	5.2	Finland	4.6		

Source: DAAD, Erasmus statistics

1 German academics and researchers at universities abroad

1.1 Contractually employed academic staff

Only very few countries currently keep a record of the number, origin and personnel group of international academic staff (see the glossary in the appendix) who are employed at their universities. Corresponding data on contractually employed academic staff with foreign citizenship are available for the Netherlands, Austria, Switzerland and the United Kingdom (hereinafter referred to as international academics and researchers or international academic staff).^{1,2,3} For countries like France, Sweden, Spain, Australia and the US, where the high number of German doctoral students (see Chapter E1.2) suggests that there are likely to be many German academics and researchers, such data are currently not available. International comparisons are also hindered by the fact that, for some countries (e.g. the Netherlands and Austria), data are only available for international staff contractually employed at universities and not at other higher education institutions. Moreover, there are marked differences between countries regarding the definition of terms such as ‘researcher’ or ‘professor’.

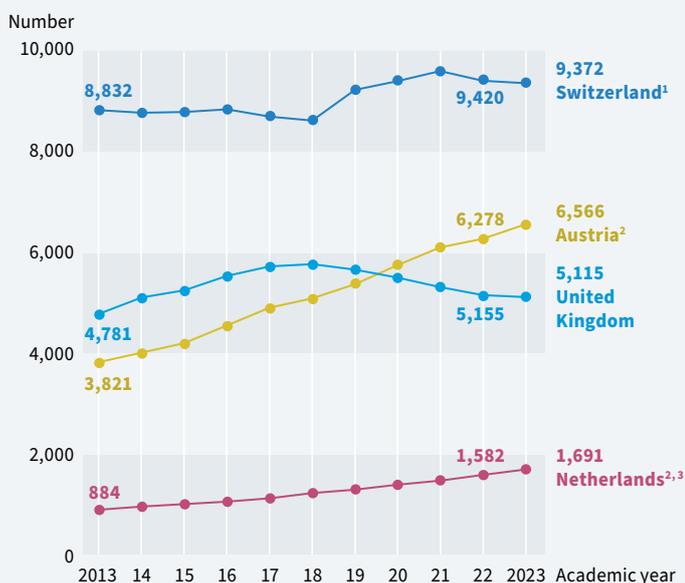
Various factors determine whether the number of international academics and researchers working in a country is large or small, including the size, structure and attractiveness of the national higher education and science systems, the accessibility of the national labour market and linguistic and cultural aspects.

Of the countries considered here, Switzerland has been the most popular host country among German academics and researchers abroad for many years. Trailing some way behind is Austria, which has been in second place since 2020. From the perspective of German academics and researchers, Switzerland and Austria undoubtedly offer certain advantages, not just geographical proximity, but also good employment prospects and the option of speaking German at work. The United Kingdom is in third place, followed by the Netherlands as a distant fourth.

Between 2013 and 2018, the number of German academics and researchers contractually employed at universities in Switzerland was more or less stable. It then increased until 2021, before decreasing again slightly until 2023. By contrast, the number of German academics and researchers at universities in Austria grew steadily and noticeably between 2013 and 2023. At a lower absolute level, the number of German academics and researchers at universities in the Netherlands also continued to rise, almost doubling between 2013 and 2023. The number of German academics and researchers in the United Kingdom only went up until 2018 and has been dwindling ever since – a consequence, presumably, of the United Kingdom’s withdrawal from the European Union.

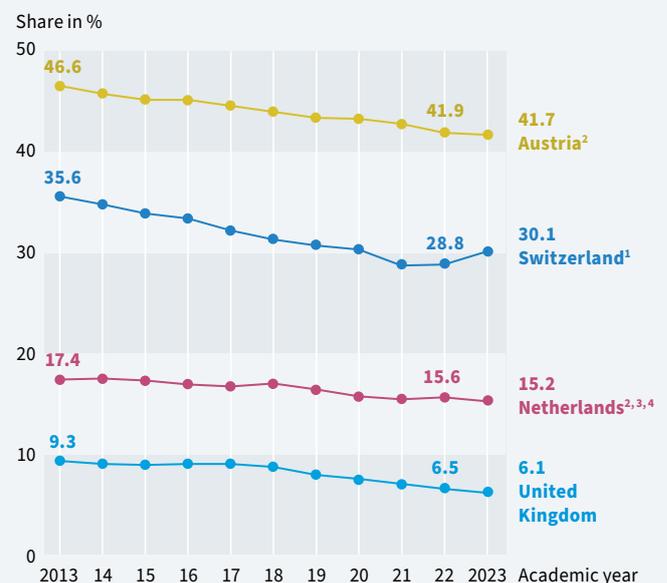
“ Since 2013, the share of German academic staff of the total international academic staff has fallen in all countries under review.

E1.1 German academic staff at universities in selected host countries since 2013



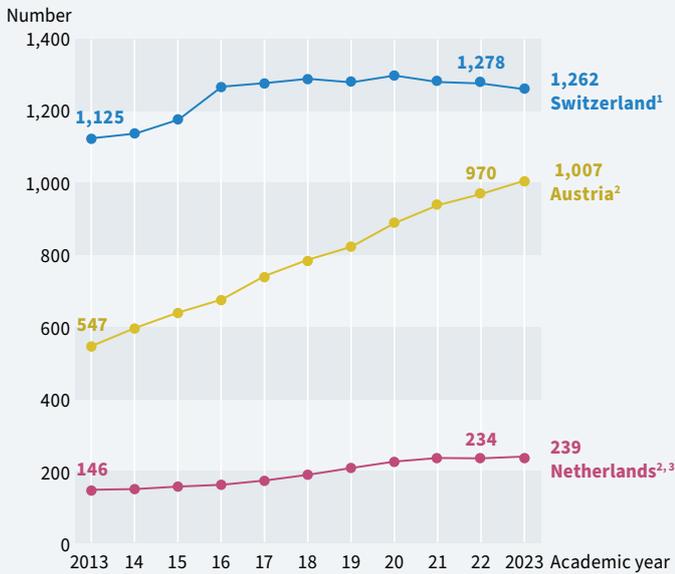
Sources: Statistical offices of Austria, Switzerland and the United Kingdom plus Universities of the Netherlands

E1.2 Share of German academic staff of the total international academic staff at universities in selected host countries since 2013



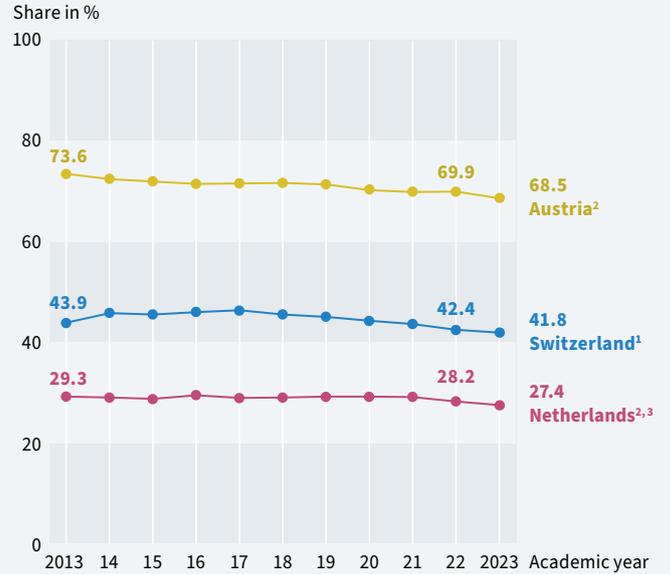
Sources: Statistical offices of Austria, Switzerland and the United Kingdom plus Universities of the Netherlands; DZHW calculations

E1.3 German professors at universities in selected host countries since 2013



Sources: Statistical offices of Austria and Switzerland plus Universities of the Netherlands

E1.4 Share of German professors of all international professors at universities in selected host countries since 2013



Sources: Statistical offices of Austria and Switzerland plus Universities of the Netherlands; DZHW calculations

Despite the sometimes differing developments in absolute numbers, the share of German academics and researchers of all international academics and researchers has fallen over the last decade in all host countries reviewed here.⁴ In 2023, German academics and researchers accounted for the greatest proportion of all international academics and researchers in Austria (42%), followed by Switzerland (30%), the Netherlands (15%) and the United Kingdom (6%).⁵

With respect to German professors in the selected host countries for which corresponding data are available, similar patterns can be

observed as for German academic staff overall: most German professors work in Switzerland, followed by Austria and the Netherlands. On the whole, the number of German professors at universities in Austria and the Netherlands has also climbed steadily and sharply over time, while the number of professors at universities in Switzerland increased until 2020 before dropping slightly thereafter.

“ Since 2013, the number of German professors at universities in Austria has risen sharply (+84%), but their share of all international university professors in the country has tumbled by five percentage points.

At almost 69% in Austria, 42% in Switzerland and a good 27% in the Netherlands, the share of German professors of all international professors is much higher than the share of German academic staff of the total international academic staff.⁶ Although these percentages have decreased over time, this was at a slower pace in relative terms than for German academic staff overall. Firstly, these findings suggest that professorships in the neighbouring countries examined are evidently very attractive to German academics and researchers. Secondly, they demonstrate that German academics and researchers can clearly hold their own against international candidates in the competition for these highly sought-after professorships.

Footnotes

- 1 Data from Switzerland do not include members of university leadership.
- 2 Data from Austria and the Netherlands refer to universities only.
- 3 Not including information from seven of the eight medical training centres in the Netherlands. Missing data for Utrecht University (2016–2022), Vrije Universiteit Amsterdam (2019–2022), the University of Amsterdam (2017) and the Open Universiteit (2021–2022) were estimated by Universities of the Netherlands (UNL).
- 4 Due to the correction of a calculation error, the shares of German academic staff of all international academic staff at universities in the Netherlands differ from the data for the years 2013 to 2021 that were published in *Wissenschaft weltoffen* until 2024.
- 5 In 2023, the share of German academic staff of all (national and international) academic staff came to a good 14% in Austria, 13% in Switzerland, 6% in the Netherlands and 2% in the United Kingdom.
- 6 In 2023, the share of German professors of all (national and international) professors was 32% in Austria, 18% in Switzerland and 6% in the United Kingdom.

1 German academics and researchers at universities abroad

1.2 Doctoral students

At present, no harmonised data source provides information on all German doctoral students abroad. Therefore, data released by the OECD, the German Federal Statistical Office, the US Student and Exchange Visitor Information System and Universities of the Netherlands (UNL) were merged to shed light on German doctoral students in various host countries. In all likelihood, these merged data cover the majority of German doctoral candidates abroad. China is likely the only major host country of German doctoral students abroad that does not figure in the following analyses.

The combination of data sources described above yielded a total of 14,008 doctoral students at universities abroad for the 2023 academic year.¹ In 2023, by far the most doctoral students were enrolled at universities in Switzerland (23% of all recorded German doctoral students abroad). Switzerland probably owes its status as the most popular host country of German doctoral students not only to its regional and linguistic proximity to Germany, but above all to the attractive remuneration and excellent research conditions offered by its universities. Austria (18%) came second in the ranking of host countries favoured by German doctoral candidates, followed by the United Kingdom (12%) and the US (almost 9%). In 2023, the four countries leading the field of the most popular host countries welcomed roughly 62% of all German doctoral students abroad. Further major host countries, albeit at a lower level in

Data

The numbers of German doctoral students abroad were primarily taken from OECD statistics. These figures were supplemented by data from the “Deutsche Studierende im Ausland” survey conducted by the German Federal Statistical Office, data from the Student and Exchange Visitor Information System of the US Department of Homeland Security and from a special analysis by Universities of the Netherlands (UNL). In some cases, the data for the various host countries refer to different years. Some figures differ from those published in previous editions of *Wissenschaft weltoffen*, partly because other data sources were used. In this edition, to ensure international comparability and given the timeliness of the data, OECD statistics were used at first and other sources only when no OECD data were available.

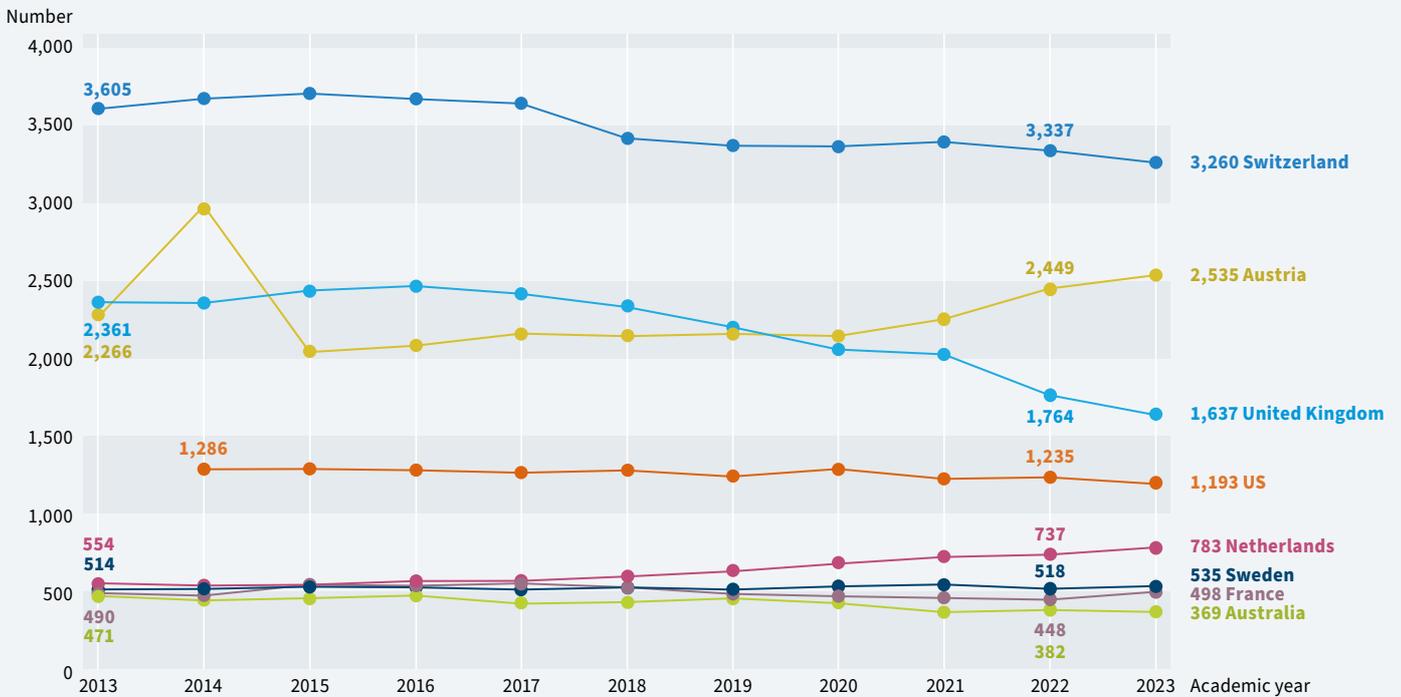
quantitative terms, were the Netherlands (just under 6%), Sweden (4%), France (just under 4%), Denmark and Spain (3% each). In 2023, some 81% of all German doctoral students abroad were enrolled in the nine key host countries, with the remaining 19% spread across a further 25 countries.

E1.5 German doctoral students at universities in selected host countries in 2023

Host countries	Reference year	Number	Share of all	Share of all	Host countries	Reference year	Number	Share of all	Share of all
			German doctoral students abroad in %	German students in the respective country in %				German doctoral students abroad in %	German students in the respective country in %
Switzerland	2023	3,260	23.3	25.9	Italy	2023	113	0.8	6.5
Austria	2023	2,535	18.1	6.6	Portugal	2023	100	0.7	5.8
United Kingdom	2023	1,637	11.7	20.6	Liechtenstein ¹	2022	80	0.6	36.7
US	2023	1,193	8.5	12.8	New Zealand	2023	79	0.6	27.7
Netherlands	2023	783	5.6	3.5	Japan	2023	64	0.5	9.6
Sweden	2023	535	3.8	21.5	Israel	2023	64	0.5	36.0
France	2023	498	3.6	11.3	Romania	2023	58	0.4	3.5
Denmark	2023	452	3.2	13.9	Hungary	2023	56	0.4	1.7
Spain	2023	415	3.0	17.1	Bulgaria	2023	36	0.3	2.4
Australia	2023	369	2.6	33.4	Iceland	2023	30	0.2	15.7
Canada	2023	273	1.9	24.8	Estonia	2023	22	0.2	24.7
Norway	2023	250	1.8	29.6	Latvia	2023	21	0.1	2.4
Czech Republic	2023	224	1.6	27.7	Brazil	2023	16	0.1	6.0
Slovakia	2023	201	1.4	23.6	Greece	2023	15	0.1	1.2
Finland	2023	196	1.4	21.4	Poland	2023	7	0.0	0.6
Turkey	2023	157	1.1	3.2	Lithuania	2023	6	0.0	1.1
Ireland	2023	147	1.0	13.5	Total		14,008		10.7
Belgium	2023	116	0.8	15.5					

Sources: OECD, student statistics; Federal Statistical Office, “Deutsche Studierende im Ausland” survey; US Department of Homeland Security, Student and Exchange Visitor Information System; Universities of the Netherlands, university staff statistics; DZHW calculations

E1.6 German doctoral students at universities in selected host countries since 2013



Sources: OECD, student statistics; Federal Statistical Office, “Deutsche Studierende im Ausland” survey; US Department of Homeland Security, Student and Exchange Visitor Information System; Universities of the Netherlands, university staff statistics; DZHW calculations

Broken down by host regions, it emerges that the vast majority of German doctoral students abroad covered here (almost 80%) remained in Western Europe in 2023. A good 10% pursued their doctorate in North America, 6% in Central and Southeastern Europe and 4% in Asia and Pacific (findings on the distribution by host region are not displayed graphically).

The regional distribution of German doctoral candidates abroad largely resembles the distribution of all German students abroad. By a clear margin, Western Europe is also the most popular host region among the students. Moreover, countries like Austria, the Netherlands, Switzerland, the United Kingdom and the US top the league of German students’ most popular host countries (see Chapter C1.1). It is quite possible that a fair number of students who travel to these countries for a master’s degree also sign up for a doctorate there.

The Netherlands are an exception in this regard. Compared to the high number of German students, the number of German doctoral candidates at universities in the Netherlands is relatively low. This can also be explained by the fact that German students tend to pursue bachelor’s programmes in the Netherlands, with only a small percentage enrolling in master’s programmes (see Chapter C1.2). When calculating the share of German doctoral candidates of all German students in the host country for 2023, the Netherlands scored a mere 4%. In Austria, too, this share was comparatively low at just under 7%, despite the high number of German doctoral students hosted. Countries in which German doctoral

students represented a particularly high proportion (over a quarter each) of all German students hosted were Liechtenstein (37%), Israel (36%), Australia (over 33%), Norway (almost 30%), New Zealand and the Czech Republic (28% each) as well as Switzerland (26%).

The total number of German doctoral students recorded corresponds approximately to the figures indicated for previous years. However, in some cases, different developments can be observed regarding the individual host countries. The annual fluctuations are particularly noticeable in host countries with only a few German doctoral candidates (finding not displayed graphically).

In relative terms, the number of German doctoral students in the key host countries has primarily increased in the Netherlands. In absolute terms, the number of German doctoral students has also risen in Austria in recent years; nonetheless, it has not yet regained the record level of 2014. The number of German doctoral students in the United Kingdom has plummeted since 2018 (presumably due to Brexit) and in Australia since 2020 (presumably due to the Covid-19 pandemic). Lastly, the number of German doctoral students remained fairly constant in Switzerland, the US, Sweden and France.

* Footnote

1 Figure for the 2022 academic year, as no figure for the 2023 academic year was available at the time of writing.

2 Guest researchers from Germany abroad

2.1 Mobility trends, funding organisations and funded groups

In this chapter, guest researchers are considered persons who are employed at an institution in Germany and who receive funding for a limited period of time for visits to a university or research institute abroad without being contractually employed. Although the findings presented here of the annual DZHW survey of funding organisations are not based on a complete survey of all funded guest visits undertaken by German academics and researchers abroad, they represent a significant percentage of these visits in reference to German funding organisations.^{1,2,3,4} With regard to the visits abroad by guest researchers from Germany with funding provided by foreign organisations, however, the collected data have so far only included some of the funding activities; in particular, information pertaining to the Marie Skłodowska-Curie actions of the EU has been missing since 2021.

In 2023, the DZHW survey of domestic and foreign funding organisations recorded a total of roughly 9,800 visits abroad undertaken by guest researchers from Germany, a year-on-year increase of 18%. Although the number of recorded visits abroad has increased for the third year running following the all-time low due to the Covid-19 pandemic in 2020, it remained well below the values observed in the years preceding the pandemic in 2023.

The number of recorded visits abroad undertaken by guest researchers from Germany is still substantially lower than the corresponding number of visits to Germany undertaken by guest researchers from abroad (see Chapter D3.1). The former falls even further behind pre-pandemic levels than the latter.

Global mobility restrictions resulting from the Covid-19 pandemic were perhaps still making it more difficult for academics and researchers from Germany to spend time abroad than it was, by the same token, for academics and researchers from abroad to visit Germany. However, this interpretation should take account of the abovementioned data limitations, particularly the information on visits abroad under the Marie Skłodowska-Curie actions that has been missing since 2021.

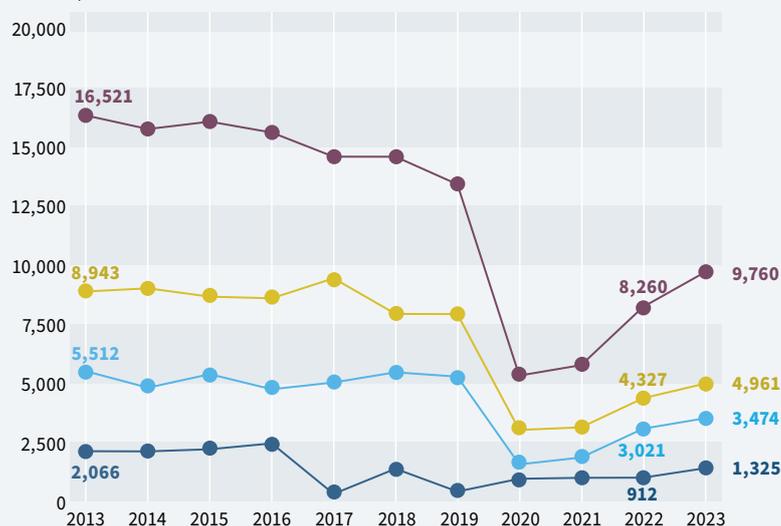
“ In 2023, the number of funded visits abroad undertaken by guest researchers from Germany rose by 18% year-on-year.

The share of all visits abroad funded by individual organisations has not seen any major changes for some years. The DAAD continues to sponsor the vast majority of visits abroad undertaken by guest researchers from Germany, namely a good 70% in 2023. The DFG subsidised 7% of all visits abroad considered here.⁴ Together, the remaining German funding organisations covered 21% of all visits abroad in 2023. Thus, their relative contribution to funding visits abroad by guest researchers from Germany is more important than their role in financing visits to Germany undertaken by guest researchers from abroad (see Chapter D3.1). In 2023, the foreign organisations under review funded a mere 2% of all recorded visits abroad.

Depending on the respective funding organisation, different trends are emerging with regard to the development in the number of recipients. Some German funding organisations have seen a marked rise in numbers, such as CERN (+247%), the Hans Böckler Foundation (+24%), the DAAD (+23%) and the Max Weber Foundation (+12%). In absolute terms, the 1,275-strong increase in DAAD-funded visits abroad stands

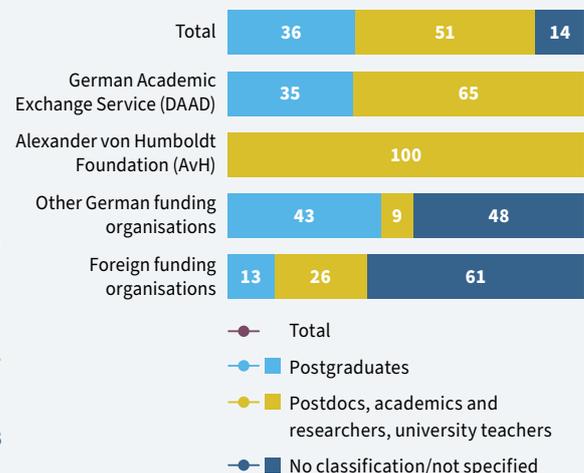
E2.1 Funded visits abroad undertaken by guest researchers from Germany by funded group since 2013^{1,2,3,4,5}

Number | Share in %



Source: DZHW survey, data provided by funding organisations

Distribution of visits abroad across funded groups in 2023 in %



out in particular. Other figures have plummeted, including the number of visits abroad funded by Boehringer Ingelheim Fonds (-53%), the Rosa Luxemburg Foundation (-43%), the Gerda Henkel Foundation (-31%), the Alexander von Humboldt Foundation (AvH: -16%) and the Studienstiftung des deutschen Volkes (-6%). The foreign funding organisations evaluated here have all boosted the numbers of visits funded. As a matter of fact, the Japan Society for the Promotion of Science multiplied the number of its visits funded year-on-year.

“ Once again in 2023, the DAAD funded significantly more visits abroad by guest researchers from Germany than in the previous year (+23%), the DFG marginally fewer (-1%) and the AvH a great deal fewer (-16%).

In 36% of all cases studied, funding went to doctoral students and other postgraduate guest researchers from Germany. In 51% of all cases studied, funding went to guest researchers with doctorates, including professors and other experienced researchers. No classification was possible in 14% of all cases. The distribution of sponsored visits abroad across funded groups has remained more or less stable for some years. All things considered, the funding activities of different organisations in Germany present a relatively consistent funding strategy.

In 2023, most visits abroad financed by the DAAD were undertaken by doctorate holders and experienced guest researchers from Germany (65%), while the corresponding figure for the AvH was a full 100%. No reliable conclusions can be drawn in this regard about the other German and foreign funding organisations.

* Footnotes

- 1 The figures presented in Chapters E2.1 and E2.2 do not contain any information on the visits abroad undertaken by guest researchers from Germany that were funded by the major non-university research institutes: Helmholtz Association, Max Planck Society, Leibniz Association and Fraunhofer-Gesellschaft (see Chapter E2.3).
- 2 Not including Erasmus visits abroad by academics and researchers from Germany.
- 3 No information is available on university funding of visits abroad undertaken by guest researchers.
- 4 Data for the DFG only include funded visits abroad undertaken by guest researchers from Germany who received funding in the form of research fellowships. Moreover, the DFG data do not allow for any differentiation by funded groups.
- 5 Deviations from 100% are due to rounding.
- 6 Data from 2022, as data for 2023 were not yet available at the time of writing.

↓ E2.2 Funded visits abroad undertaken by guest researchers from Germany by funding organisation in 2023^{1,2}

Funding organisations	Number
Key German funding organisations	
German Academic Exchange Service (DAAD)	6,862
German Research Foundation (DFG) ⁴	668
Other German funding organisations	
Studienstiftung des deutschen Volkes	477
CERN fellowships	302
Max Weber Foundation – German humanities institutes abroad	236
Alexander von Humboldt Foundation (AvH)	186
Gerda Henkel Foundation	145
Hans Böckler Foundation	128
Cusanuswerk – Bischöfliche Studienförderung	119
Evangelisches Studienwerk	82
Heinrich Böll Foundation	63
Friedrich Ebert Stiftung	61
Rosa Luxemburg Foundation	36
Boehringer Ingelheim Fonds	32
The German National Academy of Sciences Leopoldina	31
Friedrich Naumann Foundation	25
Fritz Thyssen Foundation	22
Minerva Stiftung	22
Hanns Seidel Foundation	18
The Martin Buber Society of Fellows	17
Heinrich Hertz Foundation	14
ZEIT-Stiftung Ebelin und Gerd Bucerius	9
Avicenna-Studienwerk	7
Deutsche Herzstiftung ⁵	6
Alfried Krupp von Bohlen und Halbach Foundation	3
Schneider-Sasakawa Fund of the University of Münster	2
Joachim Herz Foundation	0
Foreign funding organisations and programmes	
Japan Society for the Promotion of Science	145
German-American Fulbright Commission (US)	34
The Austrian Science Fund	8
Total	9,760

Source: DZHW survey, data provided by funding organisations

2 Guest researchers from Germany abroad

2.2 Regions and countries of origin and subject groups

According to the annual DZHW survey of funding organisations (see Chapter E2.1 for explanatory notes on the methodology), Western Europe was again the key host region for guest researchers (see the glossary in the appendix) from Germany in 2023. 31% of the visits recorded were to Western European countries. Other major host regions were North America (almost 17%), Asia and Pacific (15%) and Central and Southeastern Europe (14%). More than three quarters (76%) of all visits funded took place in the abovementioned four host regions. Less popular host regions were Latin America as well as North Africa and Middle East (7% each), Sub-Saharan Africa (5%) and Eastern Europe and Central Asia (4%).

Several differences emerge in comparison to the regions of origin of sponsored guest researchers in Germany (see Chapter D3.2). While Western Europe, North America and Central and Southeastern Europe are more often the host regions of sponsored guest researchers from Germany, their counterparts are more likely to come to Germany from Asia and Pacific, North Africa and Middle East, Sub-Saharan Africa, Eastern Europe and Central Asia as well as Latin America. Sponsored guest researchers from Germany probably favour (Western) European and North American host countries due to their highly developed science systems and the long-standing academic collaboration with these countries.

Individual funding organisations have set regional funding priorities.¹ For example, in 2023, the DFG primarily sponsored visits to North

America (52%) and Western Europe (39%).⁴ The Alexander von Humboldt Foundation (AvH) also facilitated numerous visits to North America (41%) and Western Europe (31%), but also to Asia and Pacific (18%). Although the DAAD also subsidised plenty of visits to these three host regions, it pursued a more balanced regional funding policy overall. The focus of other German funding organisations was on guest visits to Western Europe (61%) and North America (14%), while that of the foreign funding organisations evaluated here was on Asia and Pacific (just under 78%) and North America (18%).

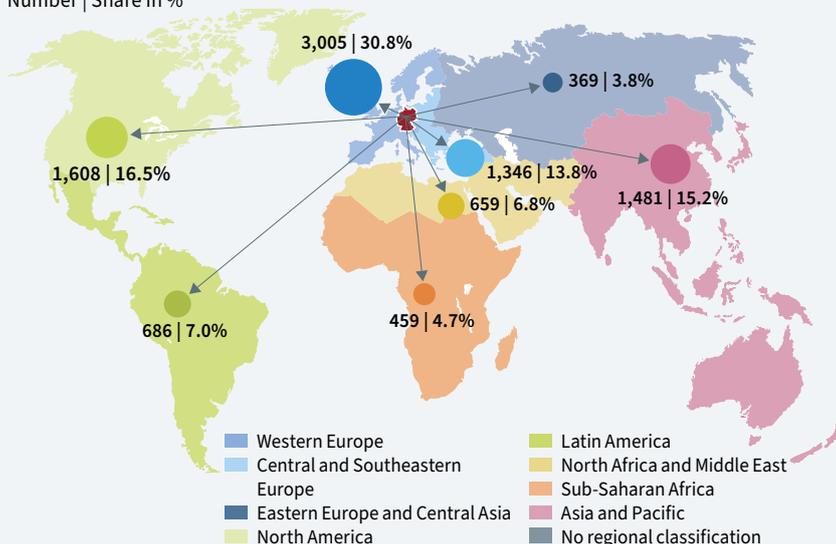
Once again in 2023, the US was still, by a clear margin, the key host country for sponsored guest researchers from Germany. Nonetheless, the DZHW survey of funding organisations found that the number of visits to the US had roughly halved until 2023, compared to ten years previously. Following a huge jump from 2021 to 2022, the number of guest visits to the US dropped slightly in 2023 (-1%). By contrast, significantly more visits abroad were registered in Japan (+160%), Switzerland (+72%) and Canada (+44%) in 2023, compared to 2022. Among the key host countries, the number of recorded guest visits in France (-9%) saw the sharpest decrease in percentage terms. Only in a few of the key host countries did the number of recipients meet (Switzerland) or exceed (Turkey) pre-pandemic levels.

Once again in 2023, large shares of sponsored guest researchers abroad were found in the two subject groups of mathematics and natural sciences and the humanities (23% each). Moreover, good shares of visits

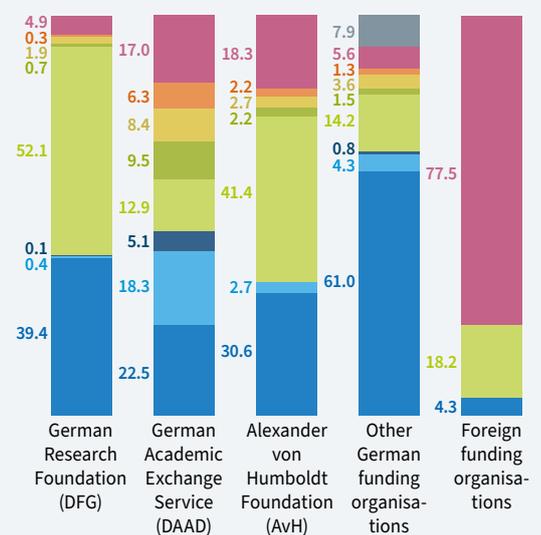
“ In 2023, slightly fewer visits were funded to the US than in 2022 (-1%) and significantly more visits were funded to Japan (+160%), Switzerland (+72%) and Canada (+44%). ”

E2.3 Funded visits abroad undertaken by guest researchers from Germany by host region and funding organisation in 2023^{1, 2, 3, 4, 5}

Number | Share in %



Share in %



Source: DZHW survey, data provided by funding organisations

abroad were funded in law, economics and social sciences (just over 21%) and engineering (just under 14%). Visits abroad were less likely to be subsidised in medicine and health sciences (6%), art and art history (3%) as well as agricultural, forestry and food sciences and veterinary medicine (2%). Unlike guest visits to Germany by academics and researchers from abroad (45% of funded guest visits were in mathematics and natural sciences, see Chapter D3.2), the visits abroad undertaken by academics and researchers from Germany were spread somewhat more evenly across the subject groups.

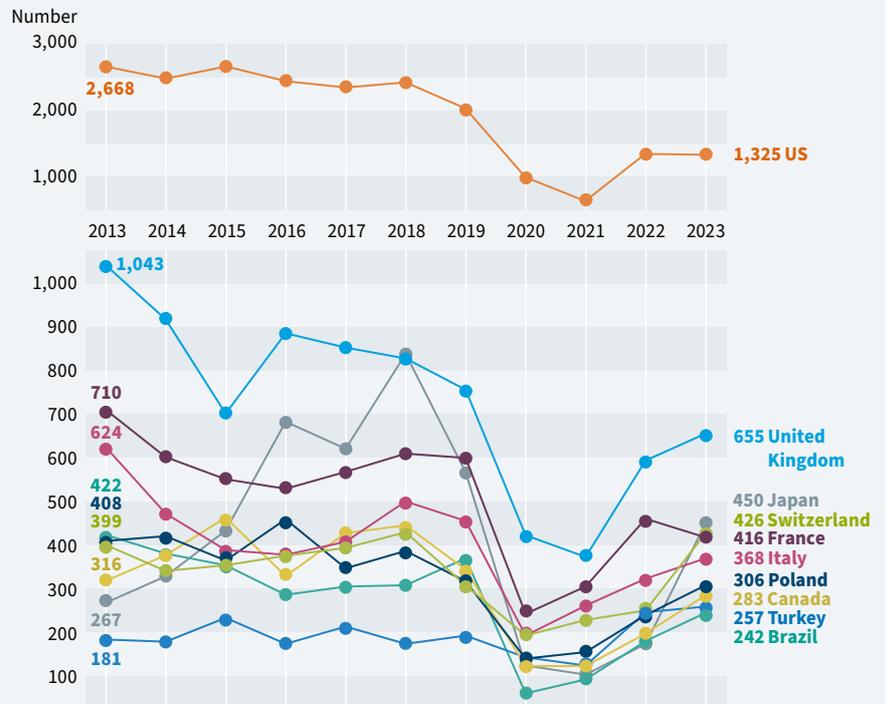
“ Some 23% each of funded visits abroad were undertaken by academics and researchers in mathematics/natural sciences on the one hand and the humanities on the other.

The individual funding organisation have clear priorities as regards the subject groups of the guest researchers they sponsor. For example, in 2023, the DFG primarily funded visits abroad by academics and researchers in mathematics and natural sciences (48%) and medicine and health sciences (38%),⁴ whereas the AvH mainly facilitated visits abroad in mathematics and natural sciences (almost 53%) and the humanities (a good 33%). As in the case of the other German funding organisations, the subject-specific funding profile of the DAAD is a great deal more balanced. No reliable conclusions can be drawn in this regard about the foreign funding organisations covered here.

* Footnotes

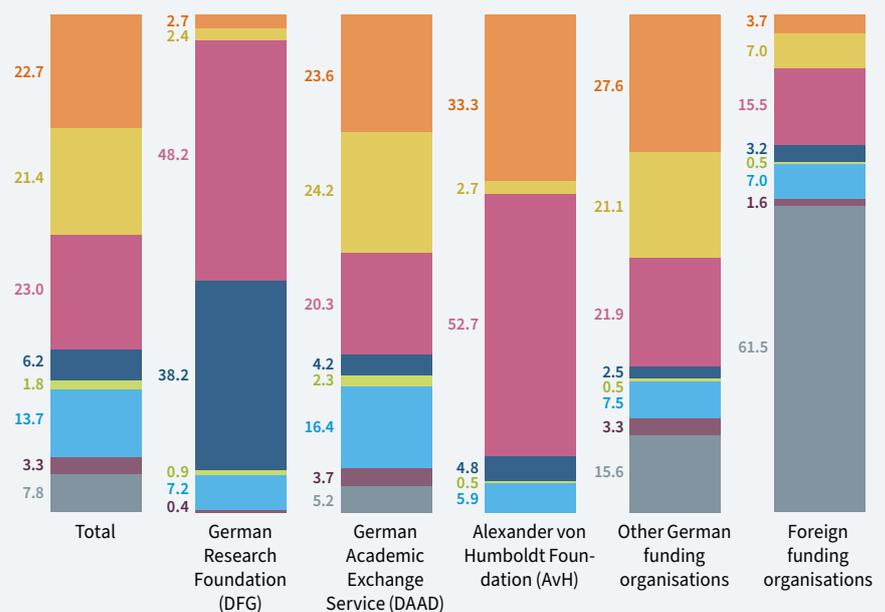
- 1 Foreign funding organisations generally sponsor visits by guest researchers from Germany to their respective countries of location.
- 2 Unlike in previous editions of *Wissenschaft weltoffen*, Greece and Cyprus are now classified as part of Central and Southeastern Europe rather than Western Europe.
- 3 Deviations from 100% are due to rounding.
- 4 Data for the DFG only include funded visits abroad undertaken by guest researchers from Germany who received funding in the form of research fellowships.
- 5 147 funded visits (1.5%) could not be assigned to any region.

E2.4 Funded visits abroad undertaken by guest researchers from Germany by key host countries since 2013



Source: DZHW survey, data provided by funding organisations

E2.5 Funded visits abroad undertaken by guest researchers from Germany by funding organisation and subject group in 2023^{1,3,4}



Share in %

- Humanities
- Law, economics and social sciences
- Mathematics and natural sciences
- Medicine and health sciences
- Art and art history
- Agricultural, forestry and food sciences, veterinary medicine
- Engineering
- Other subjects/not specified

Source: DZHW survey, data provided by funding organisations

2 Guest researchers from Germany abroad

2.3 Erasmus guest lecturers

In the 2023 funding period¹, a total of around 1,900 guest lecturers from Germany undertook a teaching visit abroad with Erasmus+ support, a decrease of 29% compared to the 2022 funding period. This figure is thus still well below the level of the funding periods preceding the pandemic.

“Once again, the key host country of Erasmus guest lecturers from Germany was Italy, followed by Spain, France and Poland.

At 36%, the largest share of Erasmus guest lecturers from Germany in the 2023 funding period was in the arts and humanities.² Nonetheless, the subject groups of business, administration and law (21%) as well as engineering, manufacturing and construction (almost 12%) also exhibited good percentages of Erasmus guest lecturers. Erasmus guest lecturers in the remaining subject groups accounted for less than 10% each of all Erasmus guest lecturers from Germany. There are only minor

Data

The data illustrated here refer exclusively to visits outside Germany undertaken as part of the EU's Erasmus+ mobility programme. The basis for the data analysis are the Erasmus statistics prepared by the DAAD (for details on the data source, see Chapter C2.4). The European Union's Erasmus+ Programme sponsors both temporary visits abroad by students and guest visits abroad by lecturers. These guest visits in Europe can last between two and sixty days. Academic staff and professors from universities and research institutes as well as business entrepreneurs are eligible for this funding. Recipients do not necessarily have to be nationals of the sending country. It is therefore possible for some Erasmus guest lecturers from Germany to be foreign nationals.

differences compared to the subject group distribution of Erasmus guest lecturers who travel to Germany for a guest lectureship (see Chapter D3.4).

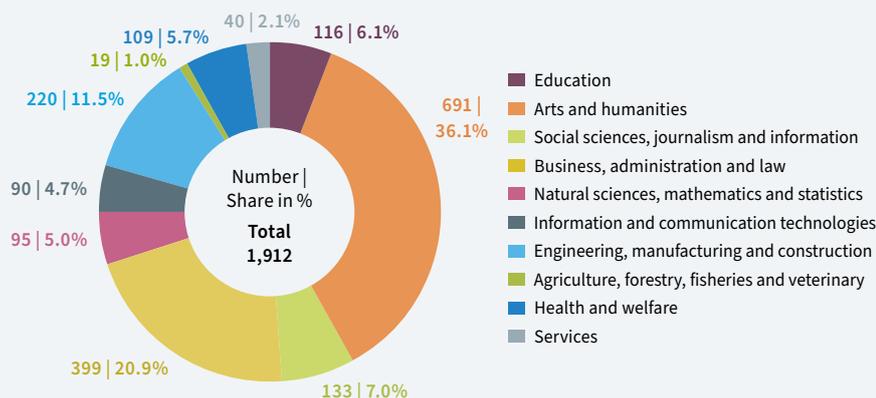
In the 2023 funding period, the largest group of Erasmus guest lecturers from Germany travelled to Southern Europe (28%). However, Central Eastern Europe (21%), Western Europe (almost 18%), as well as Northern Europe and

E2.6 Erasmus guest lecturers from Germany since the 2015 funding period¹



Source: DAAD, Erasmus statistics

E2.7 Erasmus guest lecturers from Germany by subject group in the 2023 funding period^{1,2,4}

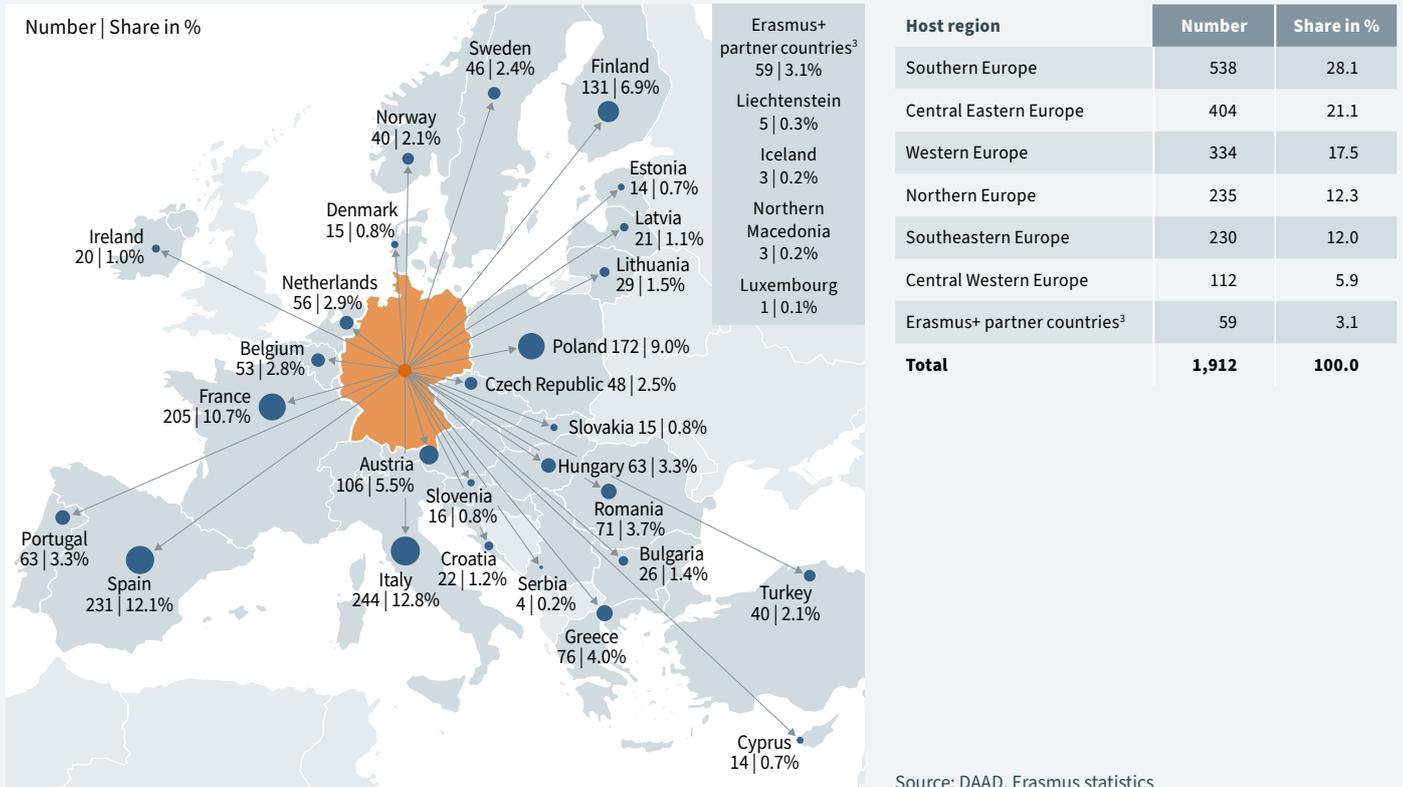


Source: DAAD, Erasmus statistics

* Footnotes

- Erasmus statistics until 2014: the respective funding period starts in the winter semester and ends in the summer semester of the following year (e.g. 2014 = WS 2013/14 and SS 2014). Erasmus+ statistics from 2015 to 2019: the funding period starts on 1 June of the previous year and ends on 31 May of the following year (e.g. 2019 = 1 June 2018 to 31 May 2020). Erasmus+ statistics from 2020 to 2021 (special Covid-19 rules): funding periods were all extended by ten months (e.g. 2021 = 1 June 2020 to 31 March 2023). Erasmus+ statistics from 2022: due to a restructuring of the programme, the funding periods now last 26 months and start on 1 June of the previous year and end on 31 July of the following year (e.g. 2023 = 1 June 2022 to 31 July 2024).
- The distribution of Erasmus guest lecturers by subject groups is only available in the ISCED classification system.
- In addition to the former associated countries Switzerland and the United Kingdom, partner countries include states from the regions of the Western Balkans, North Africa and Middle East, Central, South and East Asia, Sub-Saharan Africa, as well as North and Latin America.
- Deviations from 100% are due to rounding.
- In the 2023 funding period, there was no Erasmus mobility to Malta by guest lecturers from Germany.

E2.8 Erasmus guest lecturers from Germany by host region and host country in the 2023 funding period^{1,4,5}



Source: DAAD, Erasmus statistics

Southeastern Europe (12% each) were also popular host regions for Erasmus guest lecturers from Germany. They were less likely to choose host countries in Central Western Europe (6%) or other Erasmus+ partner countries³ (3%).

Once again, the key host country of Erasmus guest lecturers from Germany was Italy (13%), followed by Spain (12%), France (11%) and Poland (9%). Other major host countries were Finland (7%) and Austria (almost 6%).

Although Erasmus guest lectureships can last for up to two months, Erasmus guest lecturers from Germany only spent an average of 5.6 days abroad in the 2023 funding period, a further slight decline compared to the previous funding period. The longest average visit duration was recorded for guest lecturers in Cyprus (10 days) and the shortest average visit duration for guest lecturers in Luxembourg (3 days). However, these averages are, in part, calculated based on a small number of cases.

E2.9 Erasmus guest lecturers from Germany by host country and average visit duration in the 2023 funding period^{1,5}

Host country	Duration Ø Days	Host country	Duration Ø Days	Host country	Duration Ø Days
Cyprus	10.2	Sweden	5.8	Northern Macedonia	5.0
Estonia	6.9	Greece	5.7	Hungary	5.0
Romania	6.8	Ireland	5.6	Poland	4.9
Iceland	6.7	Slovakia	5.6	Austria	4.7
United Kingdom	6.4	Czech Republic	5.6	Latvia	4.5
Bulgaria	6.3	Spain	5.5	Denmark	4.1
Finland	6.3	Slovenia	5.5	Netherlands	4.0
Croatia	6.0	Belgium	5.5	Serbia	4.0
Italy	5.9	Lithuania	5.4	Luxembourg	3.0
Portugal	5.9	France	5.4	Total	5.6
Turkey	5.8	Norway	5.2		

Source: DAAD, Erasmus statistics

1.1 International administrative staff at universities in Germany

In addition to international academic staff, international administrative staff also play a major role in facilitating the internationalisation of studies and research in Germany.¹ Nonetheless, unlike academic staff, administrative staff with foreign citizenship still only account for a small percentage of the total staff – a mere 4.5% in 2023. However, this

share has gradually increased in recent years, up from 3.2% in 2016. A closer look at the absolute number of international staff in university administration reveals dynamic growth: between 2016 and 2023, their number skyrocketed by 134%, and by 15% between 2022 and 2023 alone.

F1.1 International administrative staff at universities in Germany and their share of all administrative staff since 2016

Year	International administrative staff							
	2016	2017	2018	2019	2020	2021	2022	2023
Share in %	3.2	3.2	3.5	3.8	3.8	4.0	4.2	4.5
Number	601	641	751	887	969	1,091	1,228	1,406

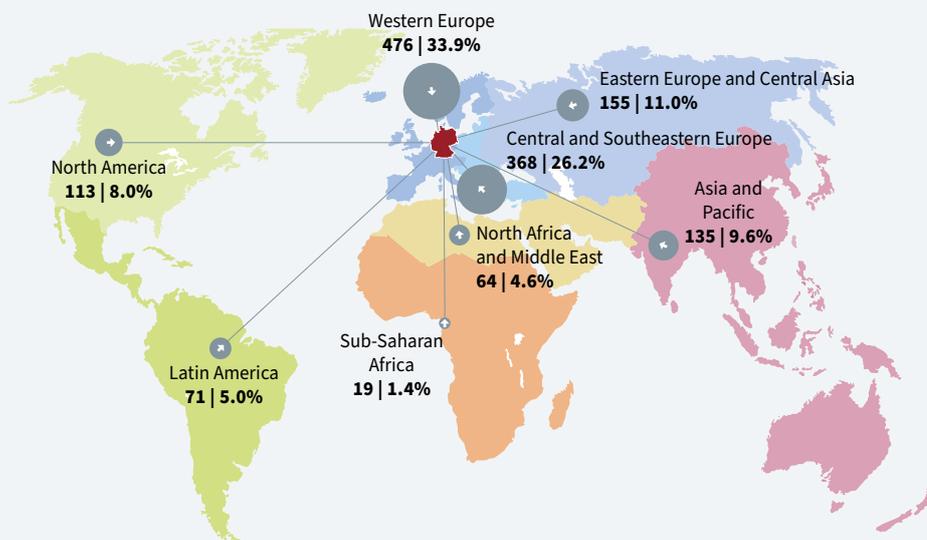


Source: Federal Statistical Office, “Statistik des Hochschulpersonals”; DZHW calculations

“ The number of international administrative staff skyrocketed by 134% between 2016 and 2023, whereas their share of administrative staff overall remained low at just 4.5% in 2023.

The majority of international administrative staff at universities in Germany come from European regions of origin. In 2023, some 71% of international administrative staff were nationals of countries in Western Europe (34%), Central and Southeastern Europe (26%) or Eastern Europe and Central Asia (11%). Fewer international administrative personnel came from Asia and Pacific (10%), North America (8%), Latin America (5%), North Africa and Middle East (5%) or Sub-Saharan Africa (about 1%). Thus, the regions of origin of international administrative staff differ significantly from those of international academic staff. Academic staff are proportionately less likely to hail from Europe or North America, but more frequently come from Asia and Pacific or North Africa and Middle East (see Chapter D1.1).

F1.2 International administrative staff at universities in Germany by region of origin and key countries of origin in 2023²



Key countries of origin	Number	Share in %
Austria	111	7.9
US	99	7.0
Italy	89	6.3
Russia	83	5.9
Poland	72	5.1
France	59	4.2
Turkey	52	3.7
Greece	45	3.2
Netherlands	44	3.1
China	43	3.1
Total	1,406	100.0

Total international administrative staff at universities in Germany in 2023: 1,406 (including 5 employees (0.4%) of universities in Germany with foreign citizenship who could not be assigned to any region of origin)

Number and share in % of all international administrative staff at universities in Germany

Source: Federal Statistical Office, “Statistik des Hochschulpersonals”; DZHW calculations

Differentiating by individual countries of origin shows that international administrative staff come from a wide range of countries. Administrative staff from Austria form the largest group (8%), followed by those from the US (7%), Italy and Russia (roughly 6% each) as well as Poland (5%).

Over 71% of international administrative staff work in the various central institutions. Compared to administrative staff overall, almost 81% of whom work in the central institutions, international administrative staff are under-represented in the central institutions – yet over-represented in the faculties (findings not displayed graphically).

The share of international administrative staff of all administrative staff is relatively high in the subject groups of the humanities, mathematics and natural sciences (10% each) and relatively low in agricultural, forestry and food sciences (about 4%), the central institutions excluding university clinics (4%) and the central facilities of university clinics (3%).

“ International administrative staff at universities in Germany come from many different countries of origin, most of which are in Europe.

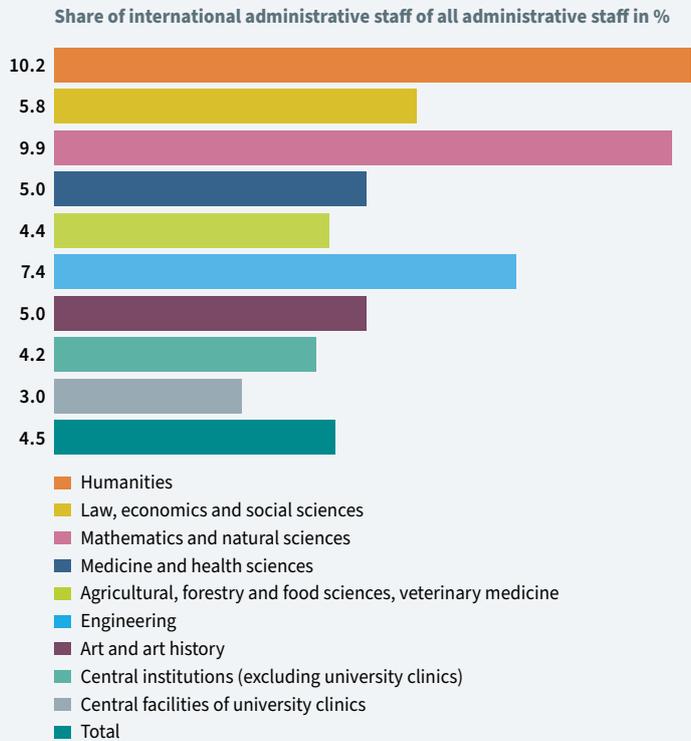
Broken down by type of university, the share of international administrative staff of all administrative staff varies only slightly. The share is somewhat higher at universities (5%) than at universities of applied sciences (UAS: 3%), with colleges of art and music in the middle at almost 4%.

Differentiating by university sponsorship reveals more significant variations: the share of international administrative staff of all administrative staff is considerably higher at private universities (11%) than at public universities (4%).

* Footnotes

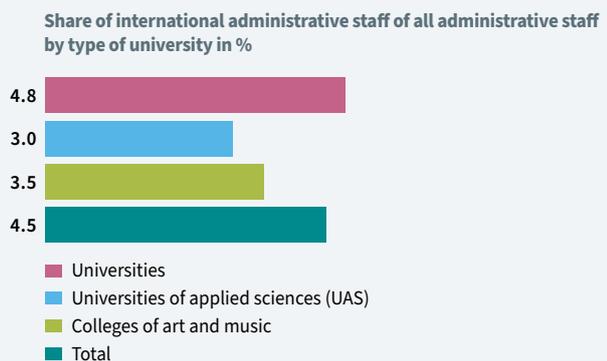
- 1 International administrative staff refers to employees of universities in Germany who are foreign nationals (see the glossary in the appendix).
- 2 Deviations from 100% are due to rounding.
- 3 Figures for universities including colleges of education and theology.
- 4 Figures for private universities including church-run universities.

F1.3 International administrative staff at universities in Germany by subject group in 2023

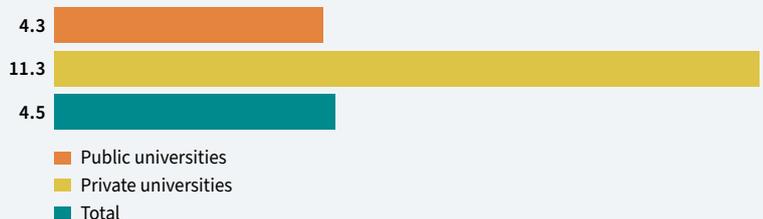


Source: Federal Statistical Office, “Statistik des Hochschulpersonals”; DZHW calculations

F1.4 International administrative staff at universities in Germany by type of university and sponsorship in 2023^{3,4}



Share of international administrative staff of all administrative staff by university sponsorship in %



Source: Federal Statistical Office, “Statistik des Hochschulpersonals”; DZHW calculations

1.2 Staff of international offices at universities in Germany

Especially important in promoting the internationalisation of universities are the staff of the international offices, some of whom are employed in administration and some as academic staff. In 2024, the vast majority of public universities in Germany had an international office. On the respective university websites, no information could be found regarding a specific organisational unit with the task of facilitating internationalisation processes in the case of just one university of applied sciences (UAS) and one college of art and music. The internationalisation activities of these two higher education institutions were carried out entirely by other administrative areas and the faculties themselves.

A total of 2,775 staff working in the international offices of public universities were identified in June and July 2024.¹ Of these, 452 employees (16%) were documented at the 15 technical universities, 667 employees (24%) at the 19 considered large universities with more than 25,000 students, compared to 364 employees (13%) at the 17 medium-sized universities with between 15,000 and 25,000 students, and 357 employees (13%) at the 29 small universities with fewer than 15,000 students. Meanwhile, 586 employees (21%) worked at the 60 large UAS with over 5,000 students, and 228 employees (8%) at the 45 small UAS with up to 5,000 students. Lastly, 30 employees (1%) manned the international offices of the six colleges of education and 91 employees (3%) those of the 45 colleges of art and music considered.

Data

The data on the staff of international offices at universities in Germany were taken from the university websites as part of an internet search by the DZHW. The data collected relate only to public universities, universities of applied sciences (UAS), colleges of art and music and colleges of education. Colleges of public administration, church-run and private universities were not taken into consideration. The vast majority of the universities considered have separate organisational units that foster the internationalisation of studies, teaching and research. Not only are they integrated differently into the university infrastructure, they are often also known by different names, depending on the university. For the sake of simplicity and readability, the term “international office” is used here for these organisational units.

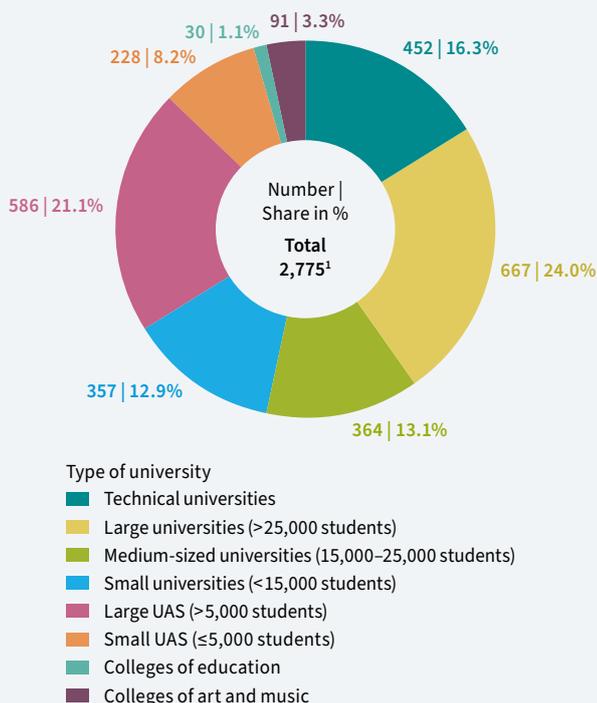
International offices vary enormously with regard to the specific scope of their activities. Some tasks may be the responsibility of the international office at one university but assigned to other departments at the next. Nevertheless, the data collected relate only to the staff of international offices. Employees involved in internationalisation activities in other departments were not included. Some international offices are also in charge of language courses at the university. The teaching staff responsible for such courses were not factored in. This also applies to vice presidents, other members of the university leadership and professors, in case they were assigned to international offices.

The survey recorded the number of employees, but not their positions as full-time equivalents. The staff of international offices may have different working hours, which reduces comparability of the data collected for different universities. The data nevertheless give an overview of the internationalisation staff at public universities.

The employees of international offices were documented for the vast majority of public universities. Nonetheless, no staff could be documented for one UAS and one college of art and music because, according to their websites, they did not have an international office at the time of research. Moreover, although they have international offices, no data could be recorded on the staff employed there at two large universities and two large UAS, as this information was not accessible to the general public.

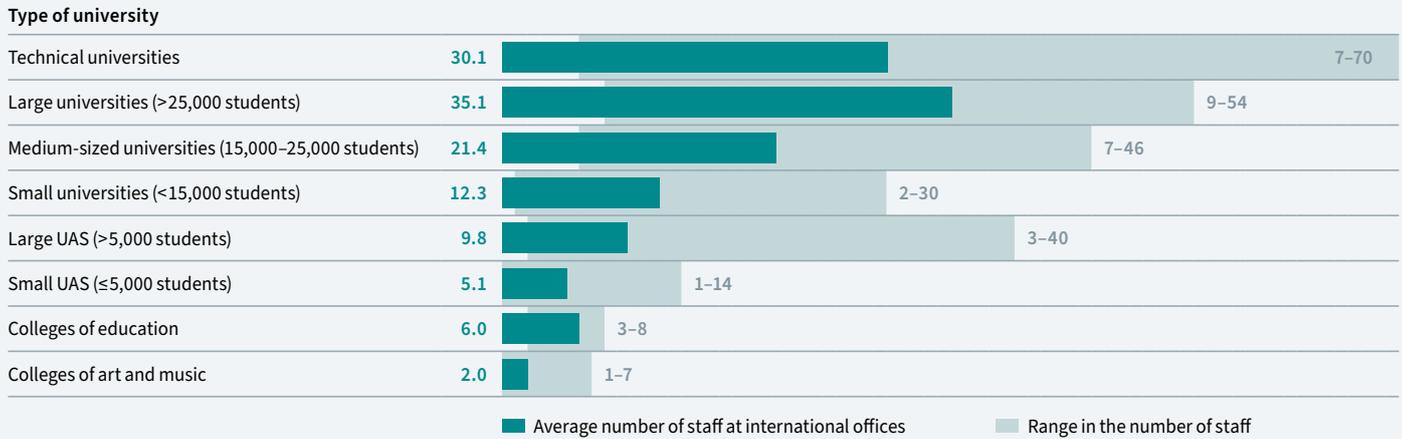
The data were compiled in June and July 2024. As documenting the staff of international offices is extremely time-consuming, the survey is not carried out on an annual basis.

F1.5 Number of staff at international offices by type and size of university in 2024¹



Source: DZHW website searches, information on university websites

F1.6 Average number and range in the number of staff at international offices by type and size of university in 2024¹

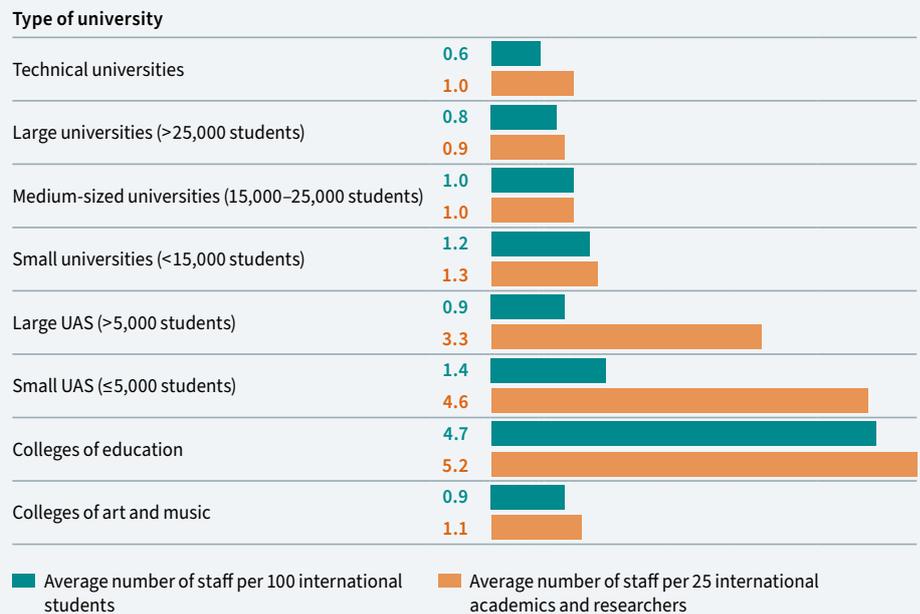


Source: DZHW website searches, information on university websites

The average number of staff and the range of the size of teams in the international offices vary strongly across the different types of university. In 2024, most employees worked in the international offices of the large universities on average (35), followed by the technical universities (30), medium-sized universities (21) and small universities (12). It should be noted that technical universities include large, medium-sized and small universities. On average, the international offices of large UAS employed ten members of staff and those of small UAS five members of staff, compared to six at colleges of education and just two at colleges of art and music. The range in the number of staff was particularly wide at technical universities (7-70 employees) and particularly narrow at colleges of education (3-8) and colleges of art and music (1-7).

The number of employees in the international offices tends to rise along with the number of (international) students at the universities. However, an analysis of the ratio between the numbers of staff in international offices and international students, academics and researchers shows that these increases are not linear. In fact, the abovementioned ratios are comparatively low at universities, which generally have more (international) students than other types of university. By contrast, the ratios are relatively high at the usually smaller colleges of education and – with regard to international academics and researchers – at UAS. Although most colleges of art and music are small institutions, the ratios observed here were rather low, similar, in fact, to those found at universities. It may be assumed that international offices benefit from economies of scale; therefore, it is not strictly necessary that the number of staff they employ increases in linear proportion to the number of (international) students.

F1.7 Average number of staff at international offices per 100 international students and per 25 international academics and researchers by type and size of university in 2024¹



Source: DZHW website searches, information on university websites

* Footnote

1 No staff could be documented for one UAS and one college of art and music because, according to their websites, they did not have an international office at the time of research. Moreover, although they have international offices, no data could be recorded on the staff employed there at two large universities and two large UAS, as this information was not accessible to the general public.

2.1 English-language study programmes at universities in Germany

The number and percentage of English-language study programmes are indicators of the internationalisation of higher education at the structural level. According to the data analysed here from the Higher Education Compass of the German Rectors' Conference (HRK), state-recognised universities offered a total of 2,381 English-language study programmes in July 2025, 424 (18%) of which were bachelor's programmes and 1,928 (81%) were master's programmes.¹

The number of English-language study programmes has risen steadily over time. Between 2009 and 2025, the number of programmes increased almost sevenfold at bachelor's level and more than fivefold at master's level. Between 2024 and 2025 alone, the number of English-language bachelor's programmes increased by 16% and that of master's programmes by 8%. As a result of this development, over 96% of all state-recognised universities offered at least one English-language study programme in 2025 (finding not displayed graphically).

The share of English-language study programmes of all programmes is particularly high at master's level – over 18% in 2025, compared to just 4% at bachelor's level. In relative terms, this discrepancy was even greater still in 2009 (master's: 9%, bachelor's: 1%).

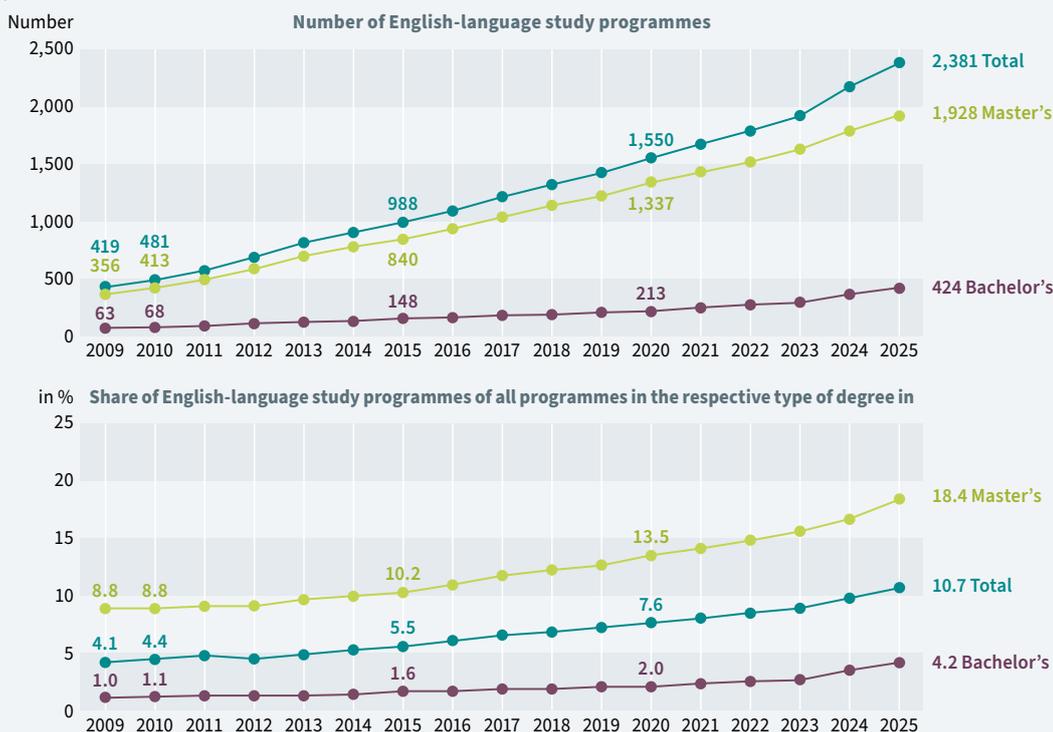
In 2025, 71% of all English-language study programmes were offered in the three subject groups of mathematics and natural sciences (over 27%), economics and law (25%) and engineering (almost 19%).²

Compared with the subject group distribution of all study programmes, English-language study programmes were clearly over-represented in the aforementioned subject groups. Accordingly, the proportion of English-language study programmes of all programmes in these subject groups was particularly high (mathematics and natural sciences: 21%, economics and law: 19%, engineering: 13%). The highest percentage was recorded in the agriculture and forestry subject group (24%); however, just 58 English-language study programmes were on offer in this subject group. By contrast, the share of English-language study programmes was particularly low in medicine and health sciences (about 6%), art, music and design (almost 6%), but most notably in teacher training (2%).

Differentiating by type of university shows that universities offer a disproportionately large number of English-language study programmes. In 2025, they offered 60% of the study programmes overall but 64% of the English-language study programmes. Accordingly, the proportion of English-language study programmes of all programmes was highest at universities (almost 12%). This proportion was slightly lower at universities of applied sciences (UAS 11%) and substantially lower at colleges of art and music (2%).

Moreover, differentiating by university sponsorship reveals the exceptionally strong commitment of private universities when it comes to English-language study programmes. Despite only offering just under

F2.1 English-language study programmes at universities in Germany by type of degree since 2009¹

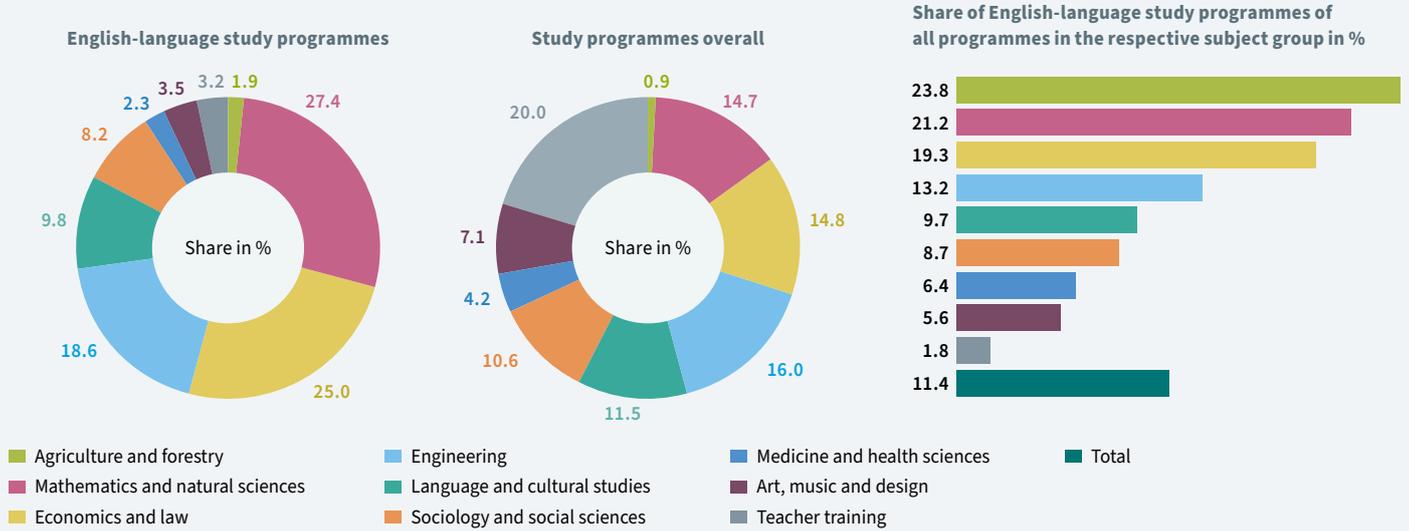


Source: German Rectors' Conference (HRK), Higher Education Compass; DZHW calculations

* Footnotes

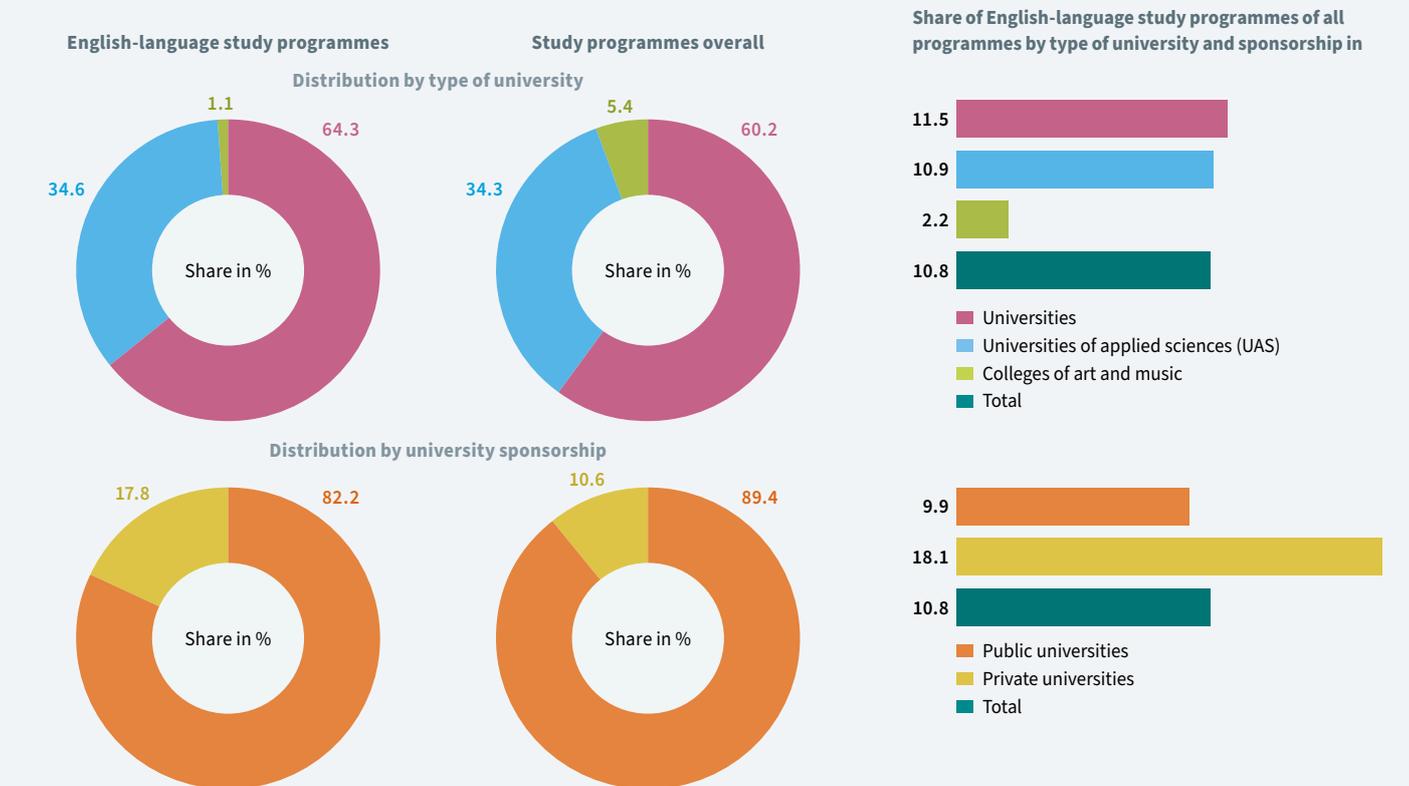
- 1 Although the category "Total" includes study programmes that lead to degrees other than bachelor's or master's, 99% of the programmes considered are bachelor's or master's programmes.
- 2 Subject groups according to the classification of the German Rectors' Conference.
- 3 Including multiple answers, as the study programmes in the Higher Education Compass of the German Rectors' Conference can be assigned to several subject groups.
- 4 Deviations from 100% are due to rounding.
- 5 Figures for universities including colleges of education and theology.
- 6 Figures for private universities including church-run universities.

F2.2 English-language study programmes at universities in Germany by subject group in 2025^{2,3,4}



Source: German Rectors' Conference (HRK), Higher Education Compass; DZHW calculations

F2.3 English-language study programmes at universities in Germany by type of university and sponsorship in 2025^{4,5,6}



Source: German Rectors' Conference (HRK), Higher Education Compass; DZHW calculations

11% of all study programmes in 2025, the private universities offered 18% of the English-language study programmes. Consequently, the proportion of English-language programmes of all study programmes

at private universities (18%) was considerably greater than at public universities (10%). This is a reflection of the efforts made by many private universities to attract international students.

2.2 International partnerships of universities in Germany

Agreements between universities in Germany and universities in other countries form the basis for the international mobility and exchange of students, academics and researchers. Not only are they instrumental in facilitating academic progress and new scientific findings, but they also strengthen the intercultural skills of all those taking part. The agreements in place ensure that the international collaboration is goal-oriented and permanent.

“In July 2025, universities in Germany were engaged in around 37,000 international university partnerships.

According to the Higher Education Compass of the German Rectors' Conference (HRK), universities in Germany were engaged in roughly 37,000 partnerships with universities in other countries in July 2025. The number of international university partnerships has thus risen by 3% in one year.

In 2025, public universities were involved in just under 93% and private universities in just under 8% of the international university partnerships recorded. While public-sector universities engaged in almost twice as many international partnerships as public-sector universities of applied sciences (UAS), this ratio was more balanced in the private sector.

Universities in Baden-Württemberg (18%), Bavaria (15%) and North Rhine-Westphalia (a good 14%) reported comparatively large numbers of international partnerships. These three federal states alone accounted for almost half (48%) of all international partnerships recorded. Not only are these federal states home to numerous universities, several large universities are also located there, explaining the large number of university partnerships recorded in these federal states. In contrast, fewer international partnerships were maintained in federal states with fewer, mainly smaller universities, such as Schleswig-Holstein, Bremen, Mecklenburg-Western Pomerania (almost 2% each) and Saarland (1%).

F2.4 International university partnerships by type of university and sponsorship in 2025¹

Type of university	International university partnerships	
	Number	Share of all partnerships in %
Public universities	34,147	92.5
Universities	22,982	62.3
UAS	11,165	30.2
Private universities ²	2,761	7.5
Universities	1,320	3.6
UAS	1,441	3.9

Source: German Rectors' Conference (HRK), database of international university partnerships; DZHW calculations

Data

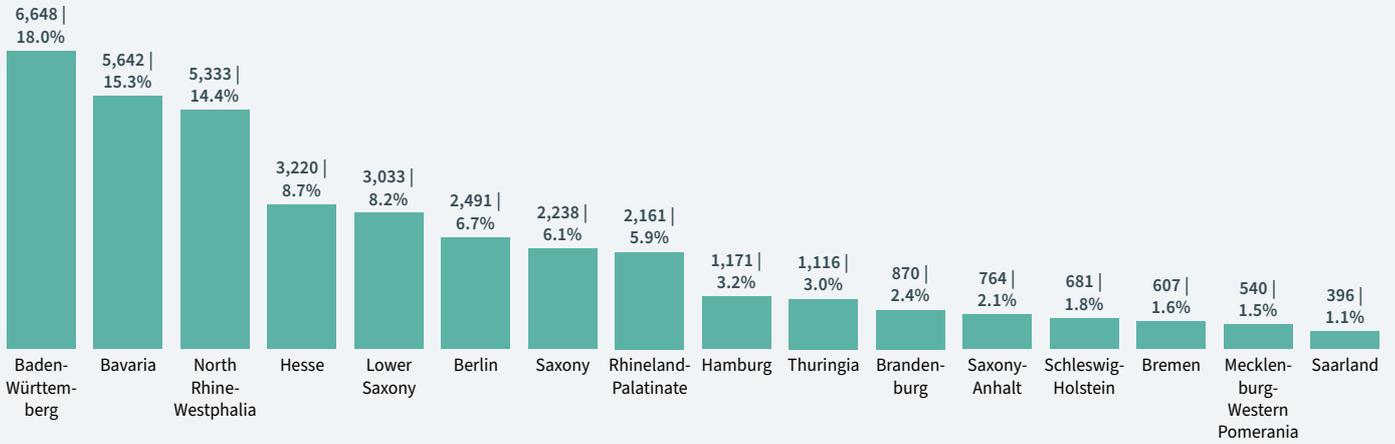
Data on partnerships between universities in Germany and universities in other countries are collated and made available in a database by the German Rectors' Conference (HRK, www.internationale-hochschulkooperationen.de/en/international-university-partnerships.html). The data are provided to the HRK by the individual higher education institutions on a regular basis. International university partnerships are usually written agreements signed at the institutional leadership level. Such partnerships also include contracts for international collaboration within the framework of Erasmus+. Collaboration with partner institutions abroad can also be arranged in writing or orally by single departments, faculties, institutes or chairs. Thus, the partnerships cover a wide range of exchange activities, such as the exchange of students and university staff as well as teaching collaboration (e.g. mutual recognition of academic achievements, joint study programmes and degrees), research consortia (joint projects, graduate schools, joint conferences and joint publications) and collaboration in institutional development. The findings on international university partnerships presented here are based on an analysis carried out in July 2025.

In 2025, universities in Germany had by far the most partnerships with universities in other Western European countries (42%). France, Spain and Italy were the countries with which the most cooperation agreements were in place, with the United Kingdom and Austria trailing some way behind. This regional pattern reflects the preferences of students, academics and researchers in selecting host countries for their visits abroad (see Chapters C2.1 and E2.2). The second highest number of partnerships were with universities in Central and Southeastern Europe (just under 20%), particularly with those in Poland and Turkey. The third most frequent associations of universities in Germany were with universities in Asia and Pacific (almost 15%), especially with those in China and Japan.

* Footnotes

- 1 In July 2025, the German Rectors' Conference database recorded a total of 36,960 international university partnerships. For 52 of these partnerships, the participating university in Germany and thus the type of university and sponsorship could not be identified.
- 2 Figures for private universities including church-run universities.
- 3 In the case of 49 international partnerships, the federal state of the participating university in Germany could not be identified.
- 4 Deviations from 100% are due to rounding.
- 5 Due to Russia's war of aggression against Ukraine, it may be assumed that the majority of alliances with universities in Russia have currently been suspended.

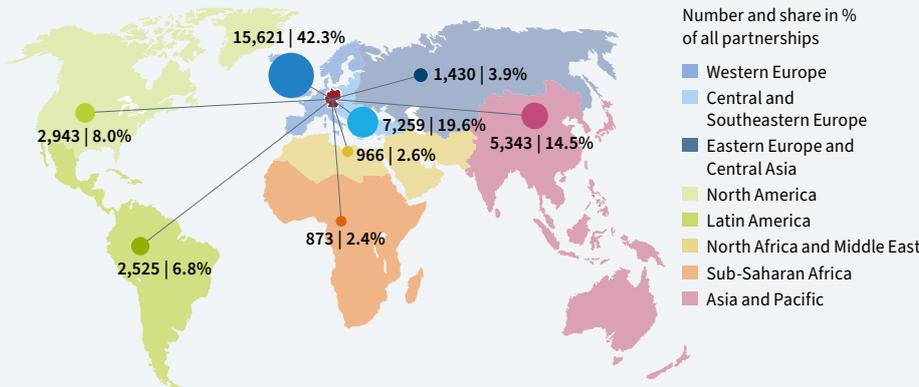
F2.5 International university partnerships by federal state in 2025^{3,4}



Number | Share of all partnerships in %

Source: German Rectors' Conference (HRK), database of international university partnerships; DZHW calculations

F2.6 International university partnerships by world region and key countries in 2025⁴



Number and share in % of all partnerships

- Western Europe
- Central and Southeastern Europe
- Eastern Europe and Central Asia
- North America
- Latin America
- North Africa and Middle East
- Sub-Saharan Africa
- Asia and Pacific

World region/country	Latin America	
	Number	Share in %
Brazil	658	1.8
Mexico	499	1.4
Chile	320	0.9
Argentina	301	0.8
Colombia	297	0.8

World region/country	North Africa and Middle East	
	Number	Share in %
Israel	305	0.8
Jordan	129	0.3
Egypt	110	0.3
Morocco	81	0.2
Tunisia	72	0.2

World region/country	Western Europe	
	Number	Share in %
France	2,851	7.7
Spain	2,660	7.2
Italy	2,144	5.8
United Kingdom	1,313	3.6
Austria	871	2.4

World region/country	Eastern Europe and Central Asia	
	Number	Share in %
Russia ⁵	587	1.6
Ukraine	358	1.0
Georgia	134	0.4
Kazakhstan	111	0.3
Uzbekistan	83	0.2

World region/country	Sub-Saharan Africa	
	Number	Share in %
South Africa	260	0.7
Kenya	75	0.2
Ghana	65	0.2
Namibia	57	0.2
Tanzania	50	0.1

World region/country	Central and Southeastern Europe	
	Number	Share in %
Poland	1,518	4.1
Turkey	1,458	3.9
Czech Republic	626	1.7
Hungary	600	1.6
Romania	533	1.4

World region/country	North America	
	Number	Share in %
US	2,320	6.3
Canada	623	1.7

World region/country	Asia and Pacific	
	Number	Share in %
China	1,269	3.4
Japan	870	2.4
South Korea	653	1.8
Australia	553	1.5
India	500	1.4

Source: German Rectors' Conference (HRK), database of international university partnerships; DZHW calculations

The remaining regions of the world did not figure prominently. Another important country for international university partnerships was the US, with which universities in Germany had concluded 6% of all cooperation agreements recorded. Russia⁵ and Ukraine were the

countries with the most university partnerships maintained in Eastern Europe and Central Asia, along with Brazil and Mexico in Latin America, Israel in North Africa and Middle East plus South Africa in Sub-Saharan Africa.

2.3 International third-party funding at universities in Germany

The volume of international third-party funding can also be regarded as a structural indicator of internationalisation. Third-party funding often constitutes the basis for international university partnerships (see Chapter F2.2) and for conducting research into issues of international relevance.

After the total volume of international third-party funding acquired by universities in Germany slumped temporarily in 2021, presumably due to the Covid-19 pandemic, the upward trend observed in previous years has continued since 2022. In 2023, this volume reached a new high of €1.22 billion, doubling since 2010 and up by 36% since 2020.

The recently observed upward trend can chiefly be explained by the further acquisition of EU third-party funding. Since 2021, the volume of EU funding at universities in Germany has risen by 44%, whereas funds provided by other international organisations have only gone up by 6%.

The volume of international third-party funding has developed differently depending on the type of university. While the growth rate was significantly higher at universities of applied sciences (UAS: +145%) than at universities (+41%) between 2010 and 2020, the gains recorded between 2020 and 2023 were of a similar magnitude (universities: +35%, UAS: +36%). Interestingly, the volume of international third-party funding slowed down temporarily at universities during the Covid-19 pandemic, yet continued to rise at UAS, although the number of UAS declined during this period.¹ As a result of the developments presented, universities raised as much as 90% of all international third-party funding in 2023. In terms of funding from international organisations other than the EU, their share was even higher (universities: 95%, UAS: 5%).

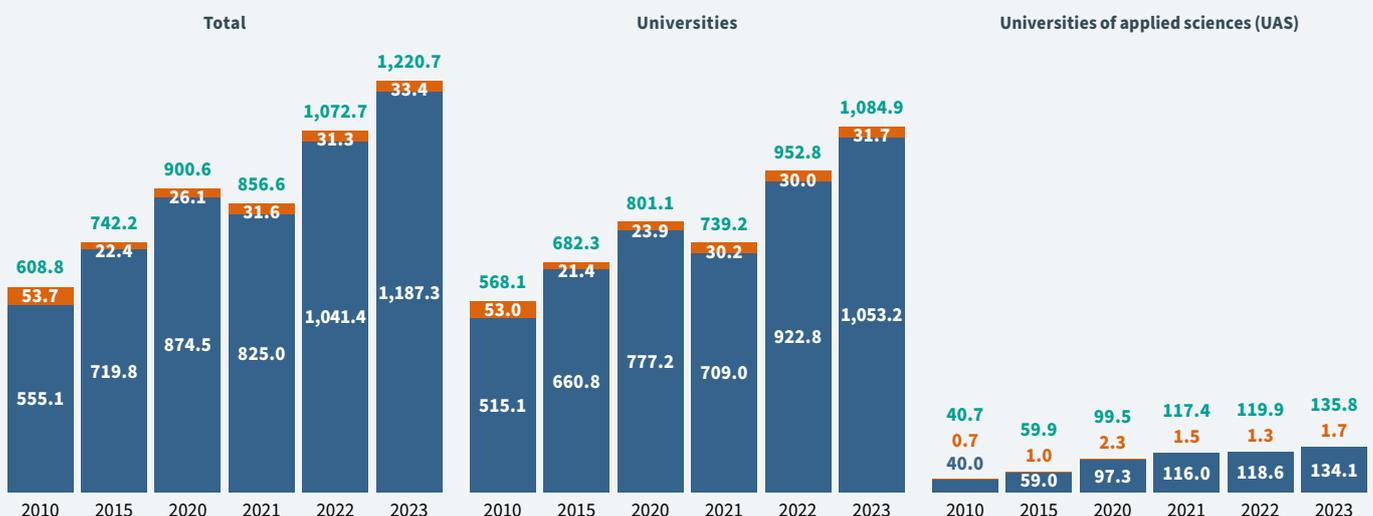
Although the volume of international third-party funding at universities in Germany has increased considerably in recent years, it still only accounts for a relatively small percentage of all third-party funding raised. In 2023, the share of international of all third-party funding was a good 11% at universities and just under 13% at UAS.

“ In 2023, universities in Germany secured a record volume of approximately €1.22 billion in international third-party funding.

The proportion of international of all third-party funding varies widely by federal state. As in previous years, the new (East German) federal states generally achieved above-average shares of international third-party funding in 2023. These shares were exceptionally high at universities in Thuringia (35%) and Saxony-Anhalt (over 29%) and at UAS in Schleswig-Holstein (30%), Mecklenburg-Western Pomerania, Hamburg (27% each) and Brandenburg (26%). By contrast, the lowest percentages were found at universities in Schleswig-Holstein (6%) and Bremen (8%) and at UAS in Bremen (2%) and Saxony-Anhalt (8%).

These state-specific and university-type-specific averages are heavily influenced by the success of individual universities in raising international third-party funding. Individual universities differ substantially in terms of both the absolute amount of their international third-party funding and the share of international of all their third-party funding raised. Once again, flagship universities topped the leader board of the 15 universities

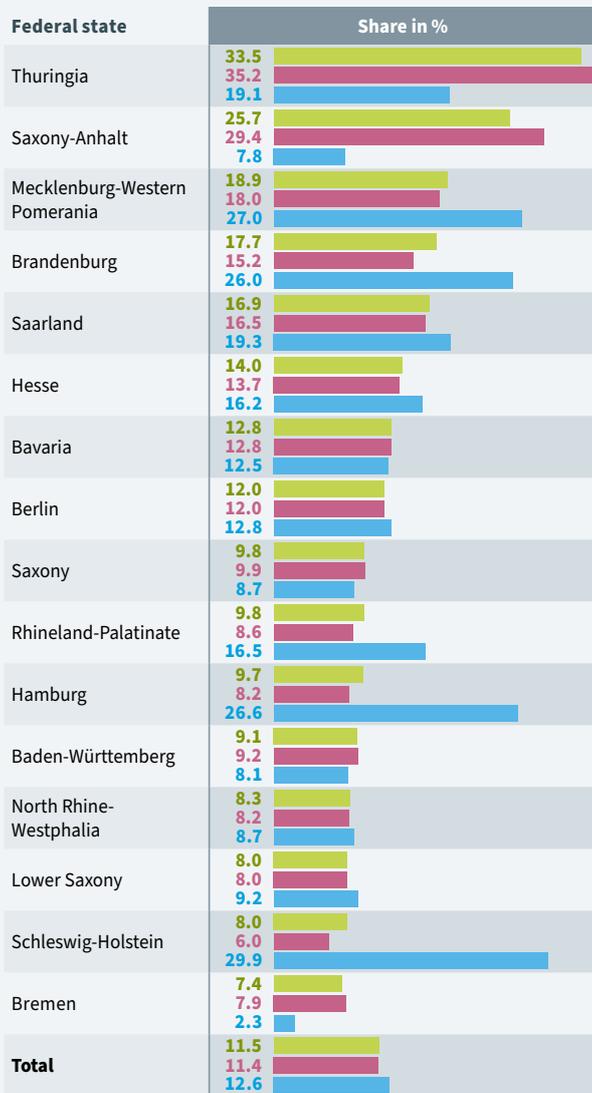
F2.7 International third-party funding at universities in Germany by type of university since 2010²



In millions of euros: xx Total third-party funding ■ EU third-party funding ■ Funding from other international organisations

Source: Federal Statistical Office, “Finanzen der Hochschulen”

F2.8 Share of international third-party funding of all third-party funding by federal state and type of university in 2023²



Share in %:
■ Total ■ Universities ■ UAS

Source: Federal Statistical Office, "Finanzen der Hochschulen"; DZHW calculations

F2.9 The 15 universities with the most international third-party funding in 2023

Universities	International third-party funding in million euros
Friedrich Schiller University of Jena	93.9
Technical University of Munich	71.2
Ludwig-Maximilians-Universität München	46.6
Dresden University of Technology	46.0
Technical University of Darmstadt	38.3
Otto von Guericke University Magdeburg	34.6
Heidelberg University	30.3
Technische Universität Berlin	29.3
RWTH Aachen University	24.8
Friedrich-Alexander-Universität Erlangen-Nürnberg	24.5
University of Hamburg	24.3
Goethe University Frankfurt	21.8
University of Tübingen	21.4
Humboldt-Universität zu Berlin	20.8
University of Cologne	20.7

Source: Federal Statistical Office, "Finanzen der Hochschulen"; DZHW calculations

F2.10 The 15 universities with the highest shares of international third-party funding of all third-party funding in 2023

Universities	Share of international third-party funding in %
International University SDI München	100.0
Proবাদis School of International Management and Technology	100.0
Karlshochschule International University	94.4
Academy of Fine Arts Nuremberg	91.7
Academy of Fine Arts Leipzig	69.5
TH Bingen	50.8
Dresden College of Music	48.7
Nordhausen University of Applied Sciences Nordhausen	48.2
Hochschule für öffentliche Verwaltung Bremen	47.9
Johanniter University of Applied Sciences	47.3
FH Westküste University of Applied Sciences	45.8
Friedrich Schiller University of Jena	42.6
Nürtingen-Geislingen University	41.5
Wismar University of Applied Sciences	40.7
SRH Fernhochschule Riedlingen	40.5

Source: Federal Statistical Office, "Finanzen der Hochschulen"; DZHW calculations

with the most international third-party funding in 2023. The frontrunner was Friedrich Schiller University of Jena (€94 million), followed by the Technical University of Munich (€71 million). Following further behind were Ludwig-Maximilians-Universität München (just under €47 million) and Dresden University of Technology (€46 million).

A look at the shares of international third-party funding of all third-party funding results in a completely different ranking. Heading this list in 2023 were UAS with different thematic focuses. Some UAS obtain their – in absolute terms, usually limited – third-party funding (almost) exclusively from international sources, like the SDI München, the Proবাদis School of International Management and Technology in Frankfurt am Main (100% each), the Karlshochschule International University in Karlsruhe (over 94%) and the Academy of Fine Arts in Nuremberg (92%). Friedrich Schiller University of Jena also made the Top 15 in 2023 due to its enormous success in attracting international third-party funding.

* Footnotes

- 1 Authoring Group Educational Reporting (2024, p. 204).
- 2 Figures for universities including colleges of art, music, education and theology.

A guest article by Dr. Eva Maria Vögtle and Giorgio Marinoni



Dr. Eva Maria Vögtle was the research director of the INDISTRA project. She joined the EUROSTUDENT team at the German Centre for Higher Education Research and Science Studies (DZHW) in 2025 and is the projects' student mobility expert.



Giorgio Marinoni is the Manager of Higher Education and Internationalization at the International Association of Universities (IAU). He oversees internationalisation as one of the four strategic priorities of the Association. Among his responsibilities at IAU are research projects, advisory services and external representation of the Association on all aspects of internationalisation.

Digitalisation is reshaping structures and processes in higher education. It allows for a rethinking of key areas such as study organisation, teaching and student mobility – all of which influence internationalisation efforts. Prior to the Covid-19 pandemic, the potential of digitalisation to support internationalisation activities was not fully exploited. This changed during the pandemic. Crucially, the long-term effects of the pandemic-driven digitalisation on the internationalisation strategies of public higher education institutions (HEI) in Germany remain largely unexplored. Against this background, this spotlight highlights selected findings from a recent report (Vögtle et al., 2025) comparing results from two research projects: the qualitative research project *Internationalisation in the Digital Transformation: Strategies from German Higher Education Institutions (INDISTRA)* and the quantitative *6th Global Survey on Internationalisation of Higher Education from the International Association of Universities (IAU)* (see the info box on the data). Unlike the comparative study, this spotlight focuses on selected results of the IAU survey and adds findings of the INDISTRA interviews in a condensed way; it does not go into the details of the expert interviews conducted in the INDISTRA project. By focusing on drivers, priorities and challenges of virtual internationalisation (VI)¹, this spotlight presents three of the many topics covered in the comparative report.

Key drivers of virtual internationalisation at HEIs in Germany

Regarding the most important **external drivers** of internationalisation, the IAU Global Survey shows that demographic trends are considered one of the most crucial external drivers, with 42% of the HEIs surveyed regarding it as very important (see Fig. FS1). The second most important external driver is regional policies (33% very important), followed by government policy (27% very important). Another key impetus for

Data

Internationalisation in the Digital Transformation: Strategies of the German Higher Education Institutions (INDISTRA project)

The INDISTRA research project was funded by the DAAD with funds from the Federal Foreign Office and conducted by the DZHW between December 2021 and January 2025. It explored how HEIs understand and manage internationalisation through digitalisation, examining associated goals, opportunities and risks. The project employed a multi-method qualitative approach, including discourse analysis of policy documents and expert interviews with management staff responsible for internationalisation strategies. Each interview covered topics related to the impact of Covid-19, digital administration and virtual internationalisation. For more details on methods and sampling, see the full report “Internationalisation in the Digital Transformation: A study on the strategies, drivers, priorities and challenges of virtual internationalisation at German higher education institutions” (Vögtle et al., 2025).

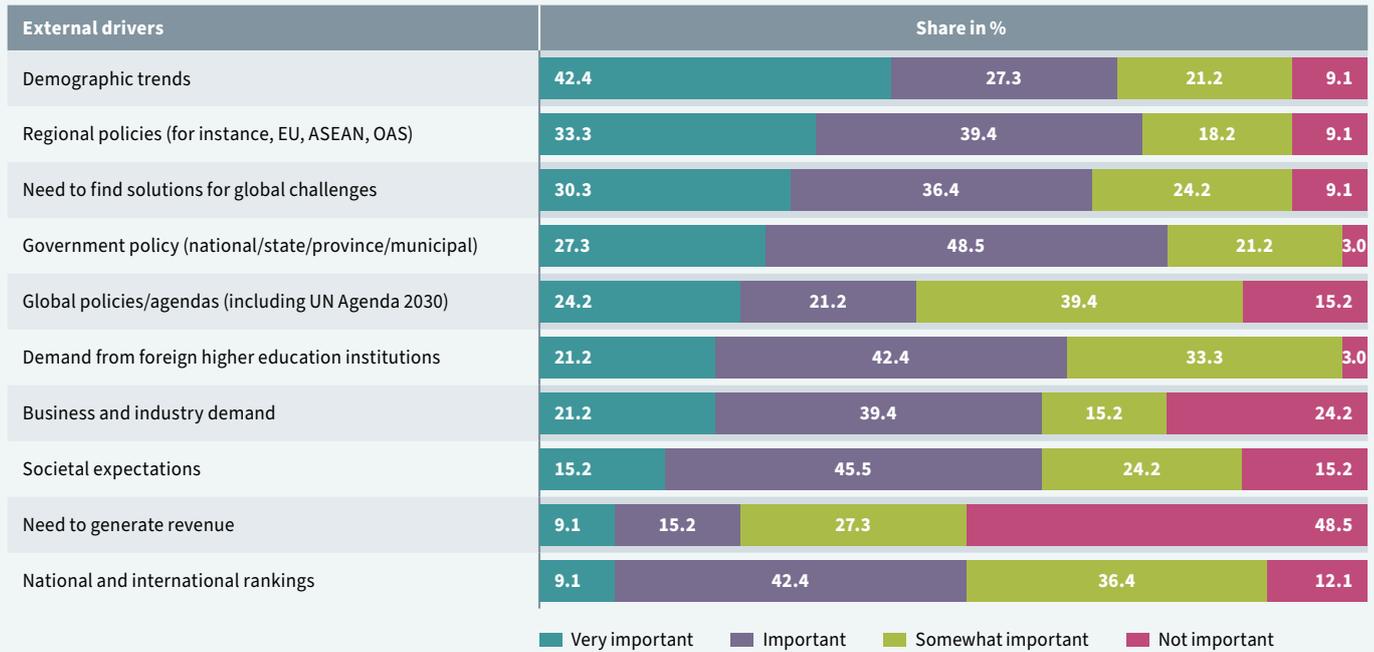
6th IAU Global Survey on Internationalisation

The 6th IAU Global Survey examined the current state, recent changes and future trends in higher education internationalisation from an institutional perspective. Its aim was to provide a comprehensive global overview. HEIs were advised to conduct internal consultations before submitting a single response, ensuring the reply represented institutional views rather than individual opinions. Respondents mainly held administrative roles, with heads of international offices representing about 40%. Over half of the responses came from staff in international offices, including mobility units and advisors. Heads and deputy heads of institutions accounted for nearly 25% of respondents. The survey underscored that institutional consultations primarily involved international offices and academic leadership, with limited involvement of other units. Conducted online between January and June 2023 in English, French and Spanish, it garnered responses from 722 HEIs across 110 countries. For more details on methods and sampling, see the full report “Internationalization of Higher Education: Current Trends and Future Scenarios” (Marinoni & Pina Cardona, 2024).

* Footnote

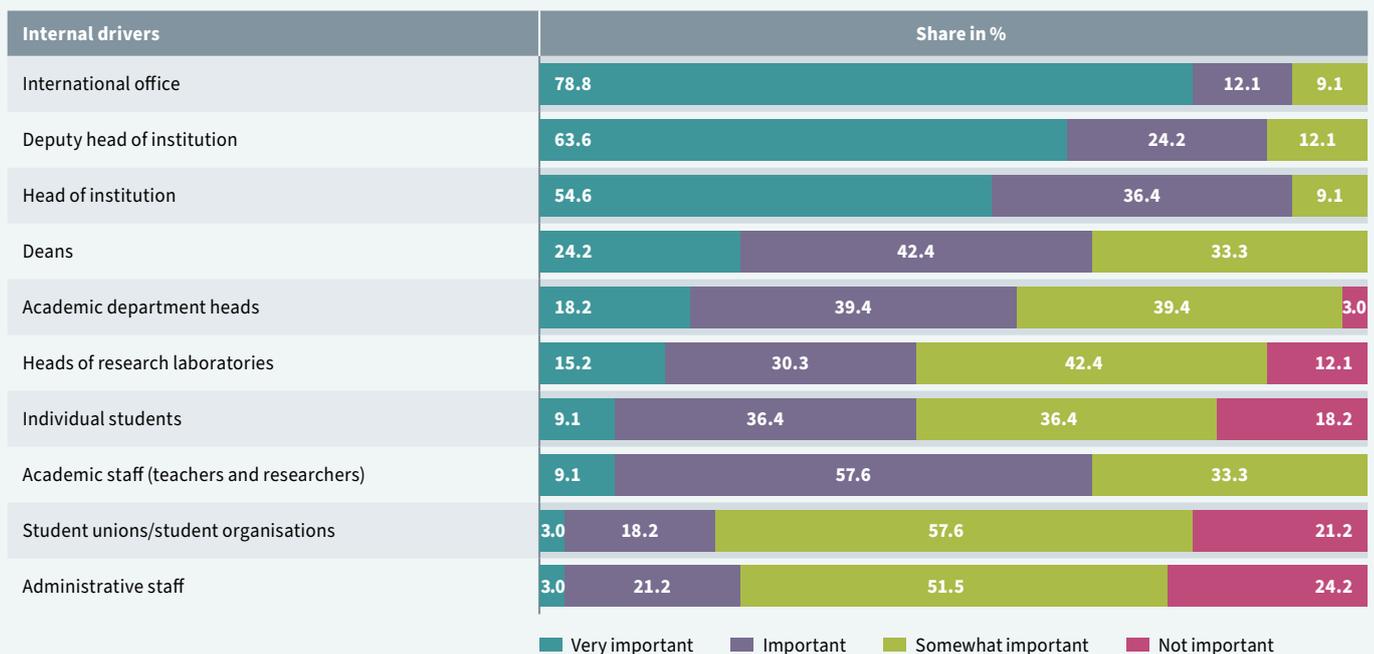
- 1 Virtual internationalisation refers to the integration of international and intercultural dimensions into the higher education curriculum and learning experiences through digital platforms and tools (Bruhn, 2020).
- 2 Deviations from 100% are due to rounding.

FS1 Key external drivers of HEI internationalisation²



Source: 6th IAU Global Survey, special analysis

FS2 Key internal drivers of HEI internationalisation²



Source: 6th IAU Global Survey, special analysis

VI strategies and practices at HEIs in Germany is the need to address urgent societal challenges (30% very important). This aligns with results from the INDISTRA interviews, where heads of international offices (IOs) interviewed by the INDISTRA team stressed how digitalisation can be instrumental in tackling social inequalities and the climate crisis, while upholding values such as equity and inclusion, environmental sustainability, trust, collaboration, diversity, intercultural understanding, peace, democracy and academic freedom.

Concerning the key **internal drivers**, the analysis of the INDISTRA interviews and the 6th IAU Global Survey data indicate that the academic leadership as well as the IOs are perceived as pivotal in driving both internationalisation and VI processes (see Fig. FS2). The IAU Global Survey findings reveal that the three most important institutional key internal drivers of internationalisation are the IOs (79% very important), the deputy head of institution (64% very important) and the head of institution (55% very important, 36% important).

Insights from the INDISTRA interviews support that the head of institution significantly influences funding and strategic decisions related to VI; the IOs are crucial in proposing initiatives and seeking funding, while schools and faculties also participate in decision-making. Additionally, IT professionals, legal departments and peer support networks were identified as internal drivers; interviewees highlighted how their influence shapes different aspects of VI. IT professionals and legal departments increasingly contribute to VI strategies, ensuring compliance with data protection regulations and providing technical support for online teaching and communication systems. In relation to academics, the interviews revealed that while they retain autonomy over their VI practices, collaboration with administrators is vital, with the IOs playing a supportive role in digitalisation processes. In addition,

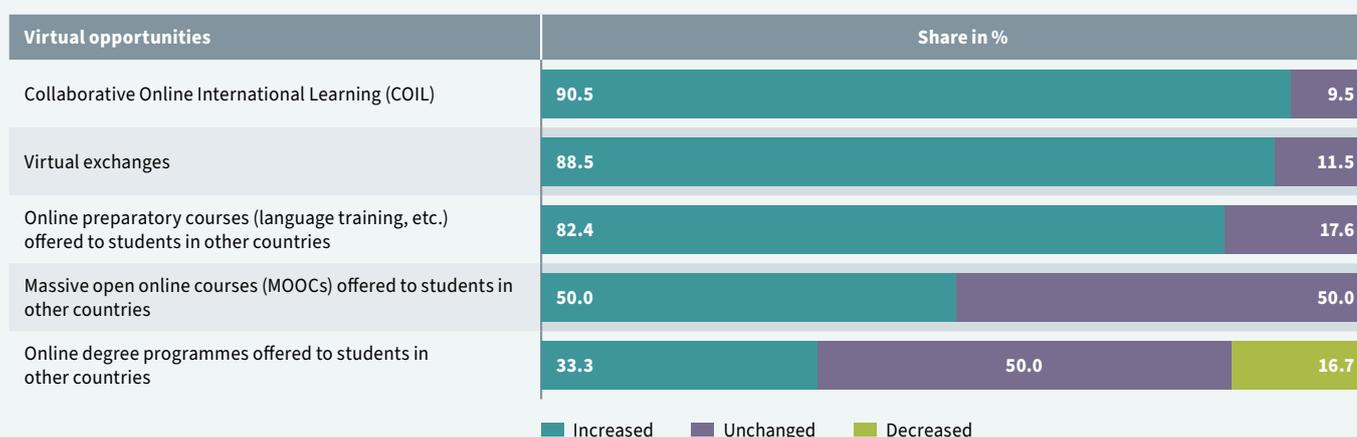
there are numerous accounts on the significance of peer support networks both within Germany and internationally. The interviewees underscore the invaluable role of collaboration through both informal channels, such as individual colleagues from IOs, and formal networks, particularly in the context of the European Universities Initiative, as key drivers of their strategies.

Priorities of virtual internationalisation activities

The importance of three VI opportunities, Collaborative Online International Learning (COIL), virtual exchanges and online preparatory courses (language training, etc.) offered to students in other countries has increased between 2018 and 2023 at least more than 80% for all three abovementioned activities at those HEIs in Germany replying to the IAU Global Survey (see Fig. FS3). Regarding massive open online courses (MOOCs), 50% of surveyed HEIs perceive offering them to students in other countries than Germany as of increasing importance. Online degree programmes offered by institutions to students in other countries remained stable in perceived importance at half of the surveyed HEIs and increased in importance at 33% of surveyed HEIs. It is the only VI opportunity where 17% of HEIs state a decrease in importance over the last five years at the time the 6th IAU Global Survey was conducted.

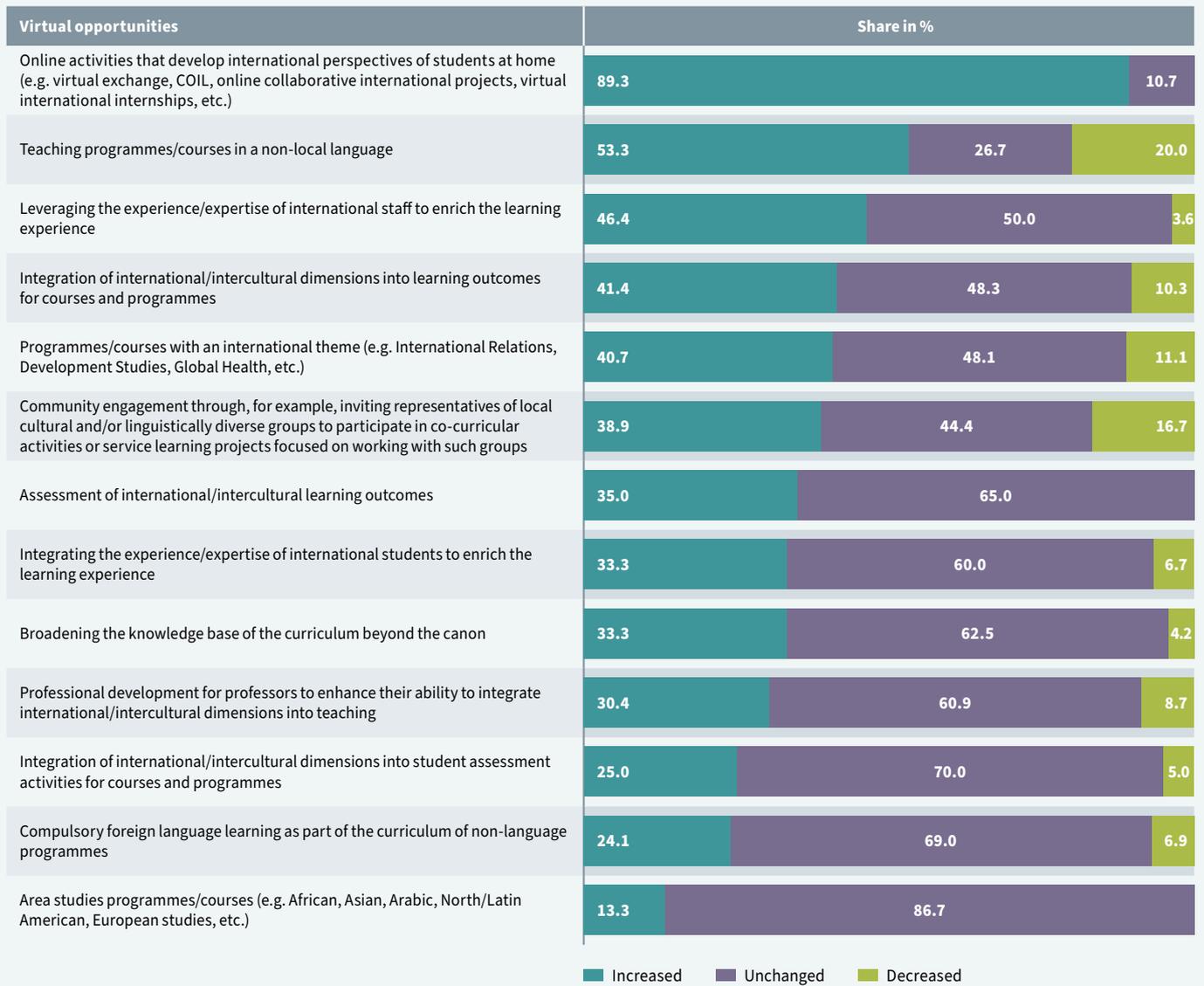
The IAU Global Survey findings on the importance of COIL activities are echoed in the INDISTRA interviews, which highlight the creation of e-learning and COIL centres to support academics in digital teaching during the Covid-19 pandemic. However, the involvement of academics in COIL activities remains largely an extracurricular activity, often hindered by the increased workload it entails, along with a lack of incentives and framework conditions.

FS3 Change in the importance of opportunities for virtual internationalisation, 2018–2023



Source: 6th IAU Global Survey, special analysis

FS4 Change in the importance of opportunities for internationalising the curriculum, 2018–2023²



Source: 6th IAU Global Survey, special analysis

The general importance of the internationalisation of the curriculum had increased at about three quarters of HEIs in Germany over the last five years at the time the 6th IAU Global Survey was conducted (thus between 2018 and 2023). However, a closer look at the different measures that can be used to internationalise the curriculum shows that only two ways of internationalising the curriculum had gained importance at the majority of the HEIs surveyed (see Fig. FS4): Online activities that support international perspectives of students at home (e.g. virtual exchanges, COILs, online collaborative international

projects, virtual international internships, etc.) and teaching programmes or courses in a non-local language. Online activities that develop international perspectives of students at home had increased in importance at 89% of HEIs, which clearly demonstrates that HEIs in Germany see VI as an important tool to internationalise the curriculum.

In line with this finding, interviewees in the INDISTRA project agreed on the growing importance of internationalising the curriculum, highlighting the need to make education more international,

intercultural and accessible to a diverse student and staff population. According to the interviews conducted within the INDISTRA project, as digitalisation strategies evolve, integrating digital with traditional exchange formats can help create international experiences for a larger share of students – particularly in regions with strong local ties. Digital programmes can lower barriers for students unable to study abroad while providing introductory international experiences that may encourage future physical mobility. Heads of IOs emphasise the goal of streamlining VI options to enhance the meaningfulness, efficiency and sustainability of mobilities and collaborations. They highlight that Blended Intensive Programmes (BIPs) under Erasmus+ have become a key focus, offering international experiences with fewer time and financial commitments compared to traditional study abroad periods. Although well-received by students, BIPs face challenges such as limited funding and strict requirements regarding the number of participating students and partner institutions, which can create imbalances and complexities in managing student influx and engaging in follow-up projects like research collaborations. While the INDISTRA interviewees maintain that virtual exchange should not replace physical mobility, they agree that it can complement traditional learning or precede it. Some interviewees also pointed out that, for many students, VI offers invaluable opportunities to develop intercultural and language competences while connecting with peers from different countries. Moreover, virtual interactions can arguably enhance employability prospects, as graduates increasingly enter jobs that require online

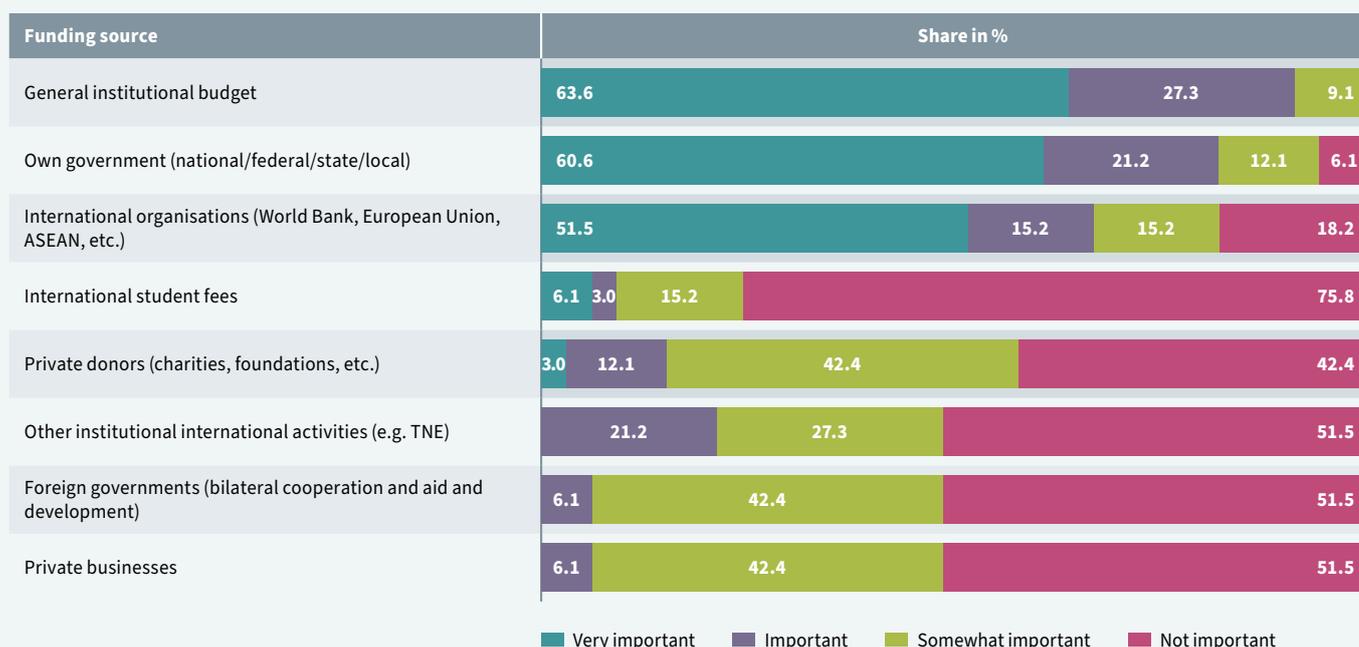
collaboration, communication and other work-related skills essential to thriving in international, multicultural and interconnected work environments.

Challenges to advancing virtual internationalisation

As institutions increasingly recognise the importance of VI in higher education, it is essential to examine the challenges they face in its implementation. According to the IAU Global Survey results, the general institutional budget is the most important funding source for the internationalisation activities of HEIs in Germany (64% very important), followed by government funding (61% very important) and international organisations like the European Union (52% very important, see Fig. FS5).

The INDISTRA interview results support the IAU Global Survey findings that governmental agencies and supranational bodies are crucial in funding digitalisation and internationalisation initiatives, with the DAAD and the European Commission’s Erasmus programmes being frequently cited by the interviewees. While many HEIs in Germany are well-equipped digitally, they face fierce competition for financial resources. Moreover, the reliance on project-based, third-party funding represents a major challenge to the long-term sustainability of VI strategies as internal funds are limited and typically cover only project initiation rather than long-term funding and permanent staff.

FS5 Key funding sources for internationalisation activities at HEIs in Germany²



Source: 6th IAU Global Survey, special analysis

According to interviews conducted within the INDISTRA project, adhering to regulatory requirements – especially regarding data protection and recognition processes – poses significant challenges, particularly in international collaborations where partner HEIs may be subject to different regulations. Concerns also emerged about the lack of clear framework conditions for online teaching under the German Capacity Law (*Kapazitätsrecht*), which could hinder academic participation in digital teaching. While political goals for integration are generally considered clear, their practical implementation is often impeded by complex administrative, bureaucratic and legal hurdles, especially in the context of digital integration. A common issue shared by interviewees is that regulations have not been updated to meet the demands emerging from changes in VI processes. Interviewees voiced the concern that this has directly affected the status of international or exchange students attending courses virtually from their home countries or coming to Germany for very short stays (e.g. participation in BIPs). For example, students participating in virtual exchanges or short-term physical exchange programmes who are enrolled at HEIs in Germany are required to pay the semester fees and obligatory health insurance, even if they are rarely or never physically present at the German institution in which they are enrolled.

Central findings and outlook on emerging challenges for virtual internationalisation

The findings of both the INDISTRA project and the comparative study this article draws on (Vögtle et al., 2025) indicate that digitalisation has considerable potential to enhance the internationalisation of teaching, learning, collaboration, administrative processes and decision-making at HEIs in Germany. Despite a noticeable shift back to traditional practices after the pandemic, the flexibility of digital formats continued to intertwine digitalisation with internationalisation. While traditional physical mobility experiences hold intrinsic value, BIPs are gaining

traction as an effective alternative that combines the potential advantages of both virtual and physical mobility. However, barriers to participation remain, and simplified claims of inclusion merit critical examination. In addition, heads of IOs interviewed in the INDISTRA project voiced concerns over the reduction of funding for digitalised internationalisation options, fearing that established structures and programmes might vanish once programme-based funding ends. High expectations and a strong faith in the perceived potential of digital technologies in the upper levels of HEI administration tend to underestimate the resource-intensive nature of digitalisation, neglecting financial and personnel needs at the lower levels of HEI administration.

The strategic positioning of digitalisation as a comprehensive institutional initiative has yielded positive outcomes by enhancing administration, science communication and teaching practices at various HEIs. This shift is evident in improved resource allocation, fostering internal collaboration and establishing a cohesive framework for the use of tools and platforms. Taken together, the findings of the INDISTRA project and the comparative study support the notion that comprehensive digitalisation is a sustainable avenue for advancing both higher education and VI. Nonetheless, it is crucial to recognise that digitalisation should neither be viewed as a standalone objective, nor as a “one size fits all”; rather, it must add value by addressing specific institutional needs and enhancing human experiences within the educational landscape.

Suggested citation

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3 Transnational education projects

3.1 Locations and formats of TNE projects hosted by German universities

Transnational education (TNE) is a sub-area of internationalisation in which universities from one country bear academic responsibility for study programmes aimed at prospective students in another country. Thus, TNE primarily refers to the transnational mobility of content, structures and institutions. This distinguishes TNE from the primarily individual, international mobility of students, academics and researchers.

“ Although the number of TNE projects hosted by German universities has barely fluctuated in recent years, the number of students in these programmes has increased slightly.

In 2024², German universities were represented with the transnational education projects presented here (see the info box on the data and the glossary in the appendix) with 313 study programmes at 41 locations in 28 countries. In 2021, there were 349 study programmes. This downturn is mainly due to projects in Belarus and Russia being suspended on account of the Russian invasion of Ukraine. Nevertheless, the number of students enrolled in German TNE projects continued to rise to around 37,740 in 2024, an increase of 32% since 2015.³

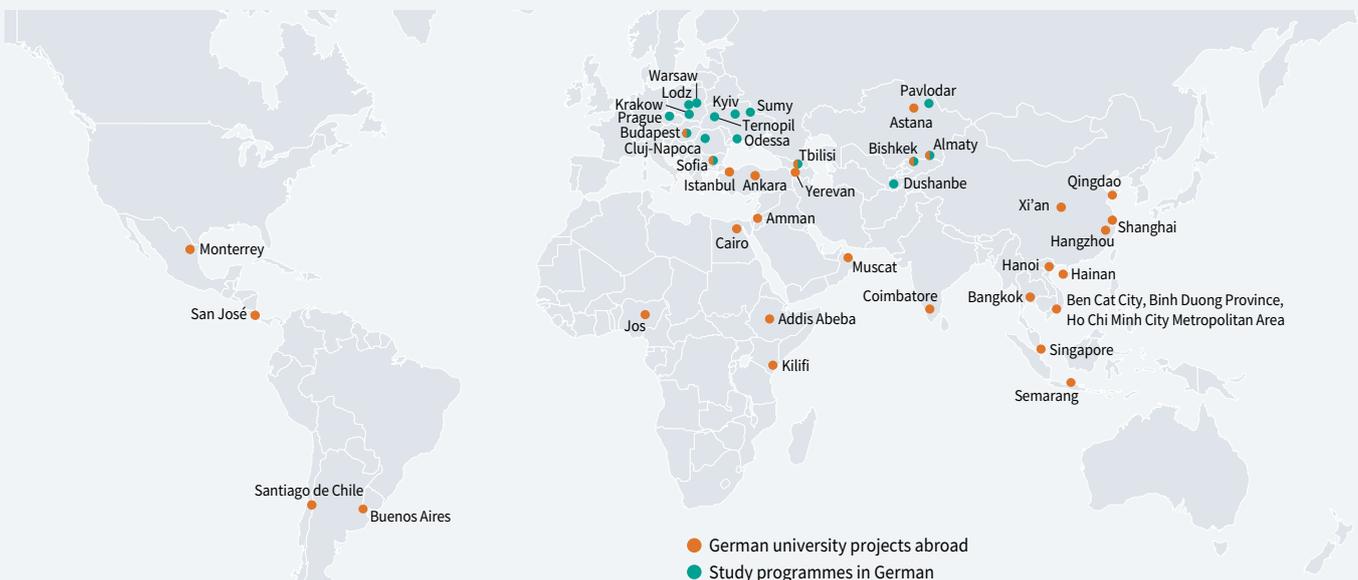
The regional focus of German TNE projects is on North Africa and the Middle East (Egypt, Jordan, Oman) and Asia and Pacific (China, Vietnam). Binational higher education projects are of particular importance here: almost 47% of the students in German TNE projects alone are enrolled at the German University in Cairo (GUC). In addition,

Data

The data presented here are based on reports from German universities whose TNE activities are either currently being sponsored by the DAAD with funds from the Federal Ministry of Research, Technology and Space (BMFTR), the Federal Foreign Office (AA) or the Federal Ministry for Economic Cooperation and Development (BMZ), or were funded by the DAAD in a start-up phase. They do not include the overwhelming majority of double (or multiple) degree programmes between German universities and foreign, particularly European, university partners, which are registered with the German Rectors’ Conference and which are predominantly geared towards the mutual exchange of students (and also funded by the DAAD from federal funds).¹ TNE activities that were established without DAAD funding were also not taken into account. It is therefore not possible to present a complete overview of the TNE involvement of German universities here. However, it may be assumed that the data presented here reflect the vast majority of the overall TNE activities of German universities.

a further 19% of TNE students study in the North Africa and Middle East region, with 13% alone being enrolled at the German-Jordanian University (DJU) in Amman and 6% at the German University of Technology (GUTech) in Oman at the Muscat site. The projects in China – including the Sino-German School for Postgraduate Studies (CDHK) and the Sino-German College of Applied Sciences (CDHAW) in Shanghai – together account for around 8% of the students enrolled in German TNE projects.

F3.1 Locations of transnational education projects hosted by German universities abroad with current or previous DAAD funding in 2024²



Source: DAAD, TNE statistics

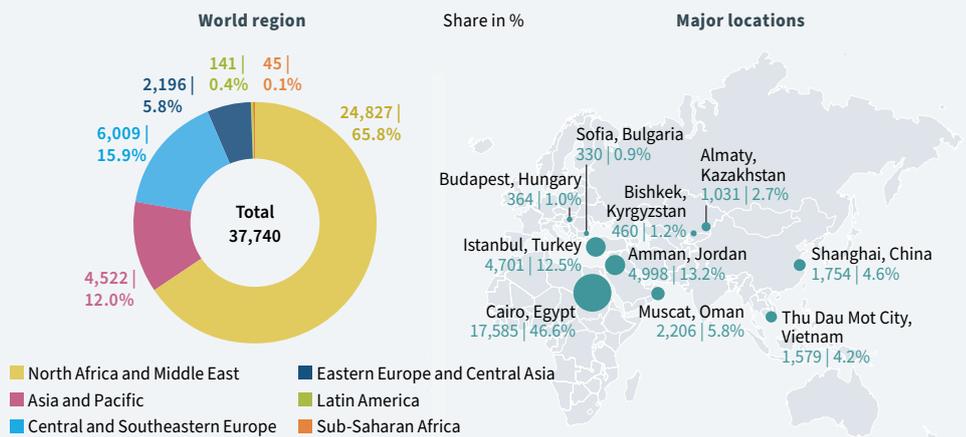
As only a few countries have collected TNE data thus far and because there is a lack of data and consistent terminology relating to TNE activities internationally, meaningful comparisons cannot be made between TNE projects offered by different countries at national and international level. A TNE classification framework for International Programme and Provider Mobility (IPPM), developed on the basis of international consultations and published in 2017, proposes a fundamental distinction between “collaborative” forms of TNEs – in other words, those jointly offered by universities in the country of the provider and the host country – and “independent” TNE formats, for

which a foreign university is solely responsible.⁴ Within these basic categories, a distinction is made between TNE activities at programme level (collaborative study programmes or franchise programmes) and the establishment of complete TNE institutions (joint university and branch campus). The application of the IPPM classification framework to German TNE data shows a continuing dominance of collaborative formats in TNE projects with the participation of German universities. Of the programmes offered, 97% are within the framework of collaborative study programmes or joint universities, in which 99% of all TNE students are enrolled.

*** Footnotes**

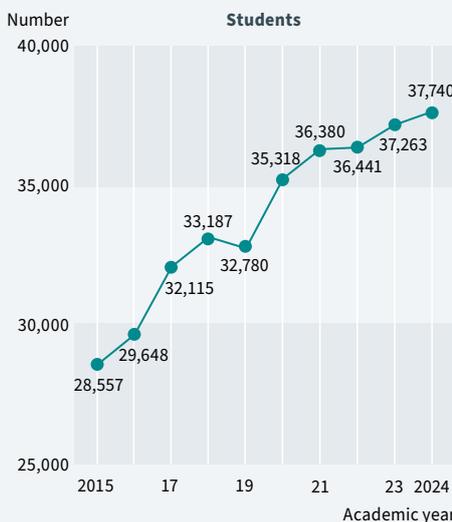
- 1 Thus, several hundred partnerships with universities in other countries for the award of double or joint degrees are not covered. This category includes the study programmes offered by the Franco-German University (DFH) and around 100 DAAD-funded study programmes with international double or multiple degrees. Also not accounted for is a growing number of around 200 doctorates currently being supervised at binational universities, often with co-supervision in Germany.
- 2 Data are collected annually in January and refer to the status of the data in the previous year. Until the 2022 edition of *Wissenschaft weltoffen*, the year the data were collected was specified. Since the 2023 edition, the year to which the compiled data relate is indicated.
- 3 This is a year-on-year increase of 1.3%.
- 4 See Knight & McNamara (2017).
- 5 As the data from the German University in Cairo were not available in full at the time of going to press, conservative estimates were made for the missing figures, assuming that they would remain at the level of the previous year. In all probability, the actual total figures are slightly higher than the values assumed here.
- 6 An academic year begins in the winter semester and ends in the summer semester of the following year (academic year 2024 = WS 2023/24 and SS 2024).
- 7 IPPM = International Programme and Provider Mobility.

F3.2 Students in German TNE projects with current DAAD funding by world region and major locations in 2024^{2,5}



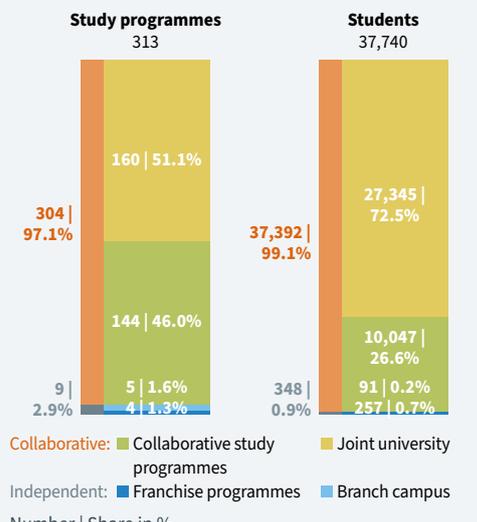
Source: DAAD, TNE statistics

F3.3 Students in German TNE projects with current or previous DAAD funding since 2015^{2,5,6}



Source: DAAD, TNE statistics

F3.4 German TNE projects with current DAAD funding according to the joint IPPM classification framework in 2024^{2,5,7}



Source: DAAD, TNE statistics

3 Transnational education projects

3.2 Features of TNE projects of German universities

Although it is difficult to formulate a clear definition of the German approach to transnational education (TNE), a number of characteristics can be identified that are generally typical of German TNE projects.

Unlike commercial programmes, such as those developed by universities in Australia, the United Kingdom and the US, German TNE projects are characterised by the partnership-based pursuit of political objectives and interaction between the following actors:

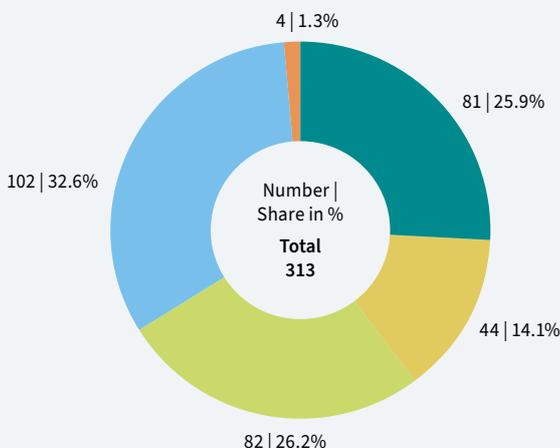
- German universities, whose commitment and assumption of academic responsibility are instrumental in shaping the field of German TNE;
- universities and university policy players in the respective host country, whose regional competence is pivotal to successfully structuring the TNE projects to meet the needs of the target groups;
- the financing ministries (Federal Ministry of Research, Technology and Space; Federal Foreign Office; Federal Ministry for Economic Cooperation and Development), whose TNE funding addresses issues of foreign science policy, university internationalisation and research and development in equal measure;
- the DAAD, which acts as mediator and coordinator to ensure that TNE projects are implemented in a way that accommodates the interests of all parties.

“Almost two thirds of students in German TNE projects are enrolled in STEM study programmes (engineering, mathematics and natural sciences).”

Other important features of the German TNE approach are the academic responsibility of the participating German universities (usually through the application or transfer of quality-checked curricula), the flexible, demand-oriented and partnership-based structure of the projects, and the reinforcement of references to Germany within the curricula. For German universities, the DAAD and funding bodies, the TNE activities are an important instrument for strengthening the ties between TNE students and Germany. In this context, the political objectives of foreign science policy, research and development funding (focusing on foreign institutions) and the internationalisation of German universities (focusing on German institutions) are complementary.

The TNE study programmes support the connection to Germany in various ways. First and foremost is the curricular responsibility borne by German universities, which leads to the award of German degrees or a combination of German and foreign degrees. In 40% of the TNE study programmes considered, a German university degree is awarded as the sole degree or in combination with a foreign degree as a double or joint degree.³ In addition, in some TNE projects (26%), the degree is awarded by a university in the host country, while the programme in question is accredited in Germany. Just under 33% of the TNE study programmes

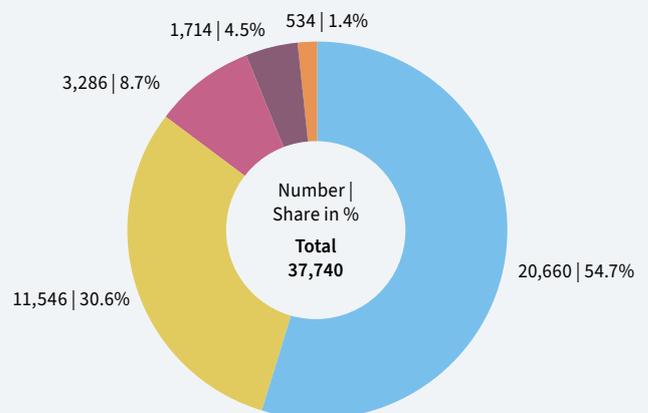
F3.5 TNE study programmes with current DAAD funding by accreditation of the degree in Germany in 2024^{2,3}



- Graduating with ...
- Double degree/joint degree
 - Degree certificate of the German university
 - Degree certificate of the host country, accredited in Germany
 - Degree certificate of the host country, not accredited in Germany
 - Other types of certificate

Source: DAAD, TNE statistics

F3.6 Students in German TNE projects with current DAAD funding by subject group in 2024^{2,3}



- Engineering
- Law, economics and social sciences⁴
- Mathematics and natural sciences⁵
- Art, music and sport
- Language and cultural studies

Source: DAAD, TNE statistics

evaluated, for which a degree certificate of the host country is also awarded, are not accredited in Germany.

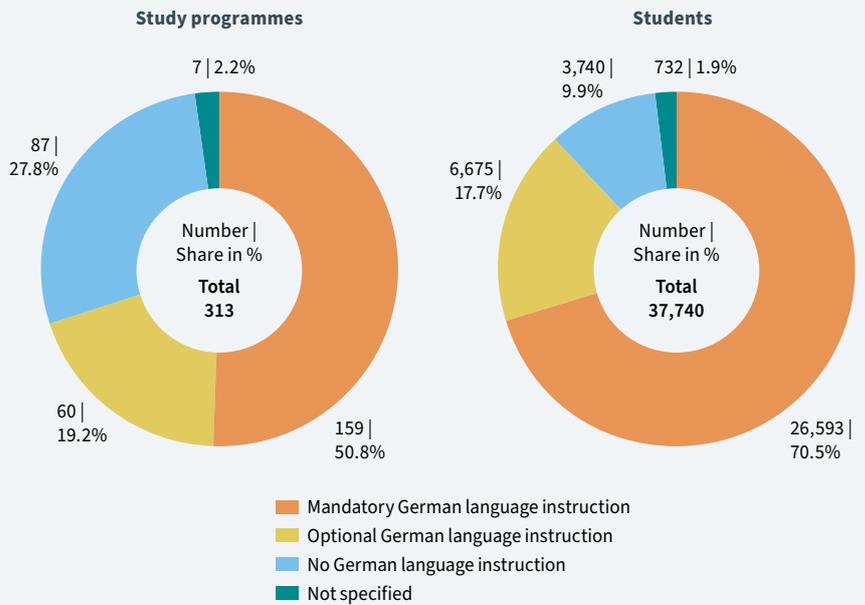
As in previous years, more than half (55%) of TNE students were enrolled in engineering programmes in 2024. This predominance can be viewed as a further characteristic of German TNE projects. Law, economics and social sciences (31%) and mathematics and natural sciences (9%) lagged considerably further behind. Other subject groups only played a subordinate role. The overwhelming majority of students in the TNE projects surveyed were aiming for an undergraduate degree, that is, a bachelor's or comparable first degree, and a smaller group for a master's degree (finding not displayed graphically). Doctorates are only offered at a small number of the registered TNE institutions and are not fully recorded statistically.

In 2024, the clear majority of TNE students (just under 71%) were enrolled in study programmes that include compulsory German language instruction, while a further 18% could take advantage of optional German language instruction. Spending time in Germany was another compulsory requirement of the curricula for 22% of the TNE students considered. However, a further 49% of those TNE students had the opportunity to undertake an optional stay in Germany as part of their studies, which was fully integrated into the curriculum.

*** Footnotes**

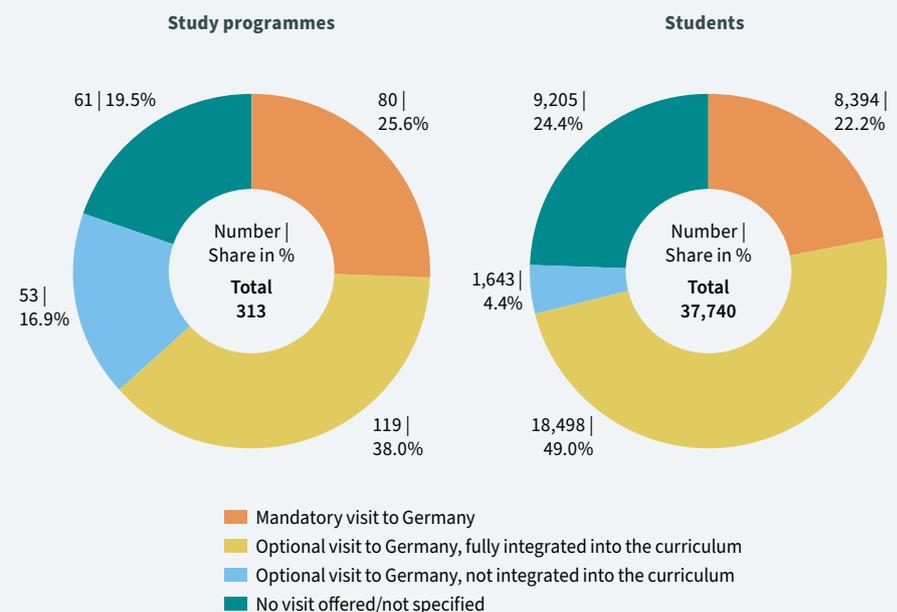
- 1 In the case of a double degree, each partner university awards its own degree, documented either by two separate certificates or by a joint certificate listing both degrees. In the case of a joint degree, the partner universities award a joint degree, documented by a joint certificate.
- 2 Data are collected annually in January and refer to the status of the data in the previous year. Until the 2022 edition of *Wissenschaft weltoffen*, the year the data were collected was specified. Since the 2023 edition, the year to which the compiled data relate is indicated.
- 3 Deviations from 100% are due to rounding.
- 4 Including veterinary/agricultural/forestry/ environmental sciences.
- 5 Including pharmacy.

F3.7 TNE study programmes and students in TNE study programmes with current DAAD funding by German language instruction options in 2024²



Source: DAAD, TNE statistics

F3.8 TNE study programmes and students in TNE study programmes with current DAAD funding by integration of periods in Germany into the curricula in 2024²



Source: DAAD, TNE statistics

Mapping mobility – Data basis and analytical concepts on the international mobility of students, academics and researchers

Wissenschaft weltoffen relies on various data sources on the international mobility of students, academics and researchers. When interpreting these data, it should be borne in mind that there are different types of student, academic and researcher mobility, the collection of which is tied to different preconditions. For example, it is much easier to record the inbound mobility of international students to Germany than the outbound mobility of students from Germany to other countries as comprehensive official data on study-related visits abroad are not yet available as part of higher education statistics. It is even more difficult to document the international mobility of academics and researchers. In Germany and many other countries, records of this type of mobility are far from comprehensive and may not even be kept by statistical agencies. The following section presents the relevant types of student, academic and researcher mobility, along with the data sources available for analysis thereof.

A. Student mobility

Types of international mobility

The two terms degree mobility and credit mobility are used in connection with the international mobility of students. According to the 2024 EU Council Recommendation “Europe on the Move – Learning mobility opportunities for everyone”, degree mobility covers all study periods abroad during which a degree is acquired. By contrast, credit mobility includes temporary study visits abroad of at least three months or with at least 15 ECTS credits awarded as well as placement visits abroad and shorter visits of less than three months leading to at least three ECTS credits awarded.

However, it is currently not yet fully possible to analyse international mobility according to these new EU definitions. Firstly, shorter visits of under three months have not been registered until now in all EU countries. Secondly, documenting longer visits of at least three months or with at least 15 ECTS credits obtained abroad is still not possible or only to a certain extent in some EU countries (including Germany). Therefore, by 2026, the European Commission is expected to develop an updated methodology to measure the proportion of university

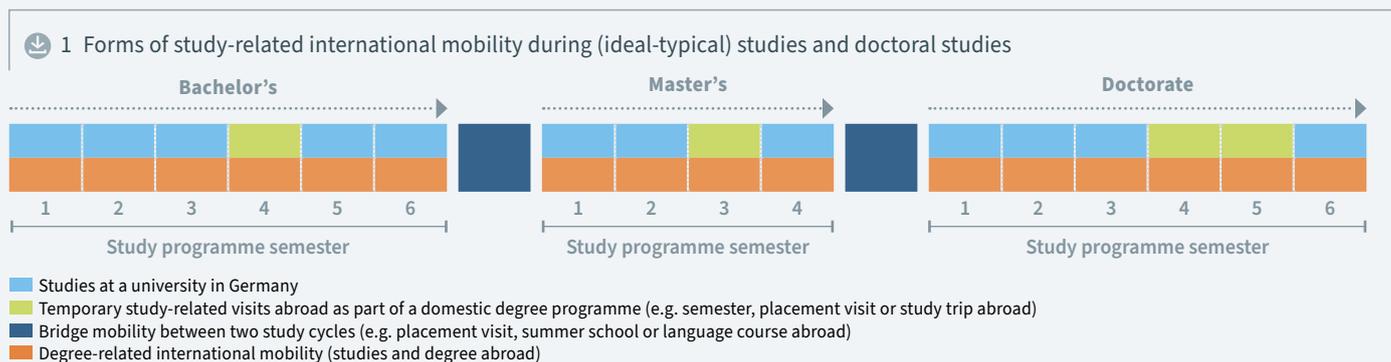
graduates with study-related mobility experience abroad during their studies.

In line with the distinction between credit and degree mobility, *Wissenschaft weltoffen* distinguishes between temporary study-related visits abroad as part of a degree programme, where the degree is awarded in Germany, and degree-related international mobility, where visits abroad are undertaken with the aim of obtaining a degree abroad (see Fig. 1). It should be noted that, due to the data situation regarding outbound mobility, it is only possible to distinguish between these two forms of mobility to a limited extent. In the case of inbound mobility, on the other hand, this differentiation does not present any difficulties (see also the comments in the section on “Available data sources and data quality”).

Lastly, the third type of mobility is bridge mobility between two study cycles (e.g. between a bachelor’s and a master’s programme or a master’s programme and a doctorate). For some years, the Erasmus programme of the European Union has included financial provisions for these visits, such as summer schools or preparatory courses abroad, during which the recipients of funding are not enrolled at a university.

Available data sources and data quality

To record the **degree-related international mobility (DIM)** of German students, data must be taken from the higher education statistics compiled by the respective host countries, as these students are only enrolled at local universities there (see also Fig. 3). The Federal Statistical Office (Destatis) therefore conducts an annual survey of the institutions responsible for education statistics in around 40 major host countries of German students. The results of this survey are published in the annual data report entitled “Deutsche Studierende im Ausland”. The students thus registered are predominantly, but not exclusively, students who are seeking a degree abroad. The data for some countries include Erasmus participants and other students with temporary study-related international mobility (TSIM). Useful supplements are therefore the data on German first-year students and graduates abroad that have been collected in parallel by the Germany Federal Statistical Office from the 2008 academic year onwards. However, these data are available for



Source: own representation

fewer countries than the data on students. In addition to these statistics, the statistics on international student mobility published by UNESCO, OECD and the Statistical Office of the EU (Eurostat) can also be used to assess DIM. They are based on joint data collection, the “UOE data collection on education systems”. Compared to the survey conducted by the Federal Statistical Office, the UOE survey has the advantage of providing data for significantly more host countries and countries of origin. On the other hand, the data documentation within the framework of the UOE data collection hardly allows any conclusions to be drawn about the data quality (which varies greatly from host country to host country). Moreover, fewer differentiating characteristics (such as subject groups) are recorded.

Foreign students in Germany form part of the regular Destatis student statistics (*Statistik der Studierenden*). According to these statistics, all students without German citizenship are classified as foreign students. They include both *Bildungsauslaender* and *Bildungsinlaender* (see Fig. 2). *Bildungsauslaender* are international students who have acquired their university entrance certificate abroad or supplemented their school qualifications acquired abroad by successfully completing a preparatory course for higher education admission in Germany. In *Wissenschaft weltoffen*, they are referred to as *international students* in accordance with the term commonly used in other countries and in international organisations. In Destatis publications, however, international students refers to all students with a foreign university entrance certificate, including those students holding German citizenship. *Bildungsinlaender*, on the other hand, have obtained their university entrance certificate at a school in Germany or taken an aptitude or gifted students test here.

The Destatis student statistics enable **international students** (*Bildungsauslaender*) to be broken down into **students intending to graduate in Germany** (degree-related international mobility or DIM) and **those not pursuing a degree in Germany** and/or who are seeking a degree abroad (temporary study-related international mobility or TSIM). Erasmus statistics are also available as a data source, although it should be noted that students who have enrolled at a university and are recorded here are also included in the official student statistics. It is also important to note that the documentation of TSIM of international students in Germany only covers study visits at universities. Other study-related visits (e.g. placements, language courses or study trips) are not

included in the Destatis statistics prepared for *Wissenschaft weltoffen*. Erasmus data, on the other hand, include both study and placement visits.

To date, no official statistics are available on the total volume of **temporary study-related international mobility (TSIM)** of students from Germany going abroad. Official data are only available for the subsection of temporary study or placement visits abroad within the framework of the EU’s Erasmus+ programme. According to the findings of the last “Benchmark internationale Hochschule” (BintHo) survey conducted by the DAAD in the 2023/24 winter semester, these Erasmus visits abroad represent just under half (45%) of the TSIM of German students.¹

Data sources used

The central database used in *Wissenschaft weltoffen* to examine the **degree-related international mobility (DIM) of German students** is the “Deutsche Studierende im Ausland” survey of the German Federal Statistical Office (Destatis). These data are supplemented with UNESCO and OECD statistics for individual host countries. To describe **temporary study-related international mobility (TSIM)**, *Wissenschaft weltoffen* uses not only Erasmus statistics but also results from the national Social Surveys of the German National Association for Student Affairs (DSW) conducted by the German Centre for Higher Education Research and Science Studies (DZHW) until 2016 and from the new “Student Survey in Germany” (*Studierendenbefragung in Deutschland*, SiD) conducted by the DZHW, the University of Konstanz and the DSW since 2021. These data are used especially when considering longer-term developments.

To trace the development of the number of **international students** (*Bildungsauslaender*) in Germany, reference is made in particular to the Destatis student statistics (*Statistik der Studierenden*). Data on Erasmus participants from abroad who spend temporary study periods at universities or undertake placement visits in Germany are also analysed (see Fig. 3).

Lastly, UNESCO student statistics are used to map **global student mobility**.

* Footnote

1 See DAAD (2025, p. 30).

2 Key groups of foreign students at universities in Germany



Source: own representation

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3 Key data sources on international student mobility

Source/Institution	Title of statistics/study	Survey frequency	Types of mobility included ²	Special features
Students from Germany abroad				
Federal Statistical Office	Deutsche Studierende im Ausland (German students abroad)	Annually	DIM (primarily)	Data from approximately 40 major host countries of German students abroad (at least 125 German students must be enrolled in the host country)
Federal Statistical Office	Statistik der Prüfungen/Bestandene Prüfungen mit angerechneten Leistungen aus dem Ausland (examination statistics)	Annually	TSIM	Only data on international mobility with degree-related credits, statistics still being prepared and/or incomplete
DAAD	Erasmus statistics	Annually	TSIM	Full survey
DAAD	Benchmark internationale Hochschule (BintHo)	Every three years	TSIM	Alternating participation of universities
DSW/DZHW	Social Survey	Every three to four years (until 2016)	TSIM	Nationally representative sample
DZHW, University of Konstanz, DSW	The Student Survey in Germany (SiD)	Every four years (since 2021)	TSIM	Nationally representative sample
DZHW	Graduate Panel	Every fourth cohort	TSIM	In total, three survey waves by degree, nationally representative sample
International students in Germany				
Federal Statistical Office	Statistik der Studierenden (student statistics)	Annually	DIM and TSIM	Full survey
Federal Statistical Office	Statistik der Prüfungen (examination statistics)	Annually	DIM	Full survey
Federal Statistical Office	Statistik des Studienverlaufs (study progress statistics)	Annually	DIM	Full survey, data published so far only include 1st to 3rd semesters
DAAD	Erasmus statistics	Annually	TSIM	Full survey
DAAD	Benchmark internationale Hochschule (BintHo)	Every three years	TSIM	Alternating participation of universities
DSW/DZHW	Social Survey	Every four years (until 2016)	DIM and TSIM	Nationally representative sample
DZHW, University of Konstanz, DSW	The Student Survey in Germany (SiD)	Every four years (since 2021)	DIM and TSIM	Nationally representative sample
International student mobility worldwide				
UNESCO	UIS statistics database (online)	Annually	DIM (primarily)	Most extensive country data, differentiated by gender, not differentiated by type of degree
OECD	Education at a Glance	Annually	DIM (primarily)	Only OECD countries, differentiated by gender and type of degree or ISCED level ³
Eurostat	Eurostat database (online)	Annually	DIM (primarily)	Only European countries, differentiated by gender, type of degree and ISCED level or ISCED subject group ³

Source: own representation

4 Advantages and disadvantages of official statistics, bibliometric data and surveys of academic and researcher mobility

Official and other public statistics	Bibliometric data	Surveys
Advantages		
<ul style="list-style-type: none"> No time or effort required on the part of data users or academics and researchers surveyed Usually publicly accessible and mostly free of charge Usually annual surveys, i.e. developments can be analysed over time As a rule, comprehensive data collection or even full surveys 	<ul style="list-style-type: none"> No time or effort required on the part of data users or academics and researchers surveyed Enables a global, relatively comprehensive survey of academic and researcher mobility Developments can be analysed over time 	<ul style="list-style-type: none"> Precise definition of target population Wide range of possible study variables High degree of international comparability
Disadvantages		
<ul style="list-style-type: none"> Sample depends on records of academics and researchers in public statistics Preselected, very limited number of study variables International comparability sometimes severely restricted 	<ul style="list-style-type: none"> Sample depends on publication activity of academics and researchers Only indirect measurement of international mobility via the institutional affiliations of publishing academics and researchers Preselected, very limited number of study variables International comparability is severely restricted High costs for access to publication databases 	<ul style="list-style-type: none"> Sometimes difficult to obtain access to respondents Considerable time and effort involved for surveying researchers and responding academics and researchers Frequently requires the number of respondents to be limited, potential problems with representativeness Often only cross-sectional surveys, i.e. no possibility of tracing developments over time

Source: own representation

B. Mobility of academics and researchers

Types of international mobility

There are three basic types of international mobility among academics and researchers, between which there are close links and overlaps: project- and event-related international mobility (e.g. conference trips or research projects abroad), qualification-related international mobility (e.g. doctoral studies abroad or postdoctoral projects abroad) and job-related international mobility (temporary or permanent research and teaching positions abroad). Depending on the perspective, many cases of academics' and researchers' mobility can be classed as several of these types. For example, many doctoral or postdoctoral projects abroad can be classed as both project-related and qualification-related international mobility. In practice, these different types of mobility tend to be interconnected.

For example, study-related international mobility is often associated with subsequent doctoral and postdoctoral mobility.⁴ Project-related mobility of academics and researchers becomes event-related mobility in many cases. By the same token, contacts are often established at international academic conferences, which in turn leads to project-related mobility among academics and researchers.

Available data sources and data quality

Research on international mobility among academics and researchers has so far relied mainly on **three types of data sources**: official or other publicly available statistics, publication databases (bibliometric data) and survey data (see also Fig. 5). All three types of data have strengths and weaknesses, some of which mirror each other, in other words, the strength of one source turns out to be a weakness of the other (see Fig. 4).

Evaluating **publicly available statistics** does not involve independent data collection but rather uses existing datasets. The work involved on the part of researchers and their respondents in collecting data is thus eliminated, which can be regarded as the central strength of these sources. Moreover, official data collection is frequently based on very large samples or even full surveys, another of its strong points. In addition, publicly available data have the advantage that the findings can be replicated and often easily compared with other analyses that use the same data basis. The main shortcoming of publicly accessible statistics is that they are often limited to the variables available in the respective databases and cannot be supplemented by additional variables that allow for in-depth analysis (e.g. of the causes and effects of academics' and researchers' mobility). Besides, they usually only record academics and researchers at public institutions. A further weak point of this source, which still exists at present, is the lack of comparability of these data across national borders, as different definitions of academics and researchers are often used, and as the quality and completeness of official data collections vary greatly from country to country.

* Footnotes

- DIM = degree-related international mobility; TSIM = temporary study-related international mobility.
- The basis for the collection and processing of data is the International Standard Classification of Education (ISCED 2011) and/or ISCED-F 2013 (fields of education and training), which ensures the international comparability of national data. ISCED 2011 differentiates between eight levels, whereby Levels 5 to 8 refer to tertiary education. ISCED-F 2013 differentiates between ten subject groups.
- See Netz & Jaksztat (2017).

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5 Key data sources on international academic and researcher mobility

Source/Institution	Title of statistics/study	Publication frequency	Special features
International academics and researchers in Germany			
Federal Statistical Office	Statistik des Hochschulpersonals (staff at universities)	Annually	Full survey
Federal Statistical Office	Personal für Forschung und Entwicklung (staff at non-university research institutes)	Annually	Full survey
Federal Statistical Office	Statistik der Promovierenden (doctoral students)	Annually	Full survey, i.e. including doctoral students not enrolled at universities; however, it currently does not differentiate between <i>Bildungsinländer</i> and international doctoral students
Federal Statistical Office	Statistik der Studierenden (doctoral students)	Annually	Only includes enrolled doctoral students; however, it allows a differentiation between <i>Bildungsinländer</i> and international doctoral students
DAAD	Erasmus statistics (guest lectureships)	Annually	Full survey
DAAD/DZHW	Funded guest visits undertaken by academics and researchers from other countries	Annually	Survey of relevant funding organisations
DZHW	National Academics Panel Study (Nacaps)	New cohorts every two to four years, who are initially surveyed annually, then biennially	Detailed information on international mobility over the career, thereby enabling explanatory analyses; however, subsequent panel waves may only have low case numbers
Academics and researchers from Germany abroad			
DAAD/DZHW	Funded guest visits to other countries undertaken by academics and researchers from Germany	Annually	Survey of relevant funding organisations
DAAD	Erasmus statistics (guest lectureships)	Annually	Full survey
National statistical offices in other key host countries	National university staff statistics	Annually	Different definitions of recorded academics, researchers and universities plus different scopes of the surveys
DZHW	National Academics Panel Study (Nacaps)	New cohorts every two to four years, who are initially surveyed annually, then biennially	Detailed information on international mobility over the career, thereby enabling explanatory analyses; however, subsequent panel waves may only have low case numbers
International mobility and cooperations among academics and researchers worldwide			
EU office of the BMFTR	Contract database of EU Research Framework Programmes	Annually	Full survey
OECD	Student statistics (international doctoral students)	Annually	Not including data on international doctoral students in the US
National statistical offices in other key host countries	National university staff statistics	Annually	Different definitions of recorded academics, researchers and institutes plus different scopes of the surveys
Elsevier or Clarivate	Scopus or Web of Science	Ongoing	Contains bibliometric data on publications worldwide
European Commission	Mobility Patterns and Career Paths of EU Researchers (MORE)	Every three years since 2010	Only international researcher survey carried out regularly worldwide

Source: own representation

International publication and citation databases are used as a data basis for **bibliometric analyses** of academics' and researchers' mobility. Scopus (Elsevier) and Web of Science (Clarivate) are the predominant databases around the world for such analyses. These databases contain a certain number of the articles published worldwide in (English-language) academic journals and their citations in other articles. In addition, the

respective country of each author's institution is documented for every article. With reference to the affiliations of the publishing researchers, these databases can also be used to analyse the international mobility of academics and researchers because a comparison of the authors' affiliations indicated in publications allows conclusions to be drawn about their mobility biography. The strengths of this source largely

correspond to those of publicly available statistics: no data collection effort on the part of researchers or their subjects, large samples and comparability with other analyses that draw on the same publication database. Despite the comprehensive data sets on which bibliometric analyses are mostly based, they are subject to several severe limitations.⁵ Firstly, access to existing international publication databases often entails high financial costs. Secondly, only those academics and researchers who have (already) published in academic journals are included, which are covered in turn by the publication databases used. These are primarily English-language journals from the natural sciences and economics. This means that academics and researchers from disciplines in which monographs and edited volumes play an important role as publication media (i.e. primarily the humanities and social sciences) are strongly under-represented. As there are also marked differences between countries with regard to these publication cultures and because non-English language publications are also systematically under-represented in most international publication databases, country comparisons based on bibliometric analyses are only of limited value. Moreover, a complete survey of mobility biographies in bibliometric studies is not possible as mobility is only recorded if a publication in publication databases was published before and after the mobility from the respective country of location. Furthermore, academics and researchers are only included in the sample from the date of their first publication. Potential mobility before this first publication is therefore disregarded, which may lead to a false determination of the mobility status and the respective country of origin. Thus, academics and researchers who published in different countries during the period under review are usually considered mobile, whereby their first country of residence during the period under review is regarded as the country of origin. It is therefore conceivable that prior mobility may be excluded and that the presumed country of origin is actually a host country. Ultimately, at least two publications during the period under review are required to determine international mobility. Accordingly, young researchers who have no or only one academic journal article to show for the period under review are excluded from the analysis.

In contrast to the two methods described above, **surveys** are characterised by their systematic collection of primary data on academics' and researchers' mobility. This has the advantage that the researchers themselves can determine who is to be interviewed and which questions are to be asked or which attributes captured. The number of variables available for the analysis of the mobility of academics and researchers is therefore generally much higher than in public statistics and publication databases, thus allowing for more in-depth and explanatory analyses, for example on the mobility motives of academics and researchers and the impact of mobility on their career trajectories.⁶ Furthermore, researchers who are not covered by publication databases or public statistics (e.g. researchers in companies) can also be included in the analysis. Finally, surveys of academics and researchers that are conducted internationally guarantee a high degree of cross-border comparability of the data from different countries. However, surveys entail considerable time and effort, and therefore also high costs. These limitations mean that regular surveys are relatively infrequent and therefore not suitable for obtaining periodical statistics on academics' and researchers' mobility. The only exception in this

respect is the EU-funded study "Mobility Patterns and Career Paths of EU Researchers" (MORE), which was conducted every three years starting in 2010, most recently in 2019/20 (MORE4).⁷

Data sources used

Wissenschaft weltoffen draws on different data sources to produce as comprehensive a picture as possible of the international mobility of academics and researchers in Germany and other countries. The official statistics of the German Federal Statistical Office relating to international academic staff at state-recognised universities and non-university research institutes and to (registered) international doctoral students are used to record **international academics and researchers in Germany**. In addition, data are analysed on short-term visits from the Erasmus statistics (Erasmus guest lecturers) and from a survey of relevant funding organisations conducted as part of *Wissenschaft weltoffen* by the DZHW on sponsored visits to Germany undertaken by guest researchers from other countries. With regard to the official statistics relating to academic staff, it should be noted that the international academics and researchers recorded are not necessarily internationally mobile in all cases, as only information on their citizenship, not on their educational and research biographies, is collected. In most cases, differentiation between international academics and researchers (*Bildungsauslaender*) and *Bildungsinlaender*, as in the case of foreign students, is therefore not possible. One exception are the statistics on registered foreign doctoral students, which are part of the official student statistics. Like the registered foreign students, registered foreign doctoral students can be divided into *Bildungsinlaender* and international students (*Bildungsauslaender*).

The data basis for recording **German academics and researchers abroad** has so far been very patchy, particularly regarding longer-term stays (qualification- or job-related international mobility). Short-term visits abroad are covered by Erasmus statistics on Erasmus guest lecturers and by the abovementioned DZHW survey of relevant funding organisations. These data are supplemented by a further survey carried out by the DAAD and the DZHW for *Wissenschaft weltoffen* at the respective statistical offices on German university staff in major host countries of German academics and researchers. The job-related international mobility recorded here is subject to country-specific definitions and restrictions.

Finally, to illustrate the **international mobility of academics and researchers worldwide**, *Wissenschaft weltoffen* uses OECD data on international doctoral students, national official data on international academics and researchers at universities and public research institutes in major host countries, funding data from the contract database for the EU's Research Framework Programmes as well as bibliometric data from the Elsevier Scopus database, which were processed and evaluated by the DZHW.

* Footnotes

5 See Moed & Halevi (2014); Stephen & Stahlschmidt (2021).

6 See Geuna (2015); IDEA Consult et al. (2017); PPMI et al. (2021); Netz et al. (2020).

7 See, for example, IDEA Consult et al. (2017); PPMI et al. (2021).

GLOSSARY

Academics and researchers

In the context of *Wissenschaft weltoffen*, academics and researchers are persons who work in a professional capacity on gaining and publishing new insights and who apply, develop or refine theories, models, instruments, software or methods as part of their work.

Academic year

Reference value to determine the number of → First-year students. The total number of first-year students in a summer semester and the following winter semester is regarded as the number of first-year students in a specific academic year. Accordingly, the first-year students of the 2023 academic year are the first-year students of the 2023 summer semester and the 2023/24 winter semester.

Assessment test (Feststellungspüfung, FSP)

Final examination at a → Preparatory college (*Studienkolleg*) and/or examination to ascertain the suitability of → International university applicants in Germany to embark on a study programme at a university in Germany.

Bildungsausländer

Students with foreign citizenship (or stateless individuals) who obtained their university entrance certificate at a school abroad or at a → Preparatory college (*Studienkolleg*) in Germany (as defined by the Federal Statistical Office). Unlike the definition of the term → International students according to UNESCO, OECD and Eurostat, the German Federal Statistical Office only classifies students with foreign citizenship as international students and not German students with a foreign university entrance certificate. However, since the 2020 edition of *Wissenschaft weltoffen*, → International students, the term widely used around the world, has been employed rather than *Bildungsausländer* when analysing data from the Federal Statistical Office on → Foreign students with foreign university entrance certificates in Germany (see Chapter B).

Bildungsinländer

Students with foreign citizenship (or stateless individuals) who obtained their university entrance certificate in Germany, but not at a → Preparatory college (*Studienkolleg*).

Countries of origin

The region of origin of → International students is defined differently in the various data sources. The German Federal Statistical Office assigns students to a country of origin according to their citizenship. By contrast, in UNESCO statistics, the country in which students obtained their university entrance certificate is used to determine their country of origin (irrespective of their citizenship).

Credit mobility

→ Temporary study-related visits abroad

Degree mobility

→ Degree-related international mobility

Degree-related international mobility

A study period at a university abroad with the intention of acquiring a degree. Also referred to as degree mobility.

Domestic students

German students and → *Bildungsinländer*, in other words, foreign students who obtained their university entrance certificate in Germany, but not at a → Preparatory college (*Studienkolleg*). In the student statistics compiled by the German Federal Statistical Office, domestic students are always divided into German students and *Bildungsinländer*; however, the two groups are sometimes combined in *Wissenschaft weltoffen* as neither are → International students.

Erasmus guest lecturers

Academic staff and professors at universities and research institutes, as well as salaried staff in companies, who leave their → Country of origin to undertake a short guest visit for the purpose of teaching abroad as part of the EU's Erasmus+ mobility programme.

Erasmus participants

Students who leave the country of their home university as part of the EU's Erasmus+ mobility programme to undertake a → Temporary study-related visit abroad. They may or may not be nationals of the country of their home university.

First-year students

First-year students in Germany are students in their first → University semester, including bachelor's, master's, state examination and doctoral students. In most countries, students who appear in student statistics for the first time on the date of the survey are counted as German first-year students abroad, regardless of what → Programme semester they are currently enrolled in. In some cases, therefore, they may be students in more advanced semesters.

Foreign students

All students with foreign citizenship including stateless students, in other words, both → *Bildungsausländer* and → *Bildungsinländer*.

Funded groups

Funded groups in *Wissenschaft weltoffen* include:

- Postgraduates: persons with a university degree who receive funding to work on their dissertations in Germany or abroad, as well as → Graduates who have been awarded an international scholarship, even if not intending to embark on doctoral studies.
- Postdocs: doctorate holders whose visits to Germany or abroad are funded to enable them to obtain further qualifications by conducting research. They include university lecturers and experienced academic staff at universities or research institutes (e.g. professors or heads of research groups).

German students abroad

Students holding German citizenship who obtained their university entrance certificate in Germany and were enrolled in a host country abroad on the date of the survey. The vast majority of these German students are aiming for a degree in the respective host country. However, they may also include visiting and exchange students who are on a → Temporary study-related visit abroad in the host country. Not all host countries can differentiate between these two groups of → International students when collecting their respective data.

Graduates

Former students and doctoral students who pass the final examination in a specific → Graduation year.

Graduation year

A graduation year includes the → Graduates of a winter semester and the following summer semester. The number of graduates in 2023 is thus the total number of graduates in the 2022/23 winter semester and the 2023 summer semester.

Guest researchers

→ Academics and researchers on a temporary guest visit with financial support yet without being contractually employed at a university or other research institute abroad or in Germany.

International academic staff in Germany

Used in *Wissenschaft weltoffen* to denote academic and artistic staff with foreign citizenship at universities and → Non-university research institutes in Germany. The data compiled by the German Federal Statistical Office do not differentiate between persons who have completed their school, vocational or academic education in Germany and persons who have completed their education in another country. According to the higher education statistics published by the Federal Statistical Office, academic and artistic university staff refer to professors (including visiting, honorary and adjunct professors), lecturers and assistants, academic and artistic staff, specialised teaching staff, emeritae and emeriti, assistant lecturers, private lecturers, student research assistants (with a degree) and tutors.

International administrative staff at universities in Germany

Used in *Wissenschaft weltoffen* to denote administrative staff with foreign citizenship at universities in Germany. The data compiled by the German Federal Statistical Office do not differentiate between persons who have completed their school, vocational or academic education in Germany and persons who have completed their education in another country.

International doctoral students in Germany

The student statistics compiled by the German Federal Statistical Office (*Statistik der Studierenden*) capture doctoral students with foreign citizenship and foreign university entrance certificates who are enrolled at universities. By contrast, the doctoral statistics introduced by the Federal Statistical Office following the amendment of the Higher Education Statistics Act in 2016 include doctoral students with foreign citizenship, whether they were enrolled or not. Hitherto, it has not been possible to differentiate between → International (doctoral) students and → *Bildungsinländer*, in other words, the data on international doctoral students in the doctoral statistics include information on all foreign doctoral candidates.

International first-year students in Germany

→ First-year students with foreign citizenship and foreign university entrance certificates.

International graduates

→ Graduates who were internationally mobile for study-related purposes, in other words, who enrolled in a university outside the country in which they obtained their university entrance certificate and completed their studies there.

Internationally mobile academic authors

Authors who have at least two publications listed in publication and citation databases and for whom the countries of location of the institutions indicated in the publications differ during a specific period under review.

Internationally mobile students

Mobile students who have physically crossed national borders for their degree programme, that is, left the country in which they obtained their university entrance certificate. In analyses from the perspective of the respective host countries, *Wissenschaft weltoffen* refers to these students as → International students and, in analyses from the perspective of their respective countries of origin, as → Students abroad.

International students

→ Internationally mobile students from the point of view of their respective host country, in other words, students in a specific host country who obtained their university entrance certificates in another country (as defined by UNESCO, OECD and Eurostat). Since the 2020 edition of *Wissenschaft weltoffen*, this term has also been used for international students in Germany (a term widely used around the world), instead of the term → *Bildungsausländer*, which is used by the German Federal Statistical Office.

International university applicants in Germany

Prospective students holding foreign university entrance certificates and applying to study at a university in Germany.

Non-university research institutes

In Germany, non-university research institutes (NURI) are usually public research institutes that are not directly associated with a university. In *Wissenschaft weltoffen*, only the four largest NURI, which are funded jointly by the federal government and the federal states, are analysed separately: the Helmholtz Association, the Max Planck Society, the Leibniz Association and the Fraunhofer-Gesellschaft (see Chapter D2).

Preparatory college (Studienkolleg)

A preparatory college (*Studienkolleg*) teaches → International university applicants in Germany the knowledge and skills required to study at a university in Germany. Preparatory colleges prepare candidates for an → Assessment test (*Feststellungsprüfung*, FSP).

Programme semester

Number of semesters that students have so far been enrolled in a specific degree programme.

Students abroad

→ Internationally mobile students from the point of view of their respective → Country of origin, in other words, students who obtained their university entrance certificate in their country of origin but are now studying at a university in another country.

Students in later semesters

Different definitions are used, depending on the study. In the DSW/DZHW Social Surveys, all students in the 9th to 14th university semesters at universities and all students in the 7th to 11th university semesters at universities of applied sciences (UAS) were considered students in later semesters. In the new DZHW “Student Survey in Germany” (*Studierendenbefragung in Deutschland*, SiD), students in later semesters are defined as those from the 6th university semester in bachelor’s programmes, from the 4th programme semester in master’s programmes and from the 9th university semester in state examination programmes.

Temporary study-related visits abroad

General term for all types of short-term study-related visits abroad as part of a domestic degree programme (e.g. study visits, placement visits, language courses, summer schools, study trips). Also referred to as → Credit mobility.

Transnational education projects (TNE)

Transnational education projects are study programmes for which a university abroad bears the main academic responsibility. *Wissenschaft weltoffen* only refers to TNE study programmes, TNE faculties, branch campuses – spin-offs or locations of universities abroad – and binational universities; in other words, they do not include double degree programmes or distance learning courses.

Types of study

Types of study include:

- First degree programme: a study course leading to a first university degree.
- Postgraduate degree programme: study course after completing a first degree programme; postgraduate degree programmes include second degree programmes, complementary and supplementary courses, contact/further education courses, non-consecutive and consecutive master’s programmes.
- Doctoral studies: a degree or academic activity with the goal of completing a doctorate.

University dropouts

Students of a specific first-year cohort who were de-registered at their own request during the first three semesters and who did not subsequently re-enrol, switch degree programme or university, nor pass a final examination over the following three semesters (according to the current definition in the *Statistik des Studienverlaufs* published by the German Federal Statistical Office).

University semester

Number of semesters that students have so far been enrolled at a German university. Thus, university semesters comprise all → Programme semesters in a degree programme as well as those semesters spent in another degree programme after changing programmes, for example. They also include semesters with leave of absence and any semesters completed as part of a second degree programme.

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STRUCTURE OF THE WORLD REGIONS

Since the 2017 edition, the regional classification of *Wissenschaft weltoffen* has adopted the DAAD regional classification:

Western Europe

Andorra, Austria, Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, Malta, Monaco, Netherlands, Norway, Portugal, San Marino, Spain, Sweden, Switzerland, United Kingdom, Vatican City

Central and Southeastern Europe

Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Greece, Hungary, Kosovo, Latvia, Lithuania, Montenegro, Northern Macedonia, Poland, Romania, Serbia, Slovakia, Slovenia, Turkey

Eastern Europe and Central Asia

Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan

North America

Canada, United States of America (US)

Latin America

Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, St. Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela

North Africa and Middle East

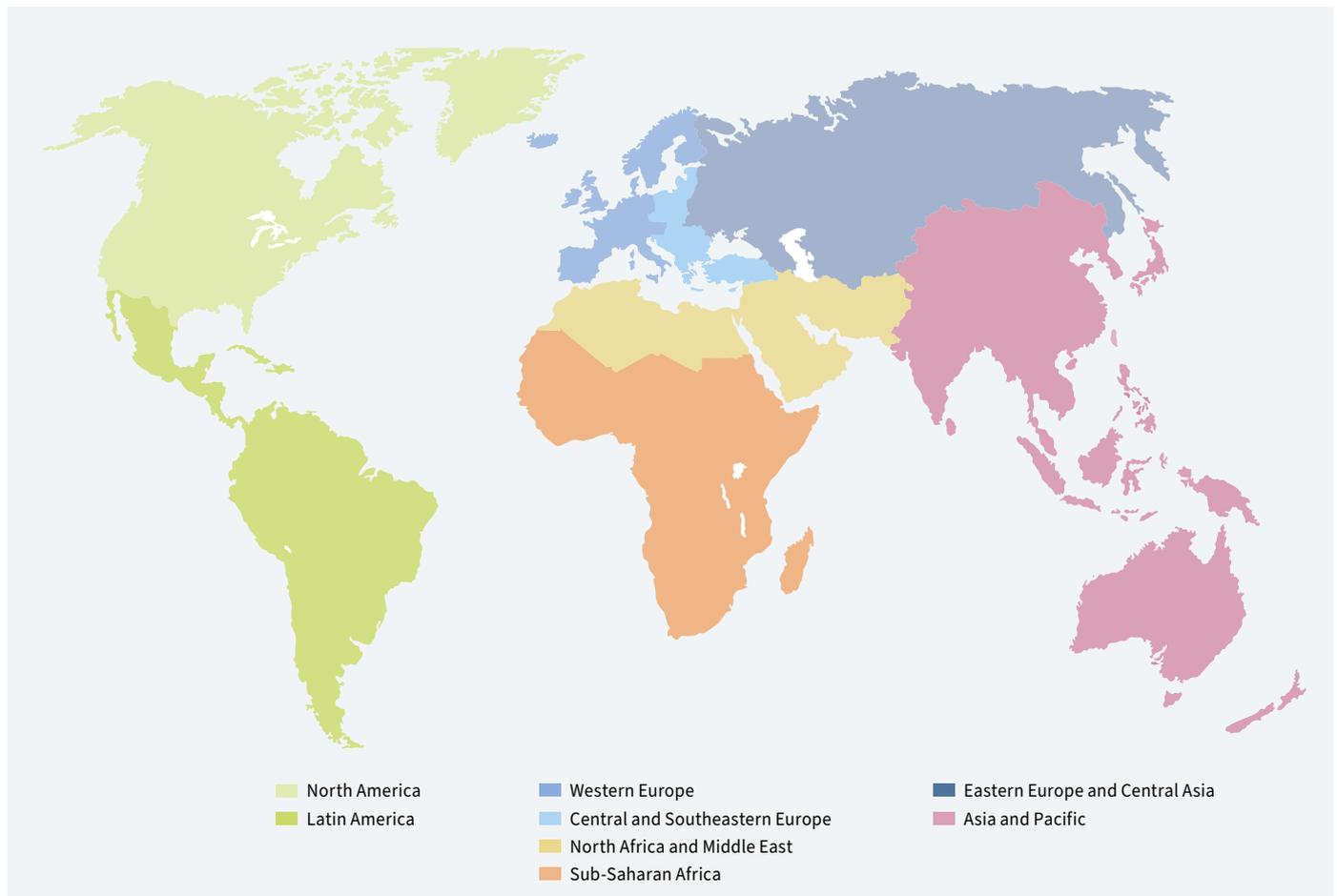
Afghanistan, Algeria, Bahrain, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Pakistan, Palestinian territories, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates, Yemen

Sub-Saharan Africa

Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Congo/Democratic Republic, Djibouti, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, São Tomé and Príncipe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Tanzania, Togo, Uganda, Zambia, Zimbabwe

Asia and Pacific

Australia, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Cook Islands, Federal States of Micronesia, Fiji, Hong Kong (CN), India, Indonesia, Japan, Kiribati, Laos, Macao (CN), Malaysia, Maldives, Marshall Islands, Mongolia, Myanmar, Nauru, Nepal, New Zealand, Niue, North Korea, Palau, Papua New Guinea, Philippines, Samoa, Singapore, Solomon Islands, South Korea, Sri Lanka, Taiwan, Thailand, Timor-Leste, Tonga, Tuvalu, Vanuatu, Vietnam



Wissenschaft weltoffen 2025

The internationalisation of studies and research in Germany and around the world is making dynamic progress, with the number of internationally mobile students and researchers growing continuously. In the 2024/25 winter semester, for the first time, more than 400,000 international students were enrolled at universities in Germany. Moreover, the number of international academics and researchers contractually employed at universities and non-university research institutes in Germany reached a new all-time high of approximately 83,000 in 2023.

In this 25th edition, the *Wissenschaft weltoffen* data basis has been extended once again: Chapter A now devotes two separate double pages to student mobility in the European Union and the European Higher Education Area. For the first time, Chapter B offers a detailed comparison of the new official figures published by the German Federal Statistical Office on the numbers of international and domestic students who drop out of their studies. Chapter C presents new findings on the international mobility of German students, taken from the BirtHo survey conducted by the DAAD, this time looking at organisation and funding as well as virtual experience abroad. Lastly, the new Chapter F, introduced in the last edition of *Wissenschaft weltoffen*, presents data on international administrative staff at universities in Germany for the first time.

In addition to the regular data updates, two spotlights present special evaluations of current topics. Based on official data from higher education statistics and survey data from the DZHW's National Academics Panel Study (Nacaps), the spotlight in Chapter D discusses the "Mobility and career plans of international doctoral students in Germany". The spotlight in Chapter F summarises central findings of the INDISTRA research project conducted by the DZHW and the sixth "Global Survey on Internationalisation" conducted by the International Association of Universities (IAU) on "The state of virtual internationalisation at higher education institutions in Germany".

Once again, the *Wissenschaft weltoffen* website has a number of new features. Readers can download all figures of this publication as graphic files or data tables for their own purposes (based on a CC license). Furthermore, the website now includes additional interactive diagrams on international student mobility, showing flows to Germany and all over the world.



The German Academic Exchange Service (**Deutscher Akademischer Austauschdienst, DAAD**) is the world's largest funding organisation for the international exchange of students and scholars. It emerged from a student initiative and was founded in 1925. As an association of German universities and their student bodies, 244 universities and 104 student councils were registered members in 2024.

The DAAD is mainly funded by the Federal Foreign Office, the Federal Ministry of Research, Technology and Space, the Federal Ministry for Economic Cooperation and Development and the European Union. Other sponsors are foreign governments, companies, foundations and the "Stifterverband für die Deutsche Wissenschaft". The DAAD is headquartered in Bonn with an additional office in Berlin that includes the renowned Artists-in-Berlin Program. A worldwide network of 56 foreign offices and around 350 lectureships, long-term lecturers and German Studies teachers maintains contact with partner countries across all continents and provides advisory service on the ground.

www.daad.de/en



Headquartered in Hannover and Berlin, the **German Centre for Higher Education Research and Science Studies (Deutsches Zentrum für Hochschul- und Wissenschaftsforschung, DZHW)** is a research institute funded by the federal and state governments. As an international competence centre for research on higher education and science studies, the DZHW collects data and carries out analyses, provides research-based services for policy-makers in higher education and science and serves the scientific community as a research infrastructure in the field of higher education and science studies.

Research conducted by the DZHW is theory-driven and application-oriented. It places particular emphasis on the long-term observation of developments in higher education and the scientific sector. The DZHW has gained a reputation for its unique nationwide surveys of school leavers, students and graduates, and for its scientific studies on the internationalisation of the German higher education system, lifelong learning, higher education governance and funding. Its research activities focus on educational careers and graduate employment, the research system and science dynamics, governance in higher education and science, and methods of empirical social research.

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