

ATTRACTING AND RETAINING INTERNATIONAL RESEARCHERS

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KEY FINDINGS

- While most EU Member States prioritise attracting and retaining international researchers in their policies, the means to do so vary, from facilitating the residence permit application process, to offering scholarships or fellowships.
- EU Member States mainly focus on attracting and retaining international researchers in STEM (Science, Technology, Engineering, Mathematics), although ten EU Member States do not have specific priority sectors.
- In the majority of EU Member States, researchers active in the private sector can also be admitted via other admission schemes than under the 2016 Students and Researchers Directive. Alternative channels used by 16 EU Member States include employment-focussed EU schemes (e.g. the EU Blue Card) and national schemes in situations not covered by EU law used by six EU Member States.
- All EU Member States (except one) analysed in this inform give international researchers the opportunity to obtain a temporary permit for nine months or more for job search or to set up a business once they have completed their research. The number of such permits issued is, however, low across the EU Member States.
- In most EU Member States statistical information on short-term intra-EU mobility of international researchers is not available, and those that provide such information, reported low numbers of researchers exercising such mobility.
- EU Member States offer a variety of support measures to attract and retain international researchers. EURAXESS, the pan-European platform for international researchers funded by the EU, plays an important role in information provision and support towards attraction and retention in over half of the EU Member States.
- EU Member States experience various challenges in attracting and retaining international researchers. These range from bureaucratic hurdles to the country not being considered sufficiently attractive, for example due to limited research infrastructure and lack of financial support.
- The COVID-19 pandemic had a severe impact on the attraction and retention of international researchers across the EU Member States, including travel restrictions that disrupted the inflow of researchers, and in some cases hampered the implementation of ongoing projects.
- In the majority of EU Member States, new needs have emerged from the COVID-19 pandemic which they have sought to address. These include a focus on attracting and retaining researchers in health-related sectors, offering more flexibility in procedures regarding long-stay visa and residence permits, as well as including more online or hybrid modes of mobility to complement physical mobility of international researchers.



INTRODUCTION

The importance of international researchers

In view of growing labour market challenges, the European Union (EU) and its Member States have increasingly considered migration as a means to address the issue of ageing populations in the EU, sustain welfare systems and contribute to a skilled workforce. As stated in the new Pact on Migration and Asylum,¹ the EU needs to urgently catch up in the global race for talent.

The importance of international researchers has long been recognised by the EU.² In 2004, the EU proposed the Researchers Directive, which was adopted in October 2005,³ with a transposition deadline for EU Member States of October 2007. Several years later, in 2016, the Council and the European Parliament adopted Directive (EU) 2016/801,⁴ hereafter “the Students and Researchers Directive”, which is the result of the recast of the 2004 Directive on the conditions of admission of third-country nationals for the purposes of studies, pupil exchange, unremunerated training or voluntary service⁵ and the 2005 Researchers Directive,⁶ based on the 2011 evaluations of these Directives by the Commission.⁷

The Students and Researchers Directive seeks to improve and harmonise legal standards for welcoming and retaining international students and researchers. It also seeks to make the EU a more attractive destination for them, including a right to stay for at least nine months after finishing their studies or research in order to look for a job or to set up a business (Article 25) and via facilitated mobility between EU Member States (intra-EU mobility, Articles 27-29), as well as the right for international researchers to bring their family members to the EU with a right to work during their stay (Article 26).

Following the EU’s approach to address labour market shortages through immigration of highly skilled third-country nationals, the Pact on Migration and Asylum specifically points out that the international mobility of researchers (and students) can provide expertise to European

universities and other research institutions to manage the move towards a green and digital economy. Additionally, the Pact underlines the importance of the full implementation of the Students and Researchers Directive to make the EU more attractive for international researchers (and students) and to promote knowledge circulation across the EU. The Pact also aims to facilitate partnerships with third countries as a tool to boost mutually beneficial international mobility. The Commission plans to launch “talent partnerships” in the form of an enhanced commitment to support skilled migration with key partner countries.

Scope and main aims of the inform

This inform explores challenges and good practices to attract and retain international researchers, and analyses the implementation of the Students and Researchers Directive and relevant national policies, schemes and practices in the EU Member States.

In this respect, it updates the EMN studies published in 2012⁸ and 2013.⁹ This inform complements the 2018 EMN study on attracting and retaining international students.¹⁰ The starting point for the EMN was therefore to update, check and further elaborate existing information on:

- Experiences by EU Member States in attracting and retaining international researchers, considered as talented and highly qualified workers who can contribute to filling labour market needs and ultimately to economic growth;
- Challenges brought by the COVID-19 pandemic in this sector. Researchers will play a key role in the post-COVID-19 recovery in terms of medical research, and with regard to related research focusing on the economic and societal consequences of the pandemic.

The inform may also provide information that can be used for the development of an EU Talent Pool,¹¹ therefore helping to match skilled workers wishing to move to the EU to the needs of EU employers. This inform was prepared on the basis of contributions from 23 EU Member States.¹²

1 European Commission, New Pact on Migration and Asylum. A fresh start on migration in Europe, 2022, https://ec.europa.eu/info/strategy/priorities-2019-2024/promoting-our-european-way-life/new-pact-migration-and-asylum_en, last accessed on 8 March 2022.

2 For abbreviation purposes, the term ‘international researchers’ is used in the study in the meaning of third-country researchers from non-EU countries. The definition should be read in line with Article 3 (3) of the Students and Researchers Directive.

3 Council Directive 2005/71/EC of 12 October 2005 on a specific procedure for admitting third-country nationals for the purposes of scientific research, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex%3A32005L0071>, last accessed on 6 April 2022

4 Directive (EU) 2016/801 of the European Parliament and of the Council of 11 May 2016 on the conditions of entry and residence of third-country nationals for the purpose of research, studies, training, voluntary service, pupil exchange schemes or educational projects and au pairing (recast), <https://eur-lex.europa.eu/eli/dir/2016/801/oj>, last accessed on 6 April 2022.

5 Directive 2004/114/EC on the conditions of admission of third-country nationals for the purposes of studies, pupil exchange, unremunerated training or voluntary service. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32004L0114>, last accessed on 31 August 2021.

6 Directive 2005/71/EC on a specific procedure for admitting third-country nationals for the purposes of scientific research <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex%3A32005L0071>, last accessed on 31 August 2021.

7 European Commission (2011): Report on the application of Directive 2004/114/EC on the conditions of admission of third-country nationals for the purposes of studies, pupil exchange, unremunerated training or voluntary service, COM(2011) 587 final, https://ec.europa.eu/home-affairs/sites/default/files/news/intro/docs/20110928/1_en_act_part1_v6.pdf, last accessed on 6 April 2022; and European Commission, Report on the application of Directive 2005/71/EC on a specific procedure for admitting third-country nationals for the purposes of scientific research, COM(2011) 901 final, 2021, https://cdn3.euraxess.org/sites/default/files/policy_library/1_en_act_part1_v61.pdf, last accessed on 31 August 2021.

8 EMN, Immigration of International Students to the EU, 2012, http://www.iom.lt/images/publikacijos/failai/1428649673_9%20EU%20Immigration%20of%20Students.pdf, last accessed on 8 March 2022.

9 EMN, ‘Attracting Highly Qualified and Qualified Third-Country Nationals’, 2013, https://ec.europa.eu/migrant-integration/library-document/attracting-highly-qualified-and-qualified-third-country-nationals_en, last accessed on 8 March 2022.

10 EMN, ‘Attracting and Retaining International Students in the EU’, 2018 https://www.emn.at/wp-content/uploads/2019/09/emn-inform-2018_attracting-and-retaining-international-students.pdf, last accessed on 31 August 2021.

11 OECD, ‘Building an EU Talent Pool. A New Approach to Migration Management for Europe’, 2019 <https://www.oecd.org/publications/building-an-eu-talent-pool-6ea982a0-en.htm>, last accessed on 8 March 2022.

12 AT, BE, BG, CY, CZ, DE, EE, EL, ES, FI, FR, HU, HR, IE, LV, LT, LU, MT, NL, PL, SI, SK, SE.



THE NATIONAL POLICY FRAMEWORK TO ATTRACT AND RETAIN INTERNATIONAL RESEARCHERS

This section discusses how most EU Member States consider attracting and retaining international researchers a policy priority, and presents the different admission schemes that are used in addition to the Students and Researchers Directive, which include the Blue Card Directive and national schemes in situations not covered by EU law.

Policy priorities and main research areas

For the majority of EU Member States (21 in total)¹³ attracting and retaining international researchers is a national policy priority. Poland, however, specifically stated that while attracting and retaining international researchers was seen as a priority, the policy framework was still in the drafting or in the development process.

EU Member States have different measures in place to attract and retain researchers. These range from fellowships, scholarships and grants¹⁴ to facilitating visa and residents permits,¹⁵ including for the researchers' family.¹⁶

With regard to specific research areas, most EU Member States focus on attracting and retaining international researchers in STEM.¹⁷ There is a particular focus on sustainable and responsible development, digital and/or health research.¹⁸ Societal and social sectors are an additional focus for three EU Member States.¹⁹ The Latvian government focuses on attracting researchers who are part of the Latvian diaspora to work in the Latvian research sector. Other EU Member States,²⁰ however, do not have clearly defined priority sectors.

Admission of international researchers

There are three broad categories with regard to the admission of international researchers:²¹

- Four EU Member States that exclusively use the Students and Researchers Directive for their admission;²²
- Sixteen EU Member States that use the Students and Researchers Directive as well as other national or EU employment-focused schemes which admit international researchers as (highly qualified) workers, such as the EU Blue Card;²³
- Finally, EU Member States who,²⁴ in addition to the above, also have specific research-focussed national schemes for international researchers, in situations not covered by EU law.

With regard to the second category, for cases not covered by the Students and Researchers Directive, EU Member States have different schemes. As part of these schemes, international researchers can be considered as (highly-qualified) workers and often, but not exclusively, cover their employment in the private sector:

- In Austria, researchers meeting the criteria of highly qualified workers or key workers under the Red-White-Red Card scheme can opt to apply and work under this scheme. Similarly, in the Netherlands some researchers can be admitted as highly skilled workers. This mostly concerns researchers in the private sector, working for a company or research organisation. In Belgium, there is a standard procedure e.g. for those international researchers in the private sector, who can apply for a single permit as highly qualified worker, if they meet the specific criteria set by the competent region. In Sweden, researchers who apply for positions e.g. in the private sector (such as research and development positions in industry) can be granted admission under the general Swedish framework for labour immigration. In Finland, researchers may be issued a national residence permit intended for third-country nationals who have completed a bachelor's degree, are engaged in scientific research and employed by a research organisation. In Spain, researchers can apply for a residence permit for highly qualified professionals.
- For researchers in the private sector, Poland also gives the possibility of issuing the EU Blue Card or a visa/residence permit for the purpose of work, which is available to any type of employees. Similarly, most international researchers admitted in the Czech Republic for jobs in the private sector are issued the EU Blue Card or enter as highly skilled workers under other national schemes. In addition to admitting highly-qualified workers using the EU Blue Card, Latvia also admits international researchers that are not included in the Register of Scientific Organisations as workers with a temporary residence permit issued for employment. Similarly, in Germany EU Blue Cards can be granted to international researchers in the private sector, as well as to those who work at universities/institutes for higher education. In addition, international researchers with specific technical knowledge, teaching personnel in prominent positions and scientific personnel in prominent positions can be issued a permanent residence permit, regardless of whether it is in the public or private sector. In contrast, in Luxembourg, researchers may be issued the EU Blue Card, as highly skilled workers.

13 AT, BE, BG, CZ, DE, EE, ES, FI, FR, HR, HU, IE, LT, LV, LU, MT, NL, PL, SE, SI, SK.

14 AT, BE (please note: In Belgium, scientific policy is a shared competence of the federal and the federated entities, and while attracting and retaining international researchers is not a policy priority at the federal level, it is considered to be of strategic importance to the federated entities. The Flemish and the French Communities have separate fellowships and grants in place.), MT.

15 CZ, DE, FR, SK (the relevant change of legislation was adopted in December 2021, however will be effective from April 2022).

16 CZ, DE, FR, LU.

17 BG, DE, EL, ES, HR, LT, LU, LV, PL, SI, SK.

18 EL, ES, HR, LT, LU, PL, SI, SK.

19 BG, DE, LV.

20 AT, BE, CZ, DE, EE, ES, FI, HU, IE, LV, NL, SE.

21 Ireland does not participate in the Students and Researchers Directive but under Council Directive 2005/71/EC (Researchers Directive), Ireland offers admission to third-country researchers from countries outside of the EEA.

22 CY, FR, LU, MT.

23 AT, BE, CZ, DE, EL, EE, ES, FI, HR, LU, LT, LV, NL, PL, SE, SI.

24 AT, BE, FI, HR, LT, SK.

Admission is also possible via specific research-focused schemes in some EU Member States, as per the third category, which also covers situations of non-employment and self-employment:

- In Croatia, a work and stay permit, which is exempt from the labour market test, can be issued to researchers if they have an employment contract with a scientific legal entity. This also applies to international researchers in the private sector.
- In Finland and similarly in Slovakia, a researcher may also be granted a residence permit when the relationship between the researcher and the research organisation is not an employment relationship. Research lasting up to three months is also possible with a short-term visa/visa waiver.
- In Lithuania, citizens of Australia, Japan, the UK, the US, Canada, New Zealand, and South Korea can apply for a temporary residence permit for three years to engage in e.g. self-employment for the purpose of research.

Employment/setting up a business post-research on the basis of the students and researchers directive

According to Article 25 of the Students and Researchers Directive, EU Member States should offer international researchers, upon completion of their research, the possibility to stay for a at least nine more months to seek employment or to set up a business.

The analysed data shows that all EU Member States, except Belgium,²⁵ offer international researchers the possibility to stay in such a situation. Two groups of EU Member States can be identified:

- EU Member States that provide a temporary permit for nine months.²⁶
- EU Member States that issue temporary permits for one year^{27 28}

In addition, some EU Member States also allow international researchers to change their residence permit into another residence permit based on employment if they fulfill the conditions of the latter.²⁹

Table 1 below gives an overview of the duration of the permits and extensions (where possible).

Table 1. Residence permits for international researchers upon completion of their research to seek employment or set up a business under the Students and Researchers Directive³⁰

MS	Duration in months	Extension	Explanation
AT	12	Yes	If the general requirements according to the Students and Researchers Directive are still fulfilled, the settlement permit can be extended once for a period of 12 months for the purpose of job seeking or founding a company. After holding the "Settlement permit Researchers" for two years, researchers can switch to a residence permit "Red-White-Red Card plus" upon application which entitles to fixed-term settlement and unlimited labour market access.
BE	n/a		Article 25 of the Students and Researchers Directive was transposed for students in 2021, but not yet for researchers.
BG	9	No	
CY	12	No	
CZ	9	No	
DE	9	No	
EE	9	No	
EL	12	No	
ES	12	No	In the event of finding suitable employment in relation to the field of the research carried out or having undertaken a business project, the corresponding authorisation must be requested
FR	12	No	
FI	12	No	
HR	12	Yes (for another year)	

25 Belgium has not yet transposed Article 25 of the Students and Researchers Directive. As of 2021, researchers may rely on the Directive to stay for at least nine months, as the Council on Law Litigation clarified that Article 25 has direct effect and may be invoked by third-country national researchers (cases 248.519 and 248.551 of 1 and 2 February 2021).

26 CZ, DE, EE, LU, LV, PL, SK.

27 AT, CY, EL, ES, FR, FI, HR, LT, NL, SE.

28 Ireland is not bound by the Students and Researchers Directive, but the previous Researchers Directive.

29 NL, PL, SE, SI, SK.

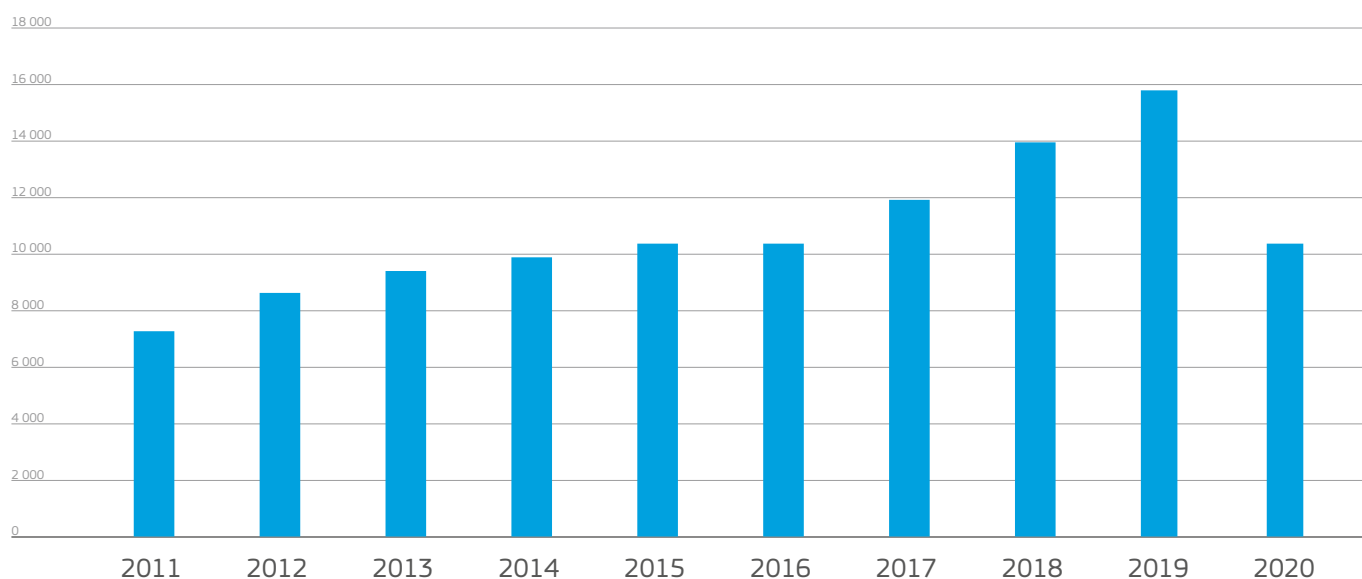
30 Ireland is not bound by the 2016 Students and Researchers Directive, but the 2005 Researchers Directive. After two years on a Hosting Agreement, researchers can apply for a Stamp 4 immigration residence permission for a further two years, renewable after that point.

MS	Duration in months	Extension	Explanation
HU	9	No	
LT	12	No	
LU	9	No	
LV	9	No	
MT	9	No	
NL	12	No	The permit can be changed into a five year residence permit, e.g. if the researcher finds a job as a highly skilled worker within one year (in which they have a temporary residence permit).
PL	9	No	It is possible for the permit to be transformed into a permanent or long-term residence permit.
SE	12	No	The permit for job-seeking can be transformed into a permit for employment reasons if the researcher finds a job or sets up a business.
SI	9	No	The researcher with the single permit for the purpose of seeking employment or self-employment may, prior to the expiry of the period for which the permit was issued, lodge an application for a subsequent residence permit for a different purpose (e.g. for the purpose of work of self-employment if the researcher finds a job or sets up a business).
SK	9	No	

According to Eurostat data, the number of researchers admitted under the Students and Researchers Directive in the EU has increased steadily since 2011, with a peak in 2019, where over 16 000 permits were issued. The number of permits, however, declined sharply in 2020 (with 10 500

permits issued).³¹ This represents, however, only those admitted under the Students and Researchers Directive and does not include any national schemes. Figure 1 below shows the developments since 2011.

Figure 1: Number of first permits issued for remunerated activities reasons: Researchers (2011-2020)



Source: Eurostat MIGR_RESOCC

The number of researchers who, after completion of their research, have been issued a residence permit to seek employment or set up a business is, however, rather low as shown in Table 2. This could suggest that take-up of this possibility is modest, or that researchers may have been issued a different type of permit instead. Still, a slight

increase is visible across the EU Member States since 2019. Data was not available in seven EU Member States³² that took part in this inform, and in most EU Member States³³ data was only available from 2018 onwards, as reflected in Table 2.

31 Eurostat, 'First permits issued for remunerated activities by reason, length of validity and citizenship', MIGR_RESOCC, https://ec.europa.eu/eurostat/databrowser/view/migr_resocc/default/table?lang=en, last accessed on 17 March 2022.

32 BE, BG, CY, HR, LV, SK, SI.

33 AT, EE, ES, FI, FR, LU, NL, PL, SE, SI.

Table 2. Number of international researchers issued a residence permit to seek employment or set up a business on the basis of Article 25 of the Students and Researchers Directive between 2018-2020

MS	2018	2019	2020
AT	1	4	1
DE			138
EE	1	3	5
ES	2	2	11
FR		223	288
FI	6	5	10
LU		26	36 ³⁴
NL	10 ³⁵	20	30
PL			1
SE			42

Short and long term mobility of international researchers under the Students and Researchers Directive

Articles 27, 28 and 29 of the Students and Researchers Directive provide the rules concerning intra-EU mobility of researchers admitted on the basis of the Directive. Article 28 entitles international researchers to engage in short-term mobility in a second Member State for a period of up to 180 days in any 360-day period, whilst

Article 29 allows for long-term mobility for stays exceeding 180 days, under certain conditions.

In nine EU Member States³⁶ statistical information is not available on the mobility of international researchers. Table 3 below provides an overview of available information on the number of researchers who engaged in short or long-term mobility on the basis of Articles 28 and 29 of the Directive. In the remaining EU Member States that took part in this Inform, no information was available.

Table 3. Number of of international researchers engaged in short or long-term mobility research period to a second EU Member State on the basis of Articles 28 and 29 of the Students and Researchers Directive between 2018-2020

MS	Short term mobility	Long term mobility
AT	No information available	2018: 0 2019: 1 2020: 1
BG	No information available	2018: 3 2019: 4 2020: 6
DE	2018: 4 2019: 10 2020: 13	2018: 4 2019: 12 2020: 7
EL	2018: 7 2019: 7 2020: 5	
FR ³⁷	2019: 1 2020: 2	2020: 2 2021: 1
FI	Positive decision/Residence certificates and notices/Mobility notifications for researchers: 2019: 6 (short- or long-term mobility) 2020: 5 (short- or long-term mobility)	
HR	0	No information available
LV	No information available	0

³⁴ These issued permits in Luxembourg comprehend students and researchers. There are no statistics available breaking down the categories of researchers and students.

³⁵ The numbers of the Netherlands have been rounded to the nearest integer.

³⁶ BE, CY, CZ, EE, IE (not bound by the 2016 Students and Researchers Directive but the 2005 Researchers Directive which does not differentiate between long-term and short-term mobility), HU, LU, LT, SK.

³⁷ Number of notifications received from international researchers by French authorities.

MS	Short term mobility	Long term mobility
MT	0	0
NL	2018: <10 ³⁸ 2019: 10 2020: <10	0
PL	2020: 0	2020: 0
SE	2020: 2 (short- or long-term mobility)	
SI	2021: 0	0



ATTRACTING AND RETAINING INTERNATIONAL RESEARCHERS: MEASURES, CHALLENGES, GOOD PRACTICES AND THE IMPACT OF THE COVID-19 PANDEMIC

This section explores the various measures that EU Member States use to attract and retain international researchers, either on the basis of the Students and Researchers Directive or using other schemes, as highlighted in section 3. This section also points at the main challenges in terms of attractiveness of EU Member States, including bureaucratic hurdles and limited attractiveness (due to e.g. high cost of living in some EU Member States or the low remuneration for researchers in others). It finally shows the impact of the COVID-19 pandemic, which not only disrupted international mobility, but also led to implementation challenges of ongoing research projects.

Measures for attracting and retaining international researchers

EU Member States reported on a variety of measures to **attract** international researchers, which ranged from promotional activities, to those focussing on facilitation of applications and bilateral agreements.

The majority of EU Member States focus on promotional activities and dissemination of information.³⁹ These include mainly information via leaflets, info days, websites, media campaigns, or missions abroad as exemplified below:

- The German Federal Government funds the expansion of information portals for researchers, such as “Research in Germany” or “Make it in Germany”⁴⁰
- In Malta, the Postdoctoral Fellowship Training Scheme for Incoming Postdocs to Malta (PF2MT), supports travel costs to attend a dedicated training session to be held in Malta for experienced researchers willing to submit a proposal with a Maltese host entity (beneficiary) for the Marie Skłodowska-Curie Postdoctoral Fellowships under Horizon Europe.
- In Sweden, the Swedish Institute⁴¹ has certain tasks regarding branding and promoting Sweden as a

destination for students and researchers. For example, their tasks include to actively promote mobility for students, researchers and skilled labour to and from Sweden.

Many EU Member States also referred to a wide range of bilateral and multilateral cooperation agreements with third countries (e.g. linked to specific research sectors, areas or third countries) as a way to attract international researchers.⁴² Box 1 below shows an example of such an agreement in Poland.

Box 1: A multilateral cooperation programme in Poland

Poland offers the ‘Ulam NAWA’ programme, which is a post-doc fellowship for a period of six to 24 months. The Programme allows both recognised and promising scientists who hold at least a doctoral degree to visit Poland in order to strengthen the scientific potential of Polish entities and to participate in their scientific activities, primarily research projects and didactics. The Programme allows scientists to be invited regardless of their age, representing all fields of science and arriving from all around the world. It includes a family allowance, thus facilitating the arrival of the researcher with family members.

Similar agreements are available in most EU Member States. For example, the University of Luxembourg has a large network of academic⁴³ and other partners⁴⁴ abroad, which support the attraction of international researchers. In Belgium, there are regional programmes, such as the ‘Research Foundation – Flanders’,⁴⁵ which has signed bilateral agreements with various third countries for the funding of joint research projects.

EU Member States also reported on measures with regard to researchers being accompanied by family members.⁴⁶ Under Article 26 of the Students and Researchers Directive

38 The numbers of the Netherlands have been rounded to the nearest integer.

39 AT, BE, BG, CZ, DE, EE, EL, FI, FR, HR, LU, SE, MT, NL, PL, SI, SK.

40 German Federal Ministry of Education and Research, ‘Research in Germany’, <https://www.research-in-germany.org/en/>, last accessed on 6 April 2022; German Federal Government, ‘Working as a scientist in Germany’, <https://www.make-it-in-germany.com/en/working-in-germany/professions-in-demand/scientists>, last accessed on 6 April 2022.

41 Swedish Institute, ‘Our mission’, [Our mission | The Swedish Institute](https://www.ssi.se/en/our-mission), last access on 06 April 2022, last accessed on 6 April 2022.

42 AT, BE, BG, CZ, DE, EE, ES, FI, HU, LU, SE, MT, NL, PL, SI, SK.

43 University of Luxembourg, ‘Academic Partners’, https://www.uni.lu/international/partners/academic_partners, last accessed on 06 April 2022, last accessed on 6 April 2022.

44 University of Luxembourg, ‘Other partners’, https://www.uni.lu/international/partners/other_partners, last accessed on 06 April 2022, last accessed on 6 April 2022.

45 FWO, ‘Extra-European research projects’, <https://www.fwo.be/en/fellowships-funding/international-collaboration/extra-european-research-projects/>, last accessed on 6 April 2022.

46 AT, BE, CZ, DE, EE, EL, ES, FI, FR, IE, LT, LU, SE, NL, PL, SK, SI.

the right to be accompanied should be facilitated (through derogations from the Family Reunification Directive).⁴⁷ Others offer fast-track applications,⁴⁸ an extension of the maximum period of long-term mobility, during which international researchers are allowed to stay in the EU Member States,⁴⁹ a notification only (instead of an application) in case of mobility,⁵⁰ and financial facilitation or support.⁵¹

Other inputs from EU Member States referred to the need to formalise existing collaborations between organisations for attracting and retaining researchers as well as strengthening research infrastructures:

- The Netherlands has formalised the Talent Coalition in 2019, which is a collaboration between regional development organisations, international welcome centers, the Dutch organisation for internationalisation in education (Nuffic) and the Ministry of Economic Affairs. The Talent Coalition shares data and best practices regarding attracting and retaining talent (including international researchers). A website with the purpose of attracting international talent is being developed.
- In Germany, the government aims to strengthen the country's role in developing large-scale research infrastructures through targeted measures implemented at national, EU and international level, including an active role in the European Strategy Forum on Research Infrastructures (ESFRI).
- Finland has started the Talent Boost programme in 2017 which is a cross-administrative programme designed to boost the immigration of senior specialists, employees, students and researchers. According to the programme, close long-term cooperation between the state, cities, educational institutions, businesses and other actors is required to attract, accommodate and integrate international specialists and to put their skills to effective use. The Talent Boost programme provides a framework for close cooperation between the different actors.

In addition, EU Member States apply various measures to **retain** international researchers. These include providing support to obtain a residence permit and registering residence with national/local authorities;⁵² and support on arrival,⁵³ including induction and orientation (e.g. opening a bank account, registering in the healthcare system).

Other EU Member States implement measures such as preferential rules with regard to the delivery of the authorisation to stay for the purpose of employment or set up a business (e.g. exemption from the labour market test, and exemption from the minimum salary requirement)⁵⁴ or extending the length of the period during which international researchers are allowed to stay after the completion of the research to seek employment or set up a business.⁵⁵

EU Member States implement different support measures. For example, in Luxembourg the support is organised by the research institutions. Similarly, in Estonia, there is a separate Research module (8h) established within the Settle in Estonia programme to help international researchers settle in the country.⁵⁶

Finally, over half of the EU Member States referred to measures for attracting and retaining researchers via EURAXESS,⁵⁷ a pan-European platform delivering information and support services to professional researchers.⁵⁸ One of the main functions of EURAXESS is the job portal, on which EU Member States can post job advertisements in different areas of research. Croatia, Estonia, Germany, Hungary, the Netherlands and Slovakia specifically mentioned to provide information via EURAXESS to attract researchers. Additionally, Belgium, Croatia and Luxembourg and France specifically described the services offered by EURAXESS for the retention of researchers. Box 2 below shows such an example in Belgium.

Box 2: EURAXESS activities in retaining international researchers in Belgium

In Belgium, EURAXESS is used at the national and regional level. The EURAXESS Belgium website seeks to provide clear and structured information to international researchers.

In the Flanders region, the so called EURAXESS Service Centres work on improving the promotion of their services to researchers at home and abroad, and the organisation of activities and actions for international researchers in Belgium. Euraxess Flanders also participates in Job Fairs to promote the activities of EURAXESS and the service centres and to put Flanders and Belgium on the map.

Main challenges in attracting and retaining international researchers

EU Member States reported on various challenges in attracting and retaining international researchers. The challenges reported relate to bureaucratic hurdles, but also due to the lack of attractiveness, for example, because of limited research infrastructure or financial support. Each of these challenges is discussed below.

Six EU Member States mentioned hurdles in immigration law, including challenges related to the application for residence permits and complex administrative procedures.⁵⁹ Sweden reported that a recent general change in immigration law, which introduced a financial support requirement for permanent residence permits had made it more difficult for researchers with *temporary* residence permits to switch to *permanent* residence permits and that this might

47 Council Directive 2003/86/EC on the right to family reunification, OJ L 251, <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32003L0086>, last accessed on 6 April 2022.

48 AT, BE, CZ, DE, ES, IE, LV, NL, PL, SK.

49 AT, CZ, EE, EL, LV, SK.

50 DE, EL, FR, HR, HU, LU, SE, NL, SI (short-term mobility), SK.

51 BE, CZ, DE, EL, ES, NL, PL, SK.

52 AT, BE, BG, CZ, ES, FI, FR, HR, IE, LT, NL, SI, SK.

53 BE, BG, CZ, EE, ES, FI, FR, HR, IE, MT, NL, SE, SK.

54 CZ, DE, EE, ES, FR, IE, LT, LV, PL, SE.

55 AT, CZ, DE, EE, ES, FR, IE, NL, LT, LU, SE.

56 Settle in Estonia, 'Research module', www.settleinestonia.ee/programme/research-module, last accessed on 06 April 2022, last accessed on 6 April 2022.

57 BE, CZ, DE, EE, EL, ES, FI, FR, HR, HU, IE, LU, NL, PL, SK.

58 European Commission, 'EURAXESS', <https://euraxess.ec.europa.eu/>, last accessed on 6 April 2022.

59 AT, BG, DE, HR, PL, SE.

counteract endeavours to make Sweden more attractive for researchers and to retain them.

Others reported on challenges in general attractiveness due to competition with other EU Member States,⁶⁰ limited research infrastructure,⁶¹ and limited pay and funding opportunities,⁶² as well as limited opportunities for spouses to find a job or set up a business.⁶³ Ireland noted that PhD students were treated as students and thus ineligible for the Irish hosting agreement scheme, as they were not employed, and their spouses did not have the right to work.

Six EU Member States reported specifically on challenges in retaining researchers related to their integration,⁶⁴ including limited career development opportunities due to short-term contracts as well as issues with work-life balance. More specifically, Germany noted issues with language knowledge, as researchers had little time to learn the language in addition to their job and Luxembourg also noted the importance of multilingualism in the country which becomes a challenge for the researcher. The Netherlands and Luxembourg identified a lack of affordable housing, and Luxembourg additionally noted the high cost of living as an issue for retention of international researchers. Finally, Poland outlined challenges related to setting a clear strategic agenda for attracting and retaining researchers across sectors.

Impact of the covid-19 pandemic

EU Member States overall noted a profound impact of the COVID-19 pandemic on attracting and retaining international researchers. Due to the pandemic, cross border movements were severely affected, which also negatively impacted the entry of international researchers to several EU Member States.⁶⁵ Additionally, ongoing research projects and bilateral mobility projects were interrupted or cancelled.⁶⁶ However, a positive development was identified by Malta, due to opportunities for international researchers to leverage new research funding in Malta for research focussing on pandemic-related issues.

Other impacts mentioned included financial or bureaucratic hurdles and problems related to the social integration of international researchers in the EU Member States:

- In the Netherlands, challenges related to retention were due to the inability of self-funded international researchers to meet the minimum income requirements for receiving a residence permit during COVID-19. The government reacted by temporarily relaxing these requirements in July 2020, in order to prevent the revocation of residence permits. In Lithuania, the Minister of the Interior simplified the application process for temporary residence permits for international researchers by providing an opportunity to submit documents online.
- Slovakia noted the lack of networking opportunities for researchers due to social distancing during the

pandemic, while Germany reported on challenges for international researchers due to a lack of social structures and more difficult family reunification due to travel restrictions during the COVID-19 pandemic.

EU Member States highlighted several gaps and needs due to the pandemic that will be considered in the future with regard to the attraction and retention of international researchers. These include further facilitation of cross-border movement and exchange of researchers in Poland, which were hampered during the pandemic and investing more efforts to attract international researchers for long-term residence in Bulgaria.

The pandemic has led to further awareness by some EU Member States that more efforts are needed to attract international researchers:⁶⁷

- In Poland, the pandemic highlighted the need to redefine the national or institutional strategies and agendas for future research performance and Bulgaria noted a need to focus on attracting and retaining researchers in the area of medicine, pharmacy and health sciences as well as bio- and nanotechnologies. Similarly, Spain considers that the pandemic has highlighted the need for international coordination for health systems and research and that it has given relevance to the concept of 'One Health' as an approach to addressing health threats in the animal, human and environment interface in the international context.

Others considered that more communication to attract and engage with international researchers was needed:⁶⁸

- A need for more creative use of communication tools and more targeted follow-up with the universities, research institutions and policy makers has emerged, as reported by Slovenia.
- Germany noted the possibility to develop virtual or hybrid formats of mobility to complement physical schemes. Virtual formats can include cooperations without a physical relocation of the researcher, for instance digitally via email, phone and video calls. Hybrid formats might include combinations of virtual and physical mobility phases, e.g. the virtual attendance of a language course provided by the guest country, followed by a physical stay in the guest country. Greece noted the need for extended teleworking regulations for researchers.

Overall, two Member States⁶⁹ have indicated several areas of interest, including a focus on attracting and retaining international researchers in specific sectors (such as the health sector). Finally, a broader shift towards measures to integrate researchers better (e.g. better information provision or support)⁷⁰ and ensure the option for virtual or hybrid modes of mobility is visible.⁷¹

60 BE, CZ, LU.

61 BG, CZ, LT, SI, SK.

62 BG, DE, EE, ES, LT, MT, SI, SK.

63 DE, EE.

64 DE, ES, LU, LT, NL, PL.

65 BE, DE, EL, NL, PL, SE.

66 BE, HU, PL.

67 BG, ES, PL, SK.

68 DE, EL, SI.

69 BG, PL.

70 DE, NL.

71 BG, DE.

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Slovenia <https://emm.si/en/>

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Norway <https://www.udi.no/en/statistics-and-analysis/european-migration-network---norway>

Georgia https://migration.commission.ge/index.php?article_id=1&clang=1

Republic of Moldova <http://bma.gov.md/en>