

# Incoming student mobility in Dutch higher education 2017-2018

[www.nuffic.nl/mobility-statistics](http://www.nuffic.nl/mobility-statistics)

## Summary

During academic year 2017-2018 at least 122,000 international students study in Dutch higher education. This is the highest number ever recorded. The group of international students consists of all bachelor's and master's students with a non-Dutch secondary education diploma who enrol for a full degree in public higher education, as well as international students who come to the Netherlands for a shorter period – for exchanges, internships, foundation years or independent research. In addition, there are almost 5,000 foreign PhD students in the Netherlands.

In 2017-2018, 89,947 internationally mobile degree students were enrolled in universities in the Netherlands.<sup>1</sup> This meant a growth of 8,301 students, or 9.3% compared to 2016-2017. This growth took place in a relatively evenly distributed manner throughout the higher education system. The strongest growth (22.1%) took place in master's programmes at universities of applied sciences (UAS).

Overall, 14.8% of all new enrolments for study programmes came from international students. Some 3 in 10 (29.4%) of all new enrolments at research university (RU) master's level were by international students, versus 1 in 4 (26.3%) at UAS master's level. At RU bachelor's level, 1 in 5 (20.0%) new enrolments were by international students, while at UAS bachelor's level this was 1 in 12 (8.4%).

Master's programmes at research universities have the largest international student populations (24.5% of all students come from abroad), especially in study programmes in Engineering, Agriculture and Economy. At bachelor's level, the UAS programmes in Fine Arts (*kunstvakonderwijs*) (34%) and the University Colleges at research universities (40.9%) have the most international student population.

At research university master's level, a majority of programmes (3 in 4) are offered in English only in 2017-18. At RU bachelor's level, 1 in 5 programmes is offered in English, varying quite a bit by field of study. At universities of applied sciences the figures over 2016-17 indicate that 25% of master programmes, and 5% of bachelor programmes are offered exclusively in English. Around 80,000 Dutch students and 40,000 international students are currently enrolled in a study programme which is exclusively taught in English.

The number of German students in the Netherlands further declined, resulting in a more balanced international student population in terms of nationalities. The strongest growth came from students from Italy, Romania, India, Spain, France and the United Kingdom. In 2017-2018, students with a total of 162 different nationalities were enrolled in the Netherlands in higher education.

The diversification of the international student population is mirrored in the development of the different sectors, types, institutions and fields of study in which international students enrol.

Maastricht University remains the university with the highest number of international students in the Netherlands, followed by the University of Amsterdam and the University of Groningen. All universities of applied sciences with programmes in Fine Arts (*kunsthogescholen*), programmes in Hospitality and in International Business attract above-average numbers of international students, as do most technical universities.

<sup>1</sup> Universities = universities of applied sciences (UAS, HBO) + research universities (RU, WO).

Geographically speaking, international students also show very distinct preferences in where they enrol, at what institutions, and for what type of study programmes. Amsterdam is the city where the most international degree students are enrolled (12,200), although this group is just over 11% of all students in the city. Maastricht, on the other hand, has the highest share of international students in its entire student population (58%). The province of South-Holland is hosting most international students (24,000).

National policies and efforts in specific target countries seems to be paying off: the number of international degree students from countries with a Nuffic Netherlands Education Support Office (Neso) doubled over the course of 10 years, while new enrolments from countries with a Neso office almost tripled in that same period.

In 2016-2017, at least 12,750 Erasmus+ students came to the Netherlands, some 75% of whom for a study exchange, and about 25% for an internship. Germany, Spain and France were the main countries of origin, out of a total of 32 programme countries. Incoming and outgoing student mobility within Erasmus+ is very evenly balanced at the national level.

Over 19,360 credit mobile students came to the Netherlands from countries outside the European Union/European Economic Area (EU/EEA) for a period of at least 90 days, and were thus obliged to obtain a residence permit for higher education, in 2016 (latest available data).

Some 4 in every 9 PhD students in the Netherlands don't have the Dutch nationality. Quite a few of them are likely to have first entered the Netherlands as a talented international exchange, bachelor's or master's student. Academic knowledge migration to- and from the Netherlands adds to brain circulation, according to the OECD, the Rathenau Institute and the *Planbureau voor de Leefomgeving*<sup>2</sup>.

With international students forming just over 10.7% of its student population in 2015, the Netherlands attracted more students than the OECD average (5.6%). The Netherlands attracts relatively many students from within the EEA region compared to other European countries. With a global market share of 2% of all mobile degree students worldwide, the Netherlands ranks alongside countries such as Germany, Denmark and Sweden, and seems to be competitive in the global competition for talent.

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<sup>2</sup> OECD (2016), [download](#). Rathenau Institute (2017), [download](#). Planbureau voor de Leefomgeving (2014) [download](#).

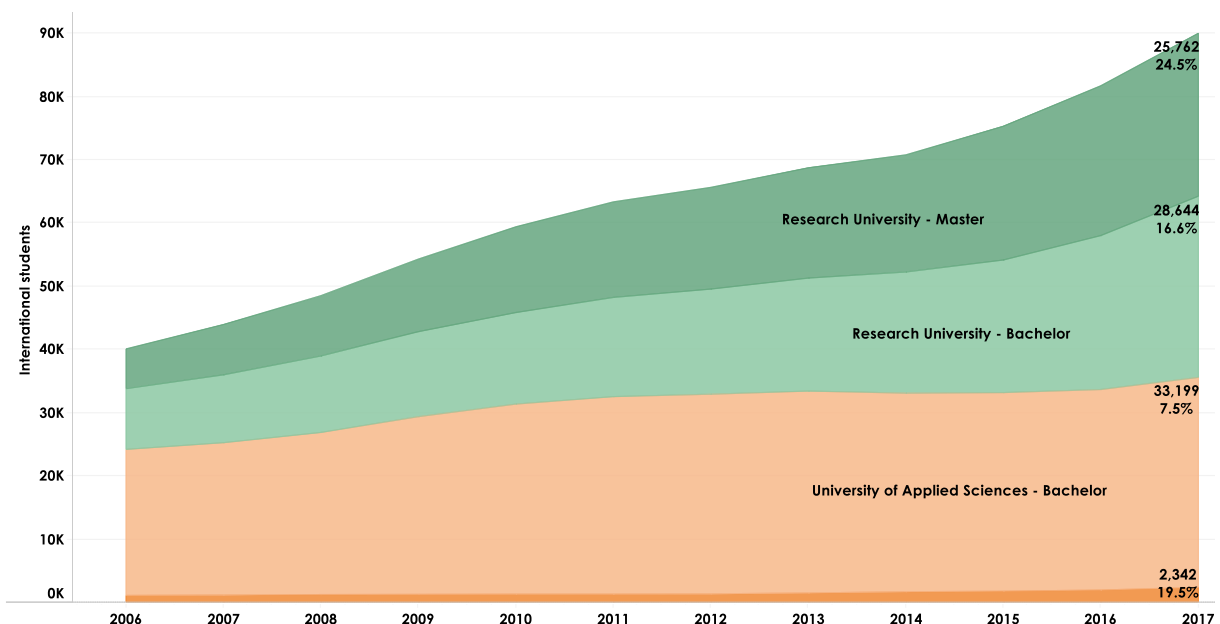
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# 1. Incoming degree mobility

## 1.1 Total numbers & yearly growth rates

In academic year 2017-2018, a total number of 89,947 internationally mobile students were enrolled in an accredited degree programme in public higher education in the Netherlands.<sup>34</sup> This is an increase from the previous academic year of 8,301 students. These international students had a total of 162 different nationalities. This mix in countries of origin adds to the diversity in international classrooms, which is a crucial precondition for intercultural learning.<sup>5</sup>



**Visual 1:** Total number of international degree students in the Netherlands over time. Total number and relative shares divided by UAS/RU, and bachelor's/master's. Latest = 2017-2018, sum of total = 89,947.

The number of international degree students is highest for bachelor's programmes at universities of applied sciences (33,200). However, the share of international students is rather modest here (7.5% of all students). In research university bachelor's programmes, the numbers

<sup>3</sup> International student mobility in higher education is defined as crossing a national border to study. The criterion for degree mobility is the country where students obtain their qualification (ISCED levels 3 or 4) giving them access to the higher education system in the destination country (ISCED levels 5, 6 and 7), i.e. the country where students obtain their secondary school degree. **Definition:** UNESCO, OECD, & EUROSTAT. / NLD statistics: CBS, DUO, Nuffic.

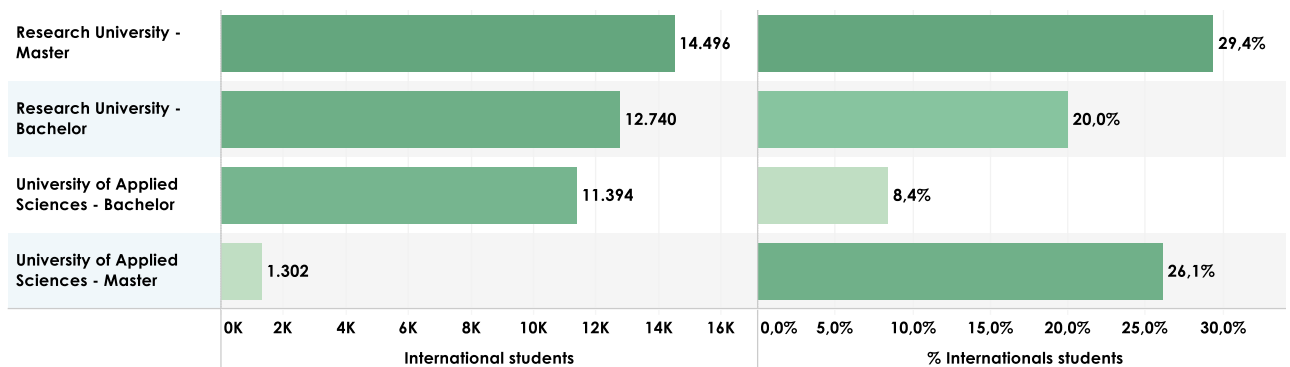
<sup>4</sup> Data source for Netherlands: all international students who were enrolled in an associate, bachelor's or master's degree programme at a university of applied sciences or research university in the Netherlands. **Source:** DUO 1 Cijfer HO 2017.

<sup>5</sup> Since the definition of international degree student is based on a non-Dutch prior education at secondary-school level (ISCED 3), in combination with strongest nationality (NL over EEA nationalities, EEA nationalities over non-EEA nationalities), 'international student' and 'country of origin' in this report relate to the degree mobile students in higher education are sorted by nationality.

are somewhat lower (28,600), but the share of international students is more than double (16.6%). This is even more true for master's programmes at research universities (25,800, 25.5%), and for the fairly small master's programmes at universities of applied sciences (2,300, 19.5%). Much of this trend has to do with the number of programmes taught in English or other languages, strategic recruitment efforts, and the nominal lengths of study programmes (UAS bachelor's: 4 years; RU bachelor's: 3 years; master's: 1 or 2 years).

## 1.2 New enrolments

Looking specifically at new enrolments of international degree students, the number of new enrolments in public Dutch higher education increased by 4,098 to 39,932 international students, making up 14.8% of all new enrolments.<sup>6</sup>



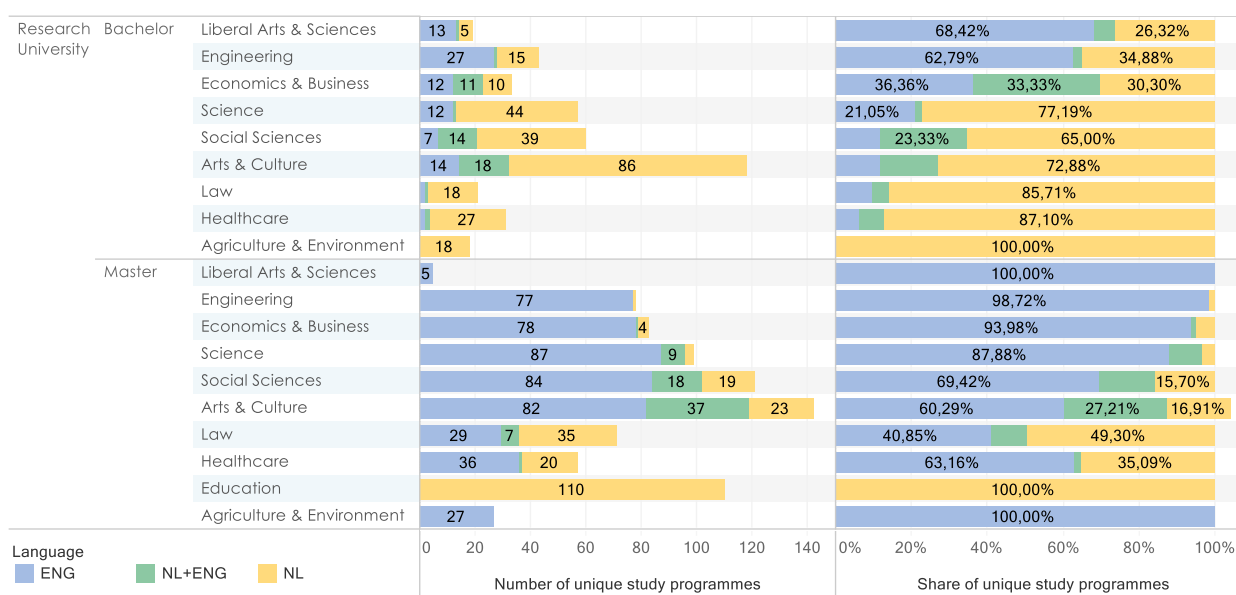
**Visual 2:** Number and share of new enrolments from international degree students, per type of institution, and type of education in 2017-2018.

Both in terms of absolute and relative growth, master's programmes at RUs are increasingly popular amongst international degree students. In 2017-2018, 14,496 newly enrolled international master's students made up 29.4% (or 3 in 10) of all new enrolments in these programmes. The 12,740 newly enrolled international students in bachelor's programmes at RUs made up 20.0% (1 in 5) of all new enrolments. At UAS master's level, the share of international students among all new enrolments was 26.1% (1 in 4). In UAS bachelor's programmes, international enrolments made up 8.4% (or 1 in 12) of all new enrolments at programme level.

<sup>6</sup> New registration at programme, includes re-registrations at programme, institution, type and sort of higher education, in the Netherlands. 1 cijfer HO 2017 register data definitions.

### 1.3 English taught programmes

In 2017-2018, 65% of all unique (N= 405) bachelor's programmes at research universities were only offered in Dutch. Some 23% were only offered in English, and 12% were offered in multiple languages. For master's programmes at research universities, 16% were offered only in Dutch, 74% only in English, and 11% were offered in multiple languages. There are distinct differences between fields of study. At bachelor level, Engineering and Liberal Arts & Sciences offer the majority of their programmes in English, and Economics & Business takes a middle position. Programmes in all other fields of study are mostly taught Dutch. For master level programmes, English is the most common language of instruction, except for programmes in Health Care, Law and Education.



**Visual 3:** Number and share of new enrolments from international degree students, per type of institution, and type of education in 2017-2018.

For universities of applied sciences, the study programme language was not yet validated for 2017-2018 at the time of writing. The 2016-2017 figures for bachelor's programmes were that 6% were taught in English and 5% in multiple languages, and for master's programmes 25% English and 5% in multiple languages. English-taught programmes are thus the exception for most of the programmes at universities of applied sciences.<sup>7</sup>

Study programme departments and universities opt for English-taught programmes for the following reasons: a) they aim to create an ambitious international classroom with a diverse mix of nationalities, in which students obtain valuable intercultural skills; b) the labour market for many graduate students is increasingly international; c) Dutch students are increasingly enrolling in the English-taught variants of programmes offered in multiple languages; d)

<sup>7</sup> [www.know.nl/nl/actueel/publicaties/nederlands-en-of-engels](http://www.know.nl/nl/actueel/publicaties/nederlands-en-of-engels) (in Dutch).

scientific, economic and societal problems are becoming more global. Students and graduates assess programmes offered in English just as positively as or even slightly better than programmes offered in Dutch.<sup>8</sup>

## English instrumental in international experience

In 2017-2018, the Royal Netherlands Academy of Arts and Sciences (KNAW) published two reports on language and the education sector: The findings were that in higher education the decision on which languages to use in teaching must be taken at study programme level, and must be in line with the learning goals and curriculum contents of that specific study programme. Additionally, the KNAW calls for increased structural attention throughout the education sector for teaching and learning Dutch (especially for non-native speakers), the proper use of English language strategies, and for more attention for other modern languages, such as German, French, Arabic, Turkish, Spanish and Chinese.

Nuffic welcomes the ongoing debate on the use of English in education in relation to broader societal issues, such as quality education, diversity, knowledge migration, brain circulation and international talent. It is important to note that internationalisation does not simply concern the use of English, but revolves around intercultural teaching and learning. Nuffic supports the KNAW conclusions on the ways in which universities can best deal with language policy. Nuffic also agrees with the view that, at bachelor's level, students should be able to choose to follow a specific programme in either Dutch or English, at least at one university in the Netherlands. Finally, it is important to note that other modern languages are also of great importance to both students and teachers. In that regard, higher education could benefit a lot from insights and experience with CLIL didactics on bilingual education in secondary education in the Netherlands (*TTO in VO: tweetalig onderwijs in voortgezet onderwijs*; i.e. 'bilingual teaching in secondary education').

[www.nuffic.nl/bestanden/documenten/engels-in-het-hoger-onderwijs-instrumenteel-voor-internationale-ervaring](http://www.nuffic.nl/bestanden/documenten/engels-in-het-hoger-onderwijs-instrumenteel-voor-internationale-ervaring) (in Dutch)

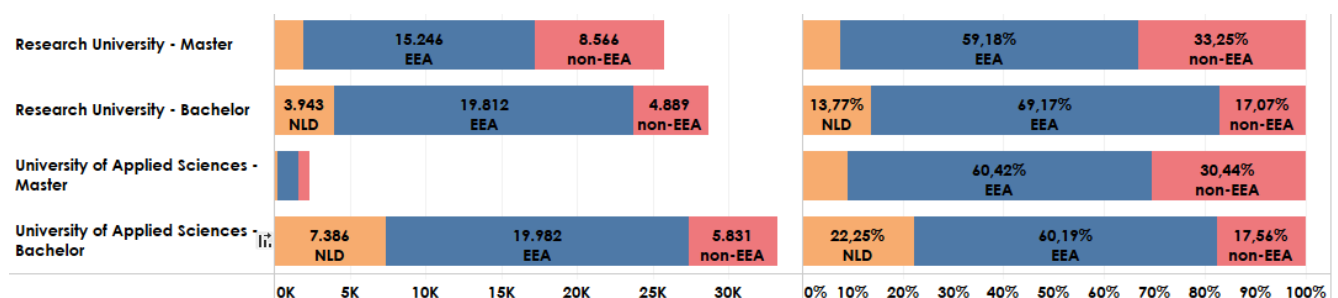
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<sup>8</sup> VSNU (2017-2018) factsheet on language policies at research universities in the Netherlands. [Download](#).



## 1.4 Countries of origin

The division between international degree students from inside the European Economic Area (EEA) and outside the EEA (non-EEA) changed somewhat, with a larger relative increase of non-EEA students (+2,901; 17.1%) than of EEA students (+5,387; 8.3%). Non-EEA students now number 20,000 in total (22.23% of all international students), and they relatively often enrol directly in master's programmes (1 in 3 international master's students has a non-EEA nationality). In comparison to other European countries, the Netherlands has relatively few students from outside the EEA.



**Visual 4:** International students divided by RU/UAS, bachelor's/master's, Dutch (NLD, i.e. homecoming)/ EEA nationalities/non-EEA nationalities, 2017-2018. In total numbers and as a share.

Of the remaining 69,950 international degree students with an EEA nationality, almost 13,500 have the Dutch nationality, and can thus be categorised as 'homecoming students'.<sup>9</sup> These homecoming students usually enrol in bachelor's programmes, in particular at a UAS. The distinction between Dutch and homecoming students, EEA students and non-EEA students is an important one, because of the logic embedded in the funding mechanism in Dutch higher education.<sup>10</sup> The distinction between EEA and non-EEA students is made because EEA rules dictate that no differentiation may be made between countries within the EEA in prices of goods and services. As a result, students from within the EEA pay the same tuition fee Dutch students do, while universities may decide on the tuition fee themselves for non-EEA students.

The number of German students enrolled at a Dutch UAS declined for the 6<sup>th</sup> year in a row, while the number of German students at RUs increased for the 3<sup>rd</sup> consecutive year. On balance, the total number stayed about the same. With almost 22,200 students, Germany remains by far the most important country of origin, with just under 25% of all international students in the Netherlands (down from almost 40% in 2011-2012).<sup>11</sup> China remains in second place (5%), with almost 4,500 students (+135). The number of Chinese students increased at RUs and further decreased at UAS, continuing a trend that started in 2011-2012, and mirroring the trend for German students. It is worthwhile noting that the stagnation of German and Chinese students numbers, in particular at UAS, is directly linked to demographic developments and increasing investments in higher education in these two countries.

<sup>9</sup> A homecoming student is a student with the Dutch nationality who followed secondary education outside the Netherlands, and then 'came back' to enrol for a bachelor- and/or master programme in the Netherlands.

<sup>10</sup> [www.knaw.nl/nl/adviezen/gepubliceerde-adviezen/verkenning-talen-in-nederland](http://www.knaw.nl/nl/adviezen/gepubliceerde-adviezen/verkenning-talen-in-nederland) (in Dutch).

<sup>11</sup> Please see Nuffic (2015) '[Drop in number of German students in the Netherlands](#)' for further analysis.

## International students & higher education funding

Overall, international students are a net positive for the Netherlands knowledge economy and state finance. Based on DUO student registrations, CBS figures on stayrates and CPB modelling on brain gains, Nuffic found that after graduation, international students contribute at least € 1.57 billion annually. Three in every four graduates leaves the Netherlands eventually, thus making a 'brain drain' in countries of origin less likely.

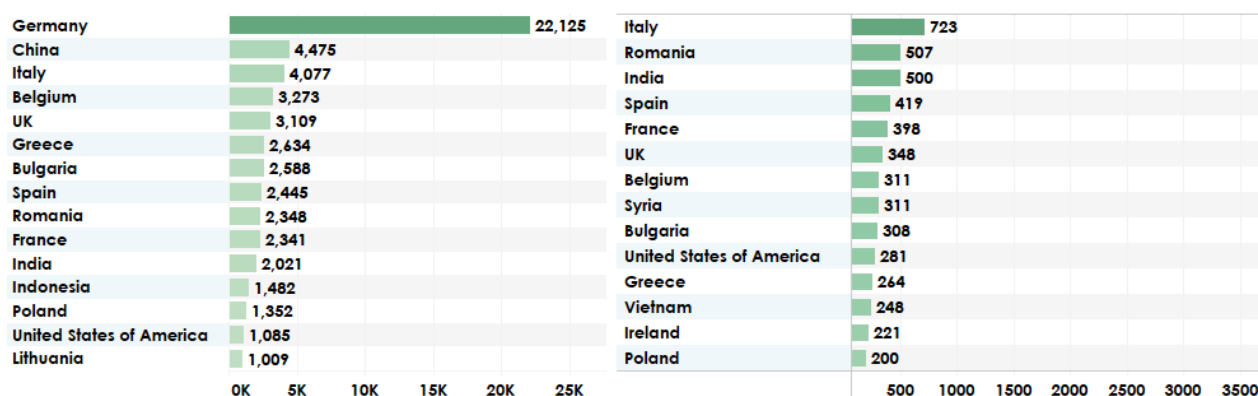
Recent discussions about increasing student numbers and decreasing government expenditures per student (*rijksbijdrage*) have also questioned the extent to which universities have financial incentives to recruit and enrol more (international) students. Students from outside the EEA pay institutional tuition fees, which are calculated at cost coverage / break even. Furthermore, depending on the specific study programme, one additional student enrolling can be either positive, neutral or negative, in financial terms. This is because average and marginal costs are distributed unevenly against relatively even average benefits, and because of the difference between fixed (*vaste voet*) and flexible (*variabele*) parts in financing.

Higher education financial experts have warned that there is a tipping point at which all additional students enrolments, either Dutch or international, will actually decrease the available financial means. There is no way in which this point can be determined exactly, but the ongoing discussion on the subject might be an indication that it is near. The ministry of Education, Culture and Science is looking at options to tweak the current funding system for higher education and obtain more long-term stability. This would be benefit qualitative internationalisation strategies, focused on a balanced international student inflow, in well-designed international classrooms.

### Current developments #1:

In light of the decrease in the numbers of German and Chinese students enrolling in the Netherlands, universities are looking towards alternative focus countries for their international marketing and recruitment strategies. Various Southern, Central and Eastern European countries look promising (see paragraph 1.4). Furthermore, Asia and to a lesser extent Africa and South America are predicted to be the future drivers for demand in international tertiary education (see chapter 4). Well informed recruitment strategies, based on relevant market intelligence, are a key factor here.

Nuffic offers public higher education institutions free access to market information. Furthermore Nuffic provides assistance in mapping the future potential of possible target counties as a tailor made service. [Market information statistics](http://www.nuffic.nl/market-information) & [tailor made services](http://www.nuffic.nl/market-information): [www.nuffic.nl/market-information](http://www.nuffic.nl/market-information), [Nuffic Academy](http://www.nuffic.nl/market-information), workshop on mobility statistics: [www.internationalisering.nl/training/mobiliteitsdata/](http://www.internationalisering.nl/training/mobiliteitsdata/).



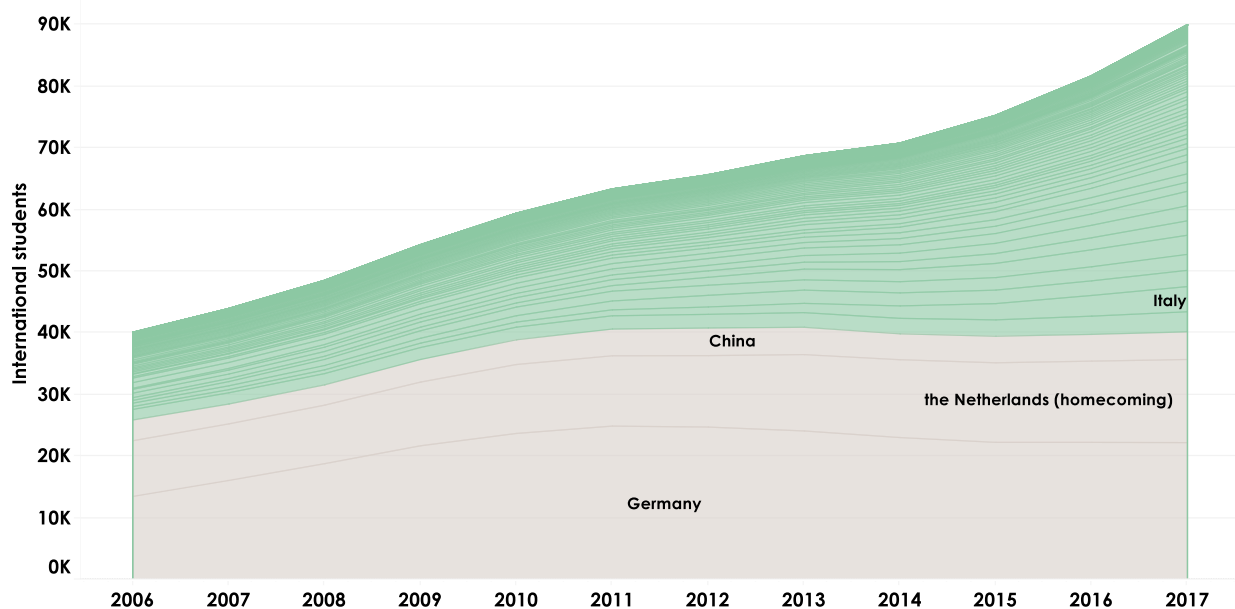
**Visual 5:** Top countries of origin, by nationality of international students in 2017-18 (left), and strongest growers on 2016-17 (right).

The strongest country in absolute growth of number of international students enrolled was once again Italy. With an increase of over 700 students and a total of almost 4,100 students enrolled, Italy has overtaken Belgium as the 3<sup>rd</sup> most important country of origin, and is set to overtake China next academic year. Belgium (4<sup>th</sup> place) had almost 3,300 (+300) international degree students enrolled in the Netherlands in 2017-2018. The United Kingdom continued its stable growth (+350), and now takes 5<sup>th</sup> place, with over 3,100 students in the Netherlands.

### Current developments #2:

Great Britain is currently one of the leaders in international higher education, attracting more international students than any other country except the US. Furthermore, British universities are often the premier partner of Dutch universities in student exchanges (Erasmus+) and scientific collaboration (Horizon 2020, P9, etc). Repercussions of a Brexit could have very negative consequences for all collaborative efforts with the UK/ At the same time, British and international degree students start looking at countries like the Netherlands as an alternative study destination. In all scenario's, it is vital for the Dutch higher education sector that existing relations are safeguarded by new agreements – preferably in a EU27/Great Britain setting or otherwise bilaterally.

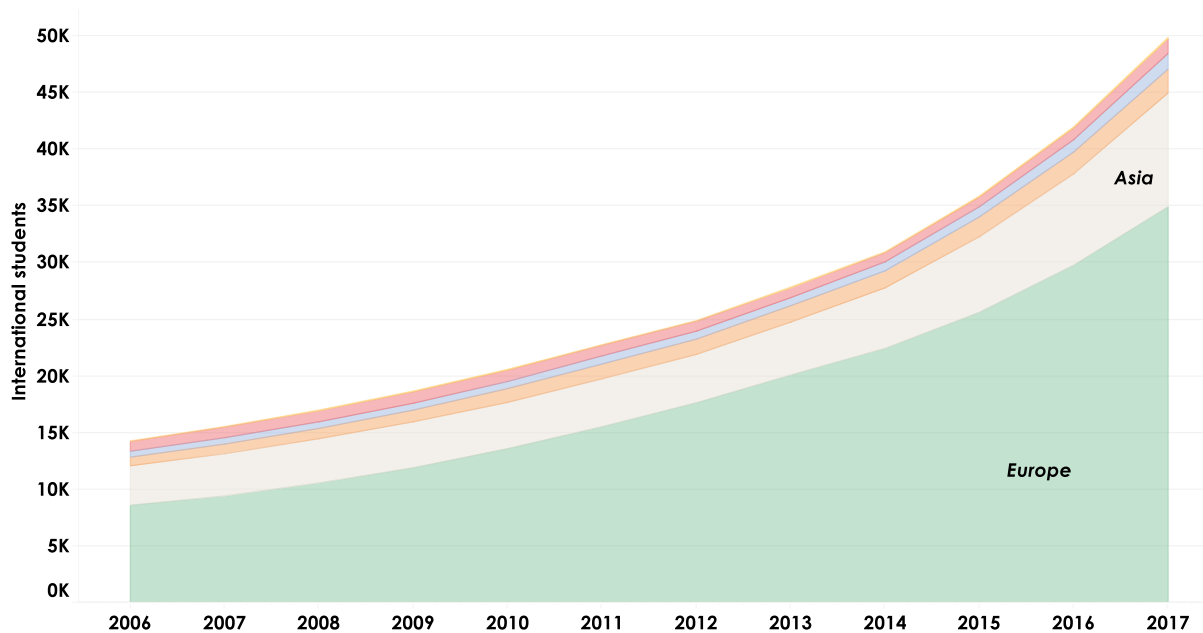
More detailed analysis on Brexit by Marijk van der Wende and Jurgen Rienks in ESRC and HEFCE (2018). [Download.](#)



**Visual 6:** International degree students by country of origin, in the period between academic years 2006-2007 and 2017-2018. Top 3 groups from Germany, the Netherlands (homecoming) and China have been stabilising or declining since 2010-2011.

The number of students from Greece (in 6<sup>th</sup> place) in the Netherlands increased by about 250, to over 2,600. Student populations from Bulgaria (+300), Spain (+400), France (+400) and Romania (+500) all grew by a fair amount, and are now in places 7 through 10, with total numbers between 2,350 and 2,600. Neso countries India and Indonesia, are in 11<sup>th</sup> and 12<sup>th</sup> place, with over 2,000 students (+500) and nearly 1,500 students (no change) respectively. Poland (in 13<sup>th</sup> place, with 1,350 students) and Lithuania (15<sup>th</sup> place, 1,000 students) remain relatively stable regarding their position. Long expected growth from the United States (+300) leaves it in 14<sup>th</sup> place, with almost 1,100 students. This is likely related to the Generation Study Abroad programme.<sup>12</sup>

<sup>12</sup> Please see: [www.nuffic.nl/nieuws/nuffic-news/nauwere-onderwijsamenwerking-met-vs-is-kansrijk](http://www.nuffic.nl/nieuws/nuffic-news/nauwere-onderwijsamenwerking-met-vs-is-kansrijk) (in Dutch) and IIE programme website: [www.iie.org/Programs/Generation-Study-Abroad](http://www.iie.org/Programs/Generation-Study-Abroad)



**Visual 7:** International degree students by continent of origin, from 2006-2007 to 2017-2018. Excluding Germany, the Netherlands (homecoming) and China ('grey' in visual 4). This group tripled in size over the last 10 years.

### Current developments #3:

The increasing diversity in nationalities and countries of origin of international students, could be very beneficial for the Netherlands. First of all, it makes the higher education system less dependent on the developments in a specific country of origin, such as Germany or China. Second, and more importantly, well designed international classrooms, with a diverse students population, are most beneficial for intercultural learning and enhancing quality of teaching & learning.

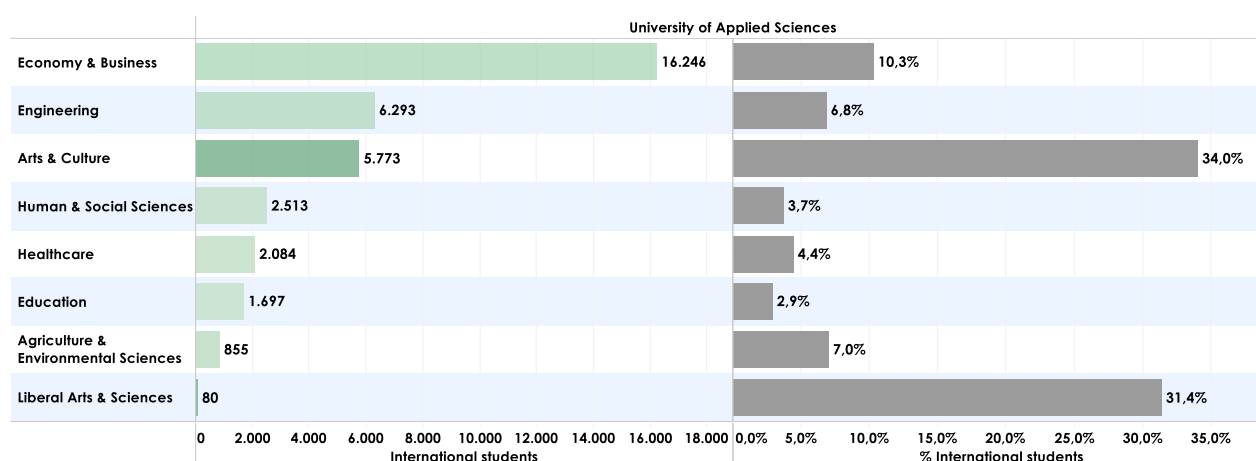
(VSNU (2017), Interactive factsheets on international students at research universities. [Weblink.](#))

Finally, increasing attention for international diversity aligns neatly with the attention for diversity at a national level - in terms of Dutch students with a migration background.

The increasing attention for diversity in higher education is exemplified by the instigation of Chief Diversity Officers (CDO's) at major institutions such as [Leiden University](#), the [University of Amsterdam](#), [VU University Amsterdam](#), [Technical University Eindhoven](#), [Groningen University](#) and [Erasmus University Rotterdam](#).

## 1.5 Fields of Study: UAS

At UAS level, the field of study that has the highest relative share of international students is Arts and Culture. Over 5,773 students make up 34.0% of all students in this sector, a share that has been more or less constant over the last decade. The most popular programmes in this field for international students are Music, Visual Arts, Dance, Theatre and Architecture. Students from Germany have traditionally been the predominant group in this field, but their numbers have been declining (from almost 1,200 in 2006-2007 to under 650 in 2017-2018). Over the last few years there have been large increases in the numbers of French, Italian and Spanish students in this field, which more than compensates for the declining number of German students.



**Visual 8:** International degree students at universities of applied sciences, per field of study (HOOP): 2017-2018.

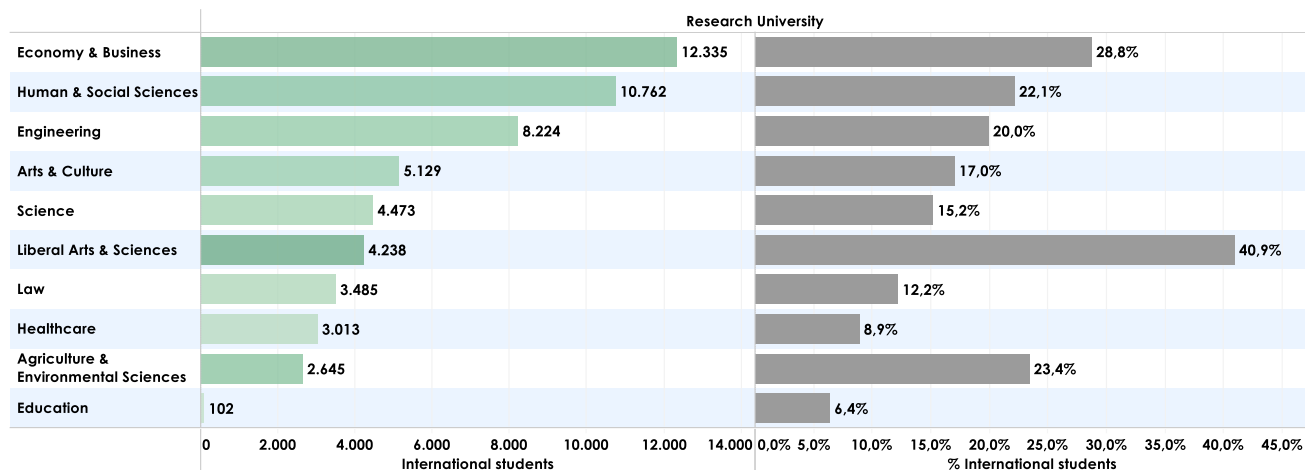
In terms of absolute numbers, there are even more international students in the UAS fields of Economics & Business (over 16,250) and Engineering (over 5,750). With regard to Economics & Business, the International Business and Management Studies (IBMS) degree programme is the most popular with international students, while in Engineering this is Information and Communication Technology (ICT). However, the relative shares of international students in these fields are much lower than in Arts and Culture, at 10.3% (Economics & Business) and 6.8% (Engineering).

All other fields of study at UAS level have even lower numbers and shares of international students, with Education having the smallest share: only 2.7% of students in this field come to the Netherlands from abroad. For education, this poses the challenge that the students aspiring to become teachers themselves, and who will have to deal with an increasingly diverse society and school environment, are the least likely to encounter international students as fellow students.<sup>13</sup>

<sup>13</sup> Low incoming degree mobility in the education sector is mirrored by low outgoing credit mobility. [Download](#). Teacher training programmes should thus be a premier focus of future strategic internationalisation agendas.

### 1.6 Fields of Study: RU

At RU level, Economics & Business is the largest field of study for international students in terms of absolute numbers (12,350 international students in 2017-2018). In terms of relative share, Economics and Business is also a very internationalised field, with 28.8%, or over 1 in 4, of all students coming from abroad.



**Visual 9:** International degree students at research universities, per field of study (CROHO): 2017-2018.

However, there is one field that has an even higher share of international students: in Liberal Arts and Sciences programmes, 40.9% all students come from abroad. Programmes in this field are mainly taught at University Colleges in the form of a broad and intensive bachelor's programme. The relative share of about 40% international students in Liberal Arts and Sciences has remained very constant since 2006-2007. Due to the exponential growth of the field itself (fivefold increase in student numbers in 10 years), the numbers of international students also increased rapidly, from slightly over 300 in 2006-2007 to almost 4,250 in 2017-2018.

In other fields of study at RU level, the numbers and shares of international students vary somewhat, with Education, Healthcare and Law being the least popular with international students. This is unsurprising, as these are fields which, because of their curriculum and their distinct link to the national labour market and public sector, must place heavy emphasis on the academic use of Dutch.

#### Current developments #4:

In order to achieve well balanced international classrooms, it might be worthwhile to look at more strategic recruitment- and retention initiatives. By directing marketing- and recruitment efforts, funding opportunities and university cooperation towards countries which are underrepresented in a particular international student population and/or students in specific fields of study, more diversity and higher education quality could be achieved. The recent initiatives under the Taskforce Country Strategy are promising, in this regard, because they mark a step towards a more focused partner country approach in Germany, Canada, China and Indonesia.

[www.rijksoverheid.nl/documenten/rapporten/2017/12/19/taskforce-landenstrategie-hoger-onderwijs](http://www.rijksoverheid.nl/documenten/rapporten/2017/12/19/taskforce-landenstrategie-hoger-onderwijs) (in Dutch)

### 1.7 Institutions

When looking at the top 10 institutions within the Netherlands by total number and share of international students, we can roughly identify 5 clusters.

- 1) Maastricht University is the absolute frontrunner when it comes to attracting international students.
- 2) There is a group of research universities with quickly growing populations of international students, based in Groningen, Amsterdam and Rotterdam.
- 3) The 4TU (Engineering & Science) universities mentioned previously, especially at masters level.
- 4) The universities of applied sciences in Fine Arts.
- 5) The universities of applied sciences with study programmes in Hospitality and Tourism.

Maastricht University is the most international institution in the Netherlands. In 2017-2018, over 9,610 international students make up 58.0% of all students at this university. In 2006-2007, some 75% of all international students at Maastricht University were still either from Germany or Belgium. Although Germans and Belgians are still significant groups (about 50% in total), Maastricht University now also hosts significant numbers of students from Italy, the United Kingdom, France, Poland, Spain, Bulgaria, China, Greece, Finland and Romania.



## 4TU

The Dutch knowledge economy has a structural shortage of highly skilled employees in technical professions. The 'techniekpact' (STEM pact: Science, Technology, Engineering and Mathematics pact) aims at strengthening the science and engineering curriculum throughout the education system, to increase the number of students enrolling in Science and Engineering programmes, and to improve the connections and transfer between post-secondary education and the labour market. Recruiting, training and retaining talented international students and graduates in Science and Engineering subjects is one way in which internationalisation contributes to the achievement of the STEM pact goals.

Both national and international student enrolments in STEM fields have been increasing for the last 10 year. The biggest increase in student numbers are due to Dutch students, especially girls, more often choosing technical profiles in secondary schools, and then going on to enrol in a STEM study programme in the Netherlands. Out of 8 engineering programmes with a numerus fixus the only programme with a substantial number of international students was Aerospace Engineering.

The largest relative increase was caused by extra international inflow. In 2006 about 25% of all students at one of the 4 technical universities (incl. Life Sciences) came from abroad, in 2017-18 this was close to 33%. The STEM pact thus seems to be a success, both nationally and internationally.

The three technical research universities based in Delft, Twente and Eindhoven, along with Wageningen University (Life Sciences), are 4 specialised technical/agricultural universities, referred to as the 4TU. They attract a lot of talented international graduate students, primarily at the master's and PhD levels. The total number of international master's students at these institutions has almost quadrupled since 2006-2007, from just under 2,250 to almost 8,500 students in 2017-2018. At Twente, Wageningen and Delft, the overall share of international students is 22-25%, giving them the 4<sup>th</sup> through 6<sup>th</sup> places in the list of institutions with the highest shares of incoming degree students. Eindhoven ranks 15<sup>th</sup>, with just under 15% international students.<sup>14</sup>

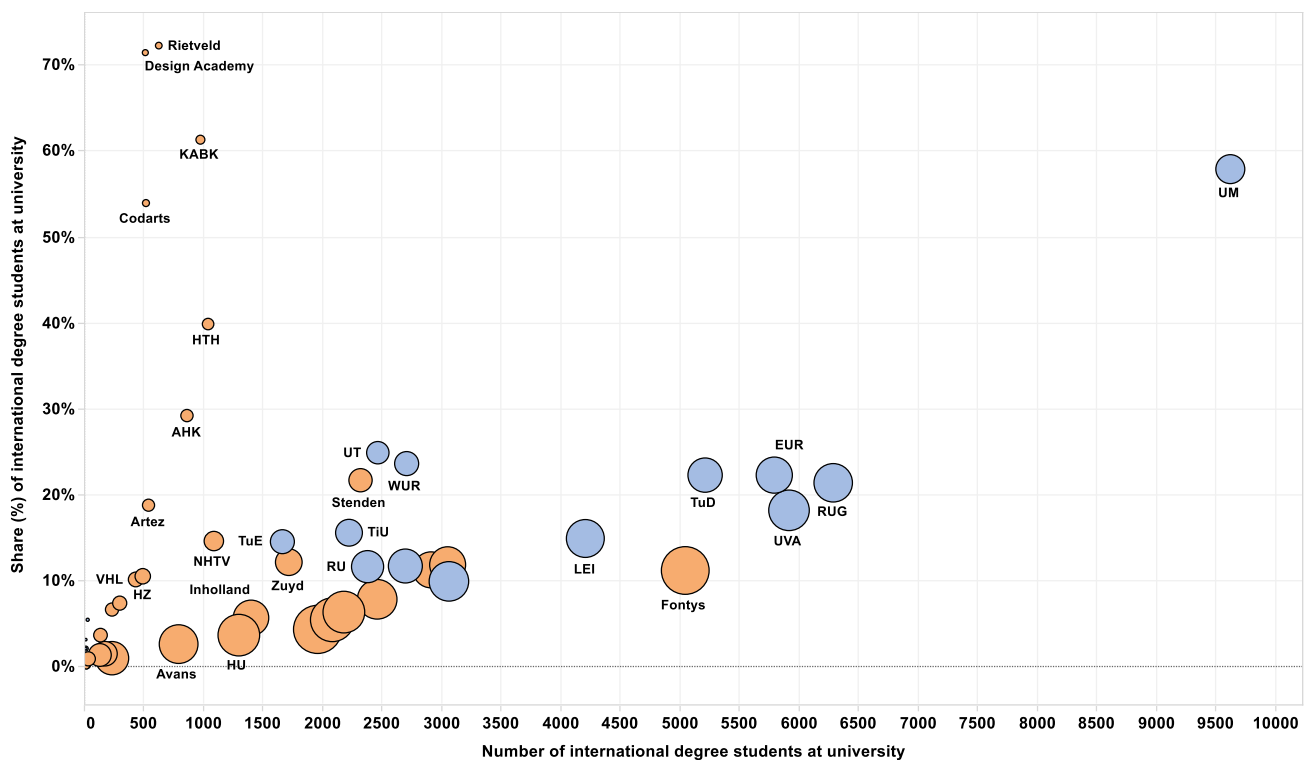
Number of international students at institution in 2017		Percentage international students at institution in 2017	
1	Maastricht University	9.621	58,0%
2	University of Groningen	6.290	39,8%
3	University of Amsterdam	5.916	29,2%
4	Erasmus University Rotterdam	5.791	24,9%
5	Delft University of Technology	5.212	23,6%
6	Fonlys University of Applied Sciences	5.029	22,3%
7	Leiden University	4.203	22,3%
8	Utrecht University	3.062	21,7%
9	The Hague University of Applied Sciences	3.052	21,4%
10	Saxion University of Applied Sciences	2.904	18,7%

**Visual 10:** International degree students in the Netherlands Higher Education, Top 10 institutions, 2017-2018.

<sup>14</sup> For the sake of comparison, we have excluded institutions that have fewer than 2,000 students enrolled. Please see [www.techniekpactmonitor.nl](http://www.techniekpactmonitor.nl) (in Dutch) for reporting on STEM education in the Netherlands.

Furthermore, institutes specialising in Hospitality, such as Hotelschool The Hague and Stenden, have very international student populations. Institutions specialising in Fine Arts, such as the Amsterdam School of the Arts, the Royal Academy of Arts and ArtEZ, also have very diverse international classrooms. This is even more true for very small Fine Arts institutes, such as the Gerrit Rietveld Academy, Design Academy Eindhoven and Codarts School for the Arts.

Finally, the University of Groningen, Leiden University, Erasmus University Rotterdam and the University of Amsterdam stand out as research universities that have seen a remarkable growth in international student enrolment over the last 10 years. In 2006-2007, these research universities had less than 5-10% international students (under 1,000 to 1,500 each). Leading up to 2017-2018, these numbers have risen to 6,300 (Groningen, 21.4%), 5,900 (Amsterdam, 18.2%), 5,800 (Rotterdam, 22.3%) and 4,200 (Leiden, 15.2%) respectively. All other research universities have between 10% and 15.6% international degree students.



**Visual 11:** Absolute number and relative share of international degree students, per university, in 2017-18.

The Hague University of Applied Sciences, Saxion University of Applied Sciences and Fontys University of Applied Sciences, which are all in the top 10 in terms of international student numbers, are rather large institutions, with relatively modest shares of international students (between 11.3% and 11.5%). Taken together, the top 10 institutions with the most international students, are home to over half (56%) of all international degree students enrolled in Dutch higher education.

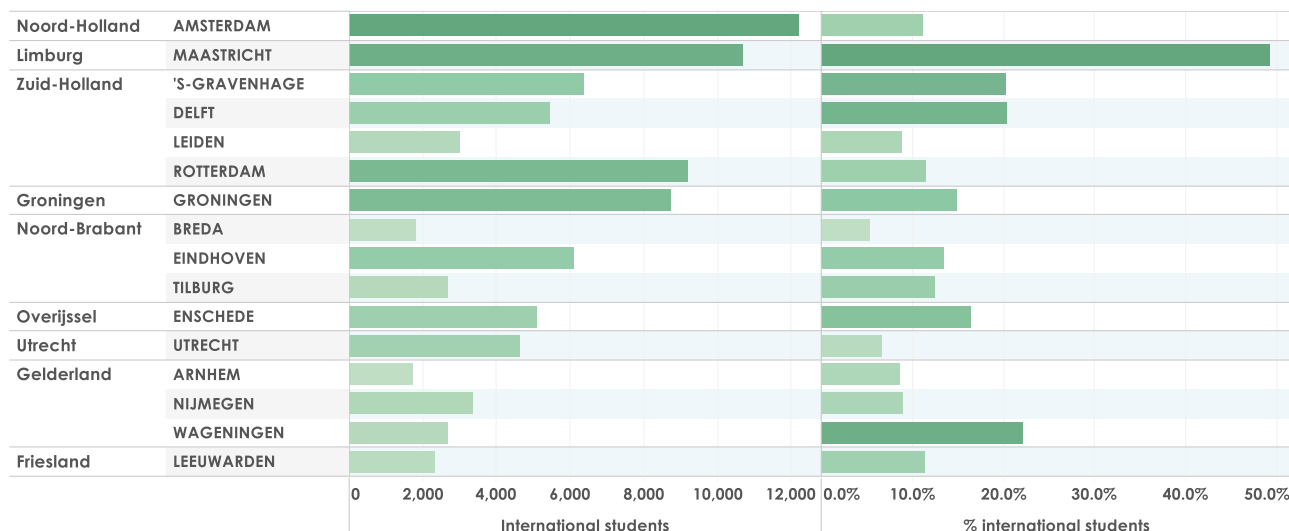
### Current developments #5:

The 'Make it in the Netherlands' programme, aimed at retaining talented international students, ended in 2016. No follow-up programme has yet been announced. Apart from the positive business case for various policies and activities aimed at retention, there is also a great demand from higher education institutions for a follow up programme. Such a new programme should be a joint effort from various government ministries, Nuffic, universities and knowledge intensive businesses. The Dutch government's reaction to Buijnk & ATWI is expected to formulate such a follow-up.

Adviesraad voor Wetenschap, Technologie en Innovatie (AWTI, 2017). [Download report.](#)  
Commissie Buijnk (2017) on international trade-, innovation- and investment. [Download report.](#)

## 1.8 regional differentiation

Geographically speaking, international students also show very distinct preferences in where they enrol, at what institutions, and for what type of study programmes. Amsterdam is the city with most international degree students enrolled (12,200), but this group constitutes just over 11% of all students. Maastricht has the highest share of international students in its entire student population (58.0%).



**Visual 12:** International students per province and city, location of study programme, 2017-2018. Min. 750 students.

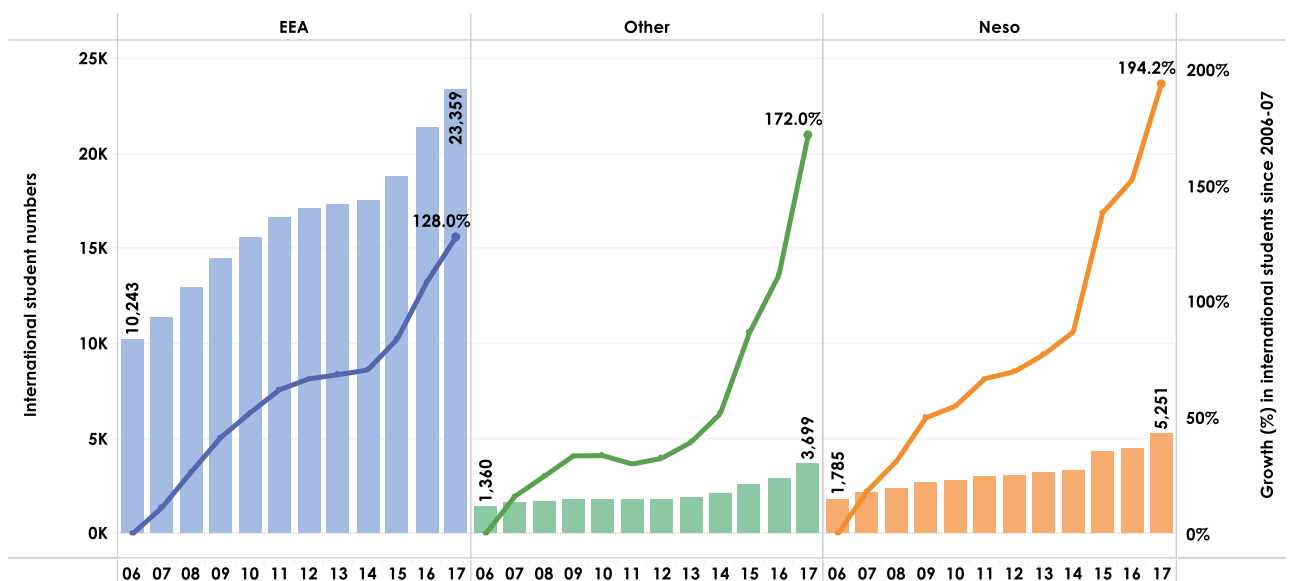
**Current developments #6:**

Ideally, national and strategic initiatives aimed at Study in Holland promotion, international recruitment efforts and intensified efforts at international student retention are ideally complemented by regional and local efforts. Together, universities, municipalities, provinces, local businesses can form effective consortia like Brainport Development, International Newcomers Amsterdam, or Welcome Centre North. Back in 2014, the Netherlands Environmental Assessment Agency (PBL), already concluded that international knowledge migrants are crucial to economic development, that the most effective policies and programmes need to be based on regional strengths, and that public-private partnerships are the best vehicle to make such policies and programmes work.

[www.pbl.nl/publicaties/buitenlandse-kenniswerkers-houden-van-de-stad](http://www.pbl.nl/publicaties/buitenlandse-kenniswerkers-houden-van-de-stad) (in Dutch).

**1.9 Countries with a Neso office**

In 2017-2018, the 11 countries with a Netherlands Education Support Office (Nuffic Neso) had 12,040 of their citizens enrolled as international degree students in government-financed Dutch higher education. This number has approximately doubled since 2006-2007. New enrolments from countries where a Neso is located tripled in that same period, from 1,785 to 5,251. This makes international students from countries with a Neso office the fastest growing group in Dutch higher education, relative to EEA students of non-EEA students from countries without a Neso. When taking into account all incoming students from Neso countries, including exchanges, internships, preparatory years and other short-stay visits, the number of incoming students from Neso countries grew to a total of 22,700 in 2016.



**Visual 13:** New enrolments of international students in the Netherlands, EEA-, non-EEA/non-Neso, and Neso countries, from 2006-2007 to 2017-2018. Absolute number (bar) and relative growth (line).

Most growth comes from students enrolling in a Master of Science (Msc) programme, such as Engineering programmes at research university level. International students from outside the EEA, and in the fields of Science, Health and Engineering, also show above-average stay rates and labour participation quotes.<sup>15</sup> International students in general, and students from countries with a Neso office in particular, are thus likely to make a positive contribution to the of goals of the STEM pact (STEM: Science, Technology, Engineering and Mathematics; referred to in Dutch as *techniekpact*), adding to brain circulation.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
China	3,355	3,214	3,292	3,667	4,011	4,332	4,475	4,438	4,205	4,308	4,340	4,475
India	227	247	295	373	466	500	537	671	909	1,298	1,521	2,021
Indonesia	913	963	907	849	807	867	865	879	1,011	1,200	1,501	1,482
Russia	279	285	323	338	355	402	440	510	603	696	711	789
South Korea	265	265	270	265	271	256	255	287	313	417	590	751
Vietnam	322	252	244	241	247	256	248	269	283	375	502	750
Turkey	260	318	355	437	438	396	321	294	289	354	474	656
Mexico	130	161	162	182	219	236	265	290	306	390	445	437
Brazil	83	111	113	111	121	121	124	137	182	235	265	310
Thailand	111	146	154	141	106	90	75	118	128	158	196	208
South Africa	59	58	64	51	63	66	79	96	102	114	139	161

**Visual 14:** International degree students from Neso countries in the Netherlands, from 2006-2007 to 2017-2018.

The largest increase from a single country with a Neso office was from India, with a growth of 500 students, with India remaining the second most popular country of origin with a Neso office. Indonesia, the country with the largest growth last year, experienced a slight decline, but is still solidly 3<sup>rd</sup> with 1,482 students. Even so, the largest country is (and constantly has been) China, which has also shown an increase of 135 students. The other countries where a Neso is located, with the exception of Mexico, showed growth of between 12 and 248 international students. In addition, with the exception of China, all countries have posted growth rates of students between 50% and 200% over the last 5 years.

### Current developments #7:

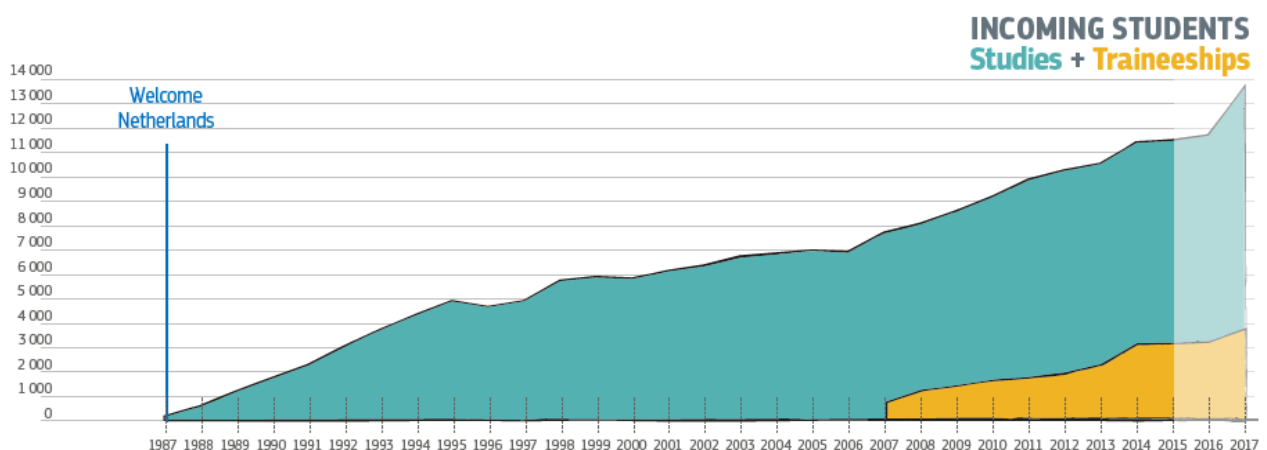
The main strategic goal of the Nuffic Netherlands Education Support Offices (Nesos) is to position and brand Dutch Higher Education. For the past decade, a significant 40 percentage points difference in enrolments of international degree students has been achieved. Considering the Netherlands relatively low share of (self-paying) non-EEA nationalities among international students, the activities of the Nuffic Nesos add to the increasing diversity in the international classroom.

<sup>15</sup> Nuffic (2016), *Analyse stayrate van internationaal afgestudeerden*. [Download](#) (in Dutch).

## 2. Incoming credit mobility

### 2.1 Europe: Erasmus+

Erasmus+ is the most important credit mobility programme. Since its inception in 1987, over 9 million European citizens have participated in the programme and benefited from it. Almost 4.5 million students in European higher education have gone on study exchange or work placement in another European country. Celebrating its 30<sup>th</sup> anniversary in 2017, the programme is the most important programme of its kind worldwide, facilitating the majority of all registered credit mobility of higher education students between European countries.<sup>16</sup>

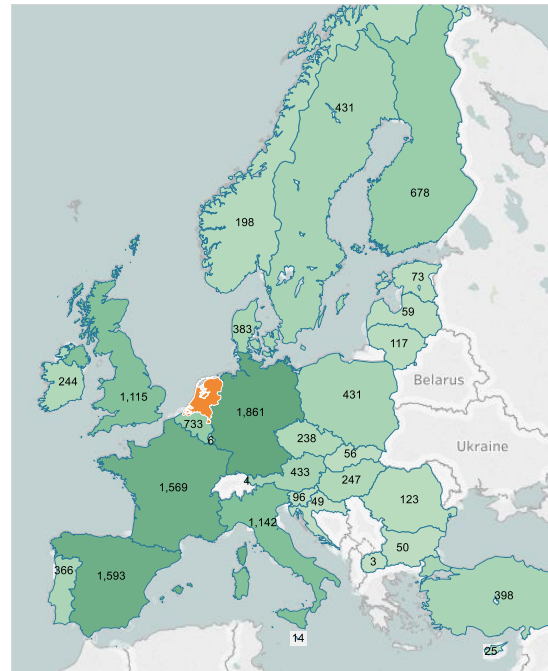


**Visual 15:** Incoming Erasmus+ students in the period between 1987 and academic year 2016-2017

As one of the founding fathers, student participation in Erasmus in the first 10 years of its existence rose quickly in the Netherlands, from under 1,000 incoming students in 1987 and 1988, to 5,000+ yearly in 1995-1997. Since 2011, more than 10,000 incoming Erasmus students have studied in the Netherlands. The majority (some 75%) come for a study exchange, while a minority come to do a work placement. In 2016-2017, a total number of over 12,750 European students came to the Netherlands to study, using some form of credit mobility. This number is almost exactly the same as outgoing credit mobility with Erasmus+, resulting in relatively balanced mobility at the national and institutional levels. The main countries of origin were Germany, Spain, France and the United Kingdom.

<sup>16</sup> See the European Commission website: [ec.europa.eu/programmes/erasmus-plus/anniversary\\_en](http://ec.europa.eu/programmes/erasmus-plus/anniversary_en)

Although more than half of all credit mobility in Europe takes place within the Erasmus+ framework,<sup>17</sup> this still leaves substantial numbers of credit mobile students studying abroad within the EU who are not registered in any administration at the national level.<sup>18</sup> The annual student housing monitor (conducted by the KENCES foundation) estimates that for the Netherlands this group consists of about 2,000 to 3,000 students each year.<sup>19</sup> Due to uncertainty margins, this group is not included in the total number of 122,000 international students (degree and credit mobility) that will have studied in the Netherlands over the course of academic year 2017-2018.



### Current developments #8:

The Netherlands is an average participant in Erasmus+, and incoming and outgoing student mobility within its Key Action 103 line is almost perfectly balanced at the national level. Still, demand from students and universities for exchange- and internships abroad exceeds the available scholarship budgets. Further and more inclusive participation of students in higher education is thus contingent on the contours, content and budgets of the Erasmus+ follow up programme. In line with the Netherlands higher education position on this, and in line with the intermediary results from the EC discussions on the EU long-term budgets, a successor programme should enable more inclusive student mobility opportunities, in order to achieve the agreed upon impact on EU higher education.

[www.neth-er.eu/nl/nieuws/Neth-ER-EU-moet-meer-investeren-kennis](http://www.neth-er.eu/nl/nieuws/Neth-ER-EU-moet-meer-investeren-kennis)  
[www.neth-er.eu/nl/nieuws/EC-over-MFK-niet-bezuinigen-op-kennis](http://www.neth-er.eu/nl/nieuws/EC-over-MFK-niet-bezuinigen-op-kennis)

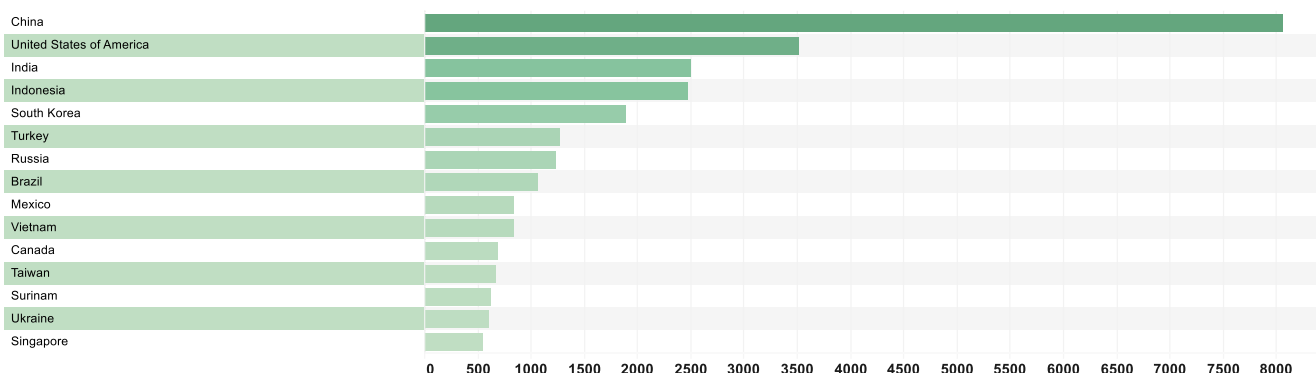
<sup>17</sup> [www.eurostudent.eu/download\\_files/documents/EVSynopsisofIndicators.pdf](http://www.eurostudent.eu/download_files/documents/EVSynopsisofIndicators.pdf), p. 198, Table 10.5.

<sup>18</sup> Although Erasmus+ also facilitates with student and staff mobility of European programme countries with non-European partner countries, the vast majority of student mobility takes place between programme countries – and this within the EU/EEA zone. See: [www.erasmusplus.org.uk/participating-countries](http://www.erasmusplus.org.uk/participating-countries).

<sup>19</sup> [www.kences.nl/nl/landelijke-monitor-studentenhuisvesting/monitor-2017.html](http://www.kences.nl/nl/landelijke-monitor-studentenhuisvesting/monitor-2017.html) (in Dutch).

## 2.2 Other regions of origin: non-EEA

Although Erasmus+ also facilitates student exchange with non-European partner countries, most students from other than EU/EEA states come to the Netherlands by different means, resulting in differing mobility patterns. With the introduction of the Modern Migration Policy Act (MoMi) in 2013, a new registration system was introduced for non-EU/EEA nationals who reside in the Netherlands on a residence permit with the purpose of participating in higher education. All international students with a non-EU/EEA nationality who come to the Netherlands for any form of higher education for at least 90 consecutive days require a residence permit, and are registered for their entire stay.<sup>20</sup> The IND figures from 2013-2016 include all degree and credit mobile students from non-EU/EEA countries, including placements, exchange, preparatory years and language schools, both in public and in private higher education.



**Visual 16:** Study-related visa in the period 2013-2016 according to IND figures.

Simply considering the total numbers, the introduction of MoMi seems a success for Dutch higher education. The number of non-EEA nationals who resided in the Netherlands on a study-related residence permit grew spectacularly by over 9,500 extra students, from 27,000 in 2013 to over 36,400 in 2016. The vast majority of these students come for a degree programme, exchange or preparatory year at an institution in public higher education (over 90%). One form of incoming credit mobility that experienced strong growth in recent years is the preparatory year, also referred to as foundation or pathway programmes. Providers like the Holland International Study Centre offer 6-month to 12-month programmes for prospective international students who want to improve their English, research methodology (statistics, GMAT) and/or general academic skills, in order to gain admission to a research university or university of applied sciences.<sup>21</sup>

<sup>20</sup> [www.rijksoverheid.nl/documenten/kamerstukken/2013/03/07/inwerkingtreding-wet-modern-migratiebeleid](http://www.rijksoverheid.nl/documenten/kamerstukken/2013/03/07/inwerkingtreding-wet-modern-migratiebeleid) (in Dutch)

<sup>21</sup> Holland International Study centre: [www.hollandisc.com/](http://www.hollandisc.com/). See Studyportals.com for an [overview](#).



**Current developments #9:**

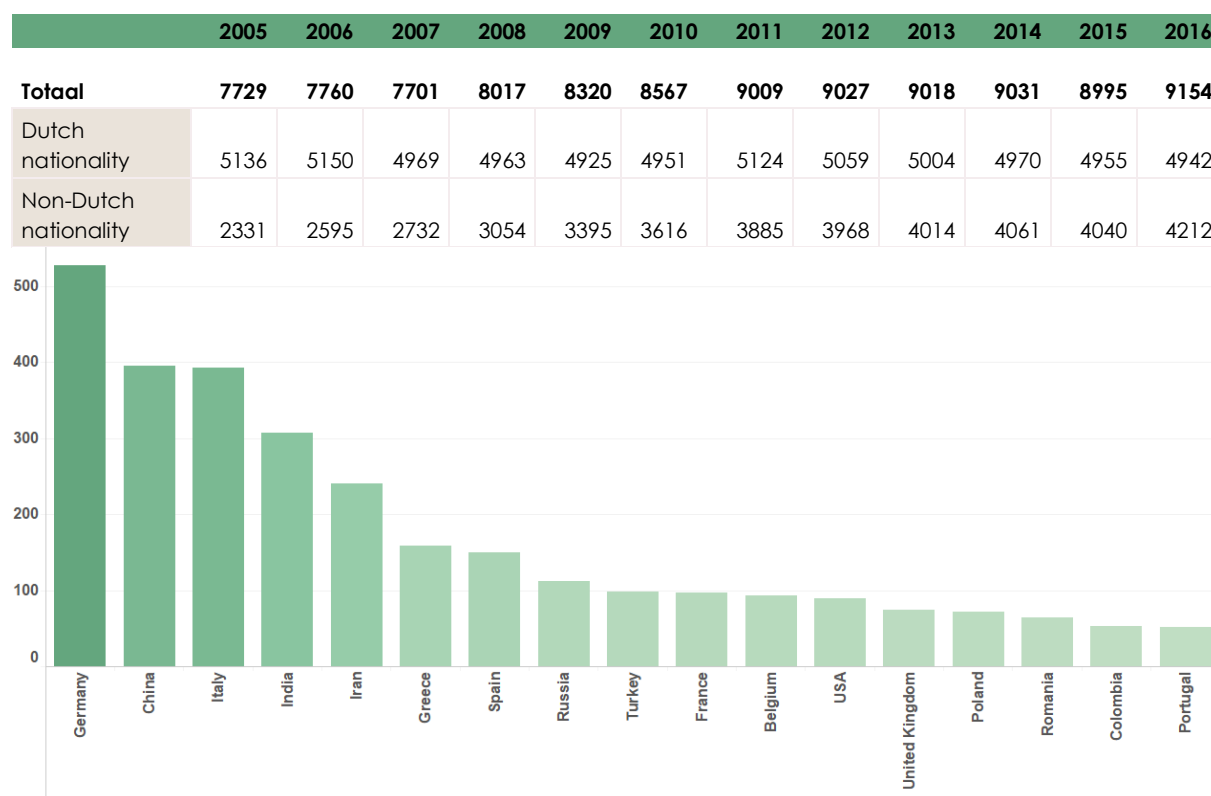
The current Dutch immigration policies focus on welcoming and retaining highly educated talent in order to strengthen the Dutch knowledge economy. Since the introduction of the Modern Migration Policy Act, study visa applications are usually processed within a few weeks. However, there are still other types of hurdles. For example, the high fees of the orientation year permit, employers who are not familiar with the advantages of hiring an orientation year candidate and the registration procedure for the Personal Records Database (BRP: Basisregistratie Personen) that varies strongly between municipalities. These mobility obstacles need to be addressed in order to keep the Dutch knowledge economy attractive.

For more information on 'mobstacles': [www.nuffic.nl/hoger-onderwijs/netwerken/mobstacles](http://www.nuffic.nl/hoger-onderwijs/netwerken/mobstacles)

### 3. Incoming PhD students

In 2015, 4 out of 9 PhD students (45%) who were registered as employees in the Netherlands had a foreign nationality. This has increased from less than 3 in 9 (33%) in 2005. While the number of Dutch PhD students in the Netherlands remained almost perfectly stable in the last decade, the number of international PhD students increased by about 75%. In the near future, about 50% of all PhD students in the Netherlands are expected to be international PhD students.<sup>22</sup>

The Netherlands Bureau for Economic Policy Analysis also conducted a study on the stayrate and economic impact of international PhD students in the Netherlands. The conclusions were that international PhD students in Science, Engineering and Health have higher than average stayrates, and that international PhD graduates in general often find paid employment in the private sector, such as in Research & Development. International PhD graduates are thus likely to have a very positive impact on the Dutch knowledge economy and innovation.<sup>23</sup>



**Visual 17:** PhD students registered as employees (*bezoldigd*) 2005-2016 and the top nationalities in 2016 (WOPI, via VSNU).

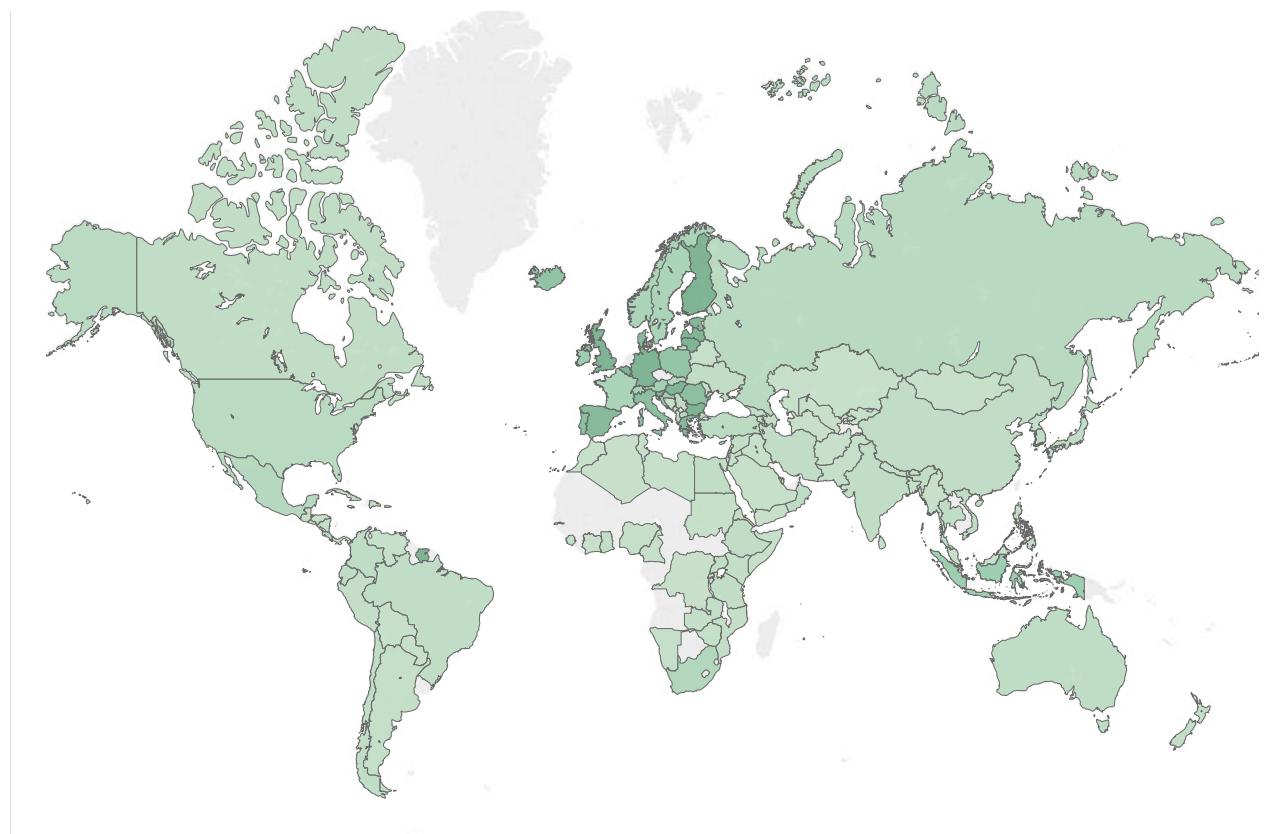
<sup>22</sup> Rathenau instituut: [www.rathenau.nl/nl/publicatie/internationale-mobiliteit-van-wetenschappers](http://www.rathenau.nl/nl/publicatie/internationale-mobiliteit-van-wetenschappers)

<sup>23</sup> CPB (2015) stayrates of foreign PhD students: [www.cpb.nl/sites/default/files/publicaties/download/cpb-background-document-stay-rates-foreign-phd-graduates-netherlands.pdf](http://www.cpb.nl/sites/default/files/publicaties/download/cpb-background-document-stay-rates-foreign-phd-graduates-netherlands.pdf)

## 4. International context

The Netherlands has a relatively high share of international students in its higher education system. According to the OECD, the Netherlands came in 6<sup>th</sup> in the top 10 of most international student populations, with New Zealand, the UK, Switzerland, Austria and Australia forming the top 5. With 10.7% international students in 2015, the student population in the Netherlands higher education was about twice as international as the OECD average (5.6%) in 2015.<sup>24</sup>

In a decade, the Dutch market share of all degree mobile students worldwide has increased from 1.5% to 2%. Commonwealth countries and the United States still have much higher shares of incoming degree students, mainly due to the quality of education, programme language and immigration policies. The Dutch situation is best directly compared to France, Germany and the Scandinavian countries. In 2015-2016, the ratio for incoming and outgoing degree mobility in the Netherlands was about 5 to 1.

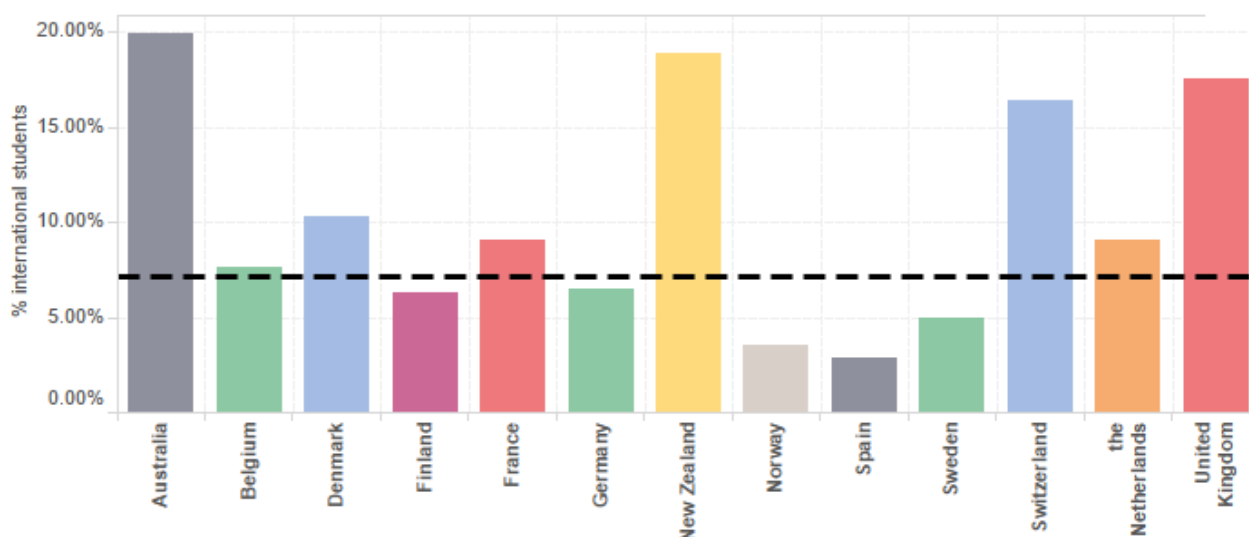


**Visual 18:** the Netherlands market share in specific countries of origin (2015), according to UNESCO.

<sup>24</sup> OECD (2017), *Education at a glance – OECD indicators*, Chapter 4, Indicator C 4 p. 286. [Download](#).

Direct comparisons of incoming credit mobility streams are difficult, due to a lack of central registration of incoming credit mobile students in European countries (EU, Schengen). The Netherlands is an average participant in Erasmus+ (HE, KA1) compared to other countries in the programme. Judging by the overwhelming importance of Erasmus+ in outgoing credit mobility streams from European countries, it seems likely that the Netherlands scores relatively high on incoming credit mobility.<sup>25</sup>

Within the OECD area, the share of international students is highest at PhD level. The Netherlands is at the top of the list of countries with the most international PhD student bodies, together with Luxembourg, Switzerland, Belgium, France, New Zealand and the United Kingdom.<sup>26</sup>



**Visual 19:** The Netherlands incoming degree mobility compared (2015).

The division between incoming bachelor's and master's students in the Netherlands (10.1% versus 24.0%) is very similar to the OECD total division (5% versus 12%). Still, the largest share of incoming international students enrolls in doctoral or equivalent programmes, exceeding 35% in the Netherlands, as well as in Luxembourg, Switzerland, Belgium, France, New Zealand and the United Kingdom.

While in the Netherlands the driving force behind international student mobility is largely European, and German in particular, on a global scale Asia is the lead provider of internationally mobile students. In particular, China, India and South Korea are major sources of internationally mobile students. Generally speaking, Asia accounts for almost 60% of international student mobility, followed by Europe, Africa, and South and Latin America. When considering international degree mobility to Europe, Asia accounts for a little over 35%, while Europe is responsible for a full 42%. Thus, while intra-regional mobility is important, its volume has fallen in favour of extra-regional mobility.

<sup>25</sup> WBV (2015), *Eurostudent V – student life in Europe, synopsis of indicators*, Chapter 10. [Download](#).

<sup>26</sup> OECD (2017), *Education at a glance – OECD indicators*, Chapter 4, Indicator C 4 p. 286. [Download](#).

### Top sending countries in 2015

1	China	812,081
2	India	254,373
3	Germany	116,495
4	South Korea	108,328
5	Saudi Arabia	86,482
6	France	80,851
7	Kazakhstan	77,993
8	Nigeria	75,691
9	United States of..	68,324
10	Malaysia	64,508
11	Vietnam	63,739
12	Italy	60,856
13	Ukraine	60,410
14	Russia	56,517
15	Iran	51,421

### Top receiving countries in 2015

1	USA	888,814
2	United Kingdom	413,288
3	Australia	289,018
4	France	216,209
5	Russia	207,578
6	Germany	193,931
7	Canada	139,485
8	Japan	132,690
9	Italy	89,962
10	Saudi Arabia	72,950
11	United Arab Emir..	72,909
12	Turkey	69,394
13	Austria	65,876
14	the Netherlands	63,797
15	Malaysia	60,168

Visual 20: Top sending & receiving countries in calendar year 2015, according to UNESCO.

Previous research has shown that the level of economic development and education are the most important factors in determining supply of internationally mobile students. Given the global increase in economic development and education future demand for international higher education is expected to come from outside of Europe, primarily from Asia, but also from Africa and South and Latin America.<sup>27</sup>

Comparing internationalisation in higher education comparatively across different countries can be tricky, because of very different system level aspects work out in different manners in different countries.

Among the highest incoming mobility ratios are found in Anglo-Saxon countries such as the US, Canada, United Kingdom, Australia and New Zealand. These countries are all part of the (former) commonwealth, are traditional immigration societies and have English as their native language. Their higher education systems all rely heavily on a tuition fee system, and higher education is frequently used by knowledge migrants as an entrance to these countries otherwise strongly regulated domestic labour market.<sup>28</sup> In Australia especially, there are also strong criticism of the commoditization of international student enrolments, which is seen as having a negative impact on the quality of education.

Germany and France are in a sense more comparable to the Netherlands higher education system, but internationalisation has a relatively smaller impact there. In France, the majority of international students comes from francophone countries in Asia and Africa, are to a large

<sup>27</sup> Kritz (2016), *Why countries differ in their rate of outbound student mobility*. [Download](#).

<sup>28</sup> 'higher education exports' are claimed to be the number one export product in Australia. [Hyperlink](#).

extent financed by state scholarships, and often study in French. In Germany, approximately half of international students study in German, and almost all international students have at least basic proficiency in German.<sup>29</sup>

Scandinavian countries, especially Sweden and Denmark, are most similar to the Netherlands in terms of higher education, the number of English language programmes, and international student population makeup. Also, a lot of the same policy discussions (policy dialogues) on internationalisation seem to be more or less consistent with the current situation in the Netherlands.<sup>30</sup>

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<sup>29</sup> DAAD (2017), *Wissenschaft Welt offen 2017*, pp. 57. [Download publication](#).

<sup>30</sup> [www.tandfonline.com/doi/abs/10.1080/14767724.2012.690309?src=recsys&journalCode=cgse20](http://www.tandfonline.com/doi/abs/10.1080/14767724.2012.690309?src=recsys&journalCode=cgse20)

## Colophon

**Authors:**

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**Translation:** Metamorfose

**Design:** Nuffic



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