Towards a European graduate tracking mechanism
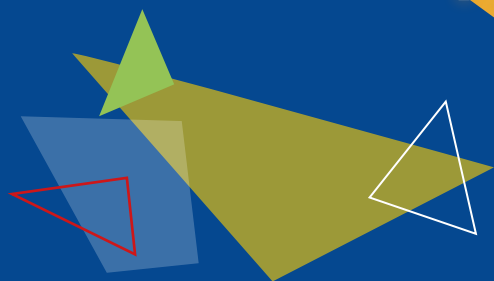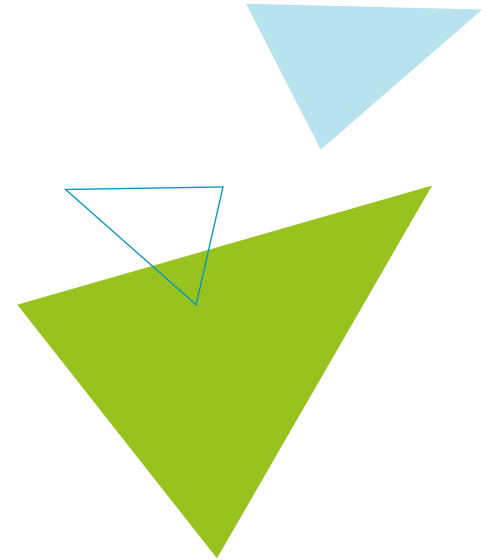
Recommendations of the expert group

October 2018 > October 2020

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Foreword

In building the European Education Area by 2025, we are creating one large talent pool of Europeans with unlimited study and research opportunities across the EU. Their feedback can help policy-makers, educational establishments and researchers make better-informed decisions when it comes to designing education curricula, offering career guidance, or identifying skills-development needs. Although well developed in many European countries, the instruments for tracking students after graduation focus on students in their home countries and rarely capture those who moved abroad in pursuit of learning or job opportunities. We want to change this and build on existing national graduate tracking systems to create a Europe-wide system that generates information about graduates, wherever they are in Europe. I am convinced that this is key to making our education systems more connected and more relevant to society and a necessary step towards achieving a European Education Area by 2025.

In difficult times, like the current global health and economic crises, clear information and processes are, more than ever, key to instilling confidence in the education and labour market systems. The ongoing pandemic has brought about numerous changes. Students have new factors to take into account when they make their choices about what to study and where. While they are restricted in their ability to gain work experience abroad, they have access to an unprecedented amount of online learning material. Education staff are delivering courses online and wondering how best to engage and assess their students remotely. Graduates are entering an unstable labour market that is changing at high speed towards more digitalisation. Employees are required to be more resilient, more adaptable and to boost their innovation skills if they are to continue thriving in a volatile workplace. Higher education is increasingly expected to show the way in helping to build a green and digital Europe.

At the same time, many of our universities in Europe are no longer operating just at regional level, but have the entire European continent or even the world in their orbit. Thus, they also need to draw on talent from across Europe and beyond and are increasingly connecting with higher education institutions from abroad, including through the flagship European Universities initiative. The flow of talent across European labour markets is a reality, closing skills gaps in some regions while causing labour shortages in others. Therefore, it was not a surprise that the Council of the European Union asked the Commission and the Member States in November 2017 to devise a strategy for tracking graduates at home and abroad. Everyone could see that it would be extremely useful to have a complete picture of the skills and knowledge flows at both national and European level. Three years down the line, we have advanced significantly on the European graduate tracking agenda.

I welcome this report, which sets out the results of the expert group's hard work. It is an important milestone on the way to having high-quality data on graduate outcomes that are comparable at European level. I commend the diligent work of the experts who have contributed to this report for being visionary as well as pragmatic, and for being both ambitious and realistic. I welcome their recommendation to have 80 % of EU and other European Economic Area countries join the European Graduate Survey by 2025. The European Commission will continue to support the Member States in coordinating their graduate tracking systems and to make the European Graduate Survey a success, including in the context of the upcoming Higher Education Transformation Agenda.
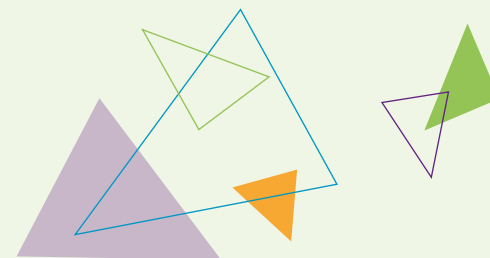
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Executive summary

Turning the idea of European-level graduate tracking into practice.

High-quality data on the pathways of higher education and vocational education and training (VET) graduates after they finish their studies enable policy-makers and educational institutions to improve future teaching and learning outcomes, the employability of graduates, tackle skills gaps and mismatches, and ensure social inclusion in education.

Data on graduates that are comparable at EU level enable cross-country comparison, which in turn enables benchmarking, the identification of policy areas in need of attention, better targeting and a higher efficiency of education investment. In the Council Recommendation on tracking graduates (2017)[a], Member States committed, with the support of the European Commission, to collect information from higher education and VET graduates that is comparable at European level.

An expert group to set out a roadmap towards the goal.

To facilitate the implementation of the Council Recommendation, a European Commission expert group on graduate tracking (2018-2020) was established to monitor progress in the development of graduate tracking systems in the Member States, to explore options for collecting national data that is mutually compatible and comparable at EU level, and to make recommendations on how to further develop and support the European graduate tracking initiative.

The expert group consisted of 66 standing members, representing European Economic Area (EEA) governments and key European stakeholders, as well as several EU bodies. The mem-bers represented a wide range of expertise and backgrounds, which contributed to rich discussions that looked at issues from many different angles. In order to facilitate the large mandate it was given, the expert group was divided into four task forces, each covering a distinct set of topics (vision and options, mobile graduates, administrative data and VET learners), which fed into the plenary discussions and culminated with a set of common recommendations elaborated in this report.

Essential and recommended information on graduates that countries should be able to provide.

In formulating its recommendations for the way forward, the expert group was guided by the Council Recommendation that defined the aspirations and ideal quality standards for the graduate tracking mechanisms at national and European levels, which are to be implemented either through graduate surveys or administrative data. It also took into account the diversity of starting positions and tracking traditions in the Member States and other EEA countries. In addition, the group considered alternative less labour-intensive ways of acquiring data on graduates, such as through big data, but concluded that, at this stage in the development of these tools, it would be premature to invest heavily in such approaches.

In order to satisfy the policy goals of the European graduate tracking initiative and to acquire comparable EU-wide data on a range of policy-relevant issues (relevance of education for employment and lifelong learning, skills mismatches and their drivers, social mobility in education and the impact of learning mobility), the group deliberated and agreed on precise statistical information that is the minimum for countries to collect. These are split into lists of 'essential' information (socioeconomic data and data on employment, education and mobility) and 'recommended' information (on perceptions concerning the skills obtained and required, the quality and relevance of education, and the reasons for mobility).

A gradual approach, starting with a European graduate survey and leading to administrative data exchange.

The group considered that, in the short term, only a European graduate survey would be able to guarantee the collection of comparable graduate data (including for mobile graduates) covering the dimensions of the Council Recommendation. The group also expressed the intention that, in the medium to long term, the essential factual background information on graduates will be provided from administrative data sources and that the recommended qualitative information will come from surveys.

After an extensive assessment of the fitness-for-purpose, together with the effectiveness of several options, the group proposed a gradual two-step approach to establishing a European-wide graduate tracking mechanism. In the short term, by 2022, 50 % of countries (increasing to 80 % of countries by 2025) should take part in the European survey of higher education graduates, while ensuring that overlaps with national graduate surveys are avoided. In the medium term, countries should develop or adapt their administrative information systems to open up the possibility of generating a common set of comparable indicators on graduates at EU level. For those countries that are already well advanced, they could use the data gathered through their national survey or through administrative data if a high quality and comparability of data can be guaranteed.

Regular monitoring to ensure high standards of data from each country and ultimately high-quality data at EU level.

The implementation of the Council Recommendation will be monitored every 2 years against a baseline analysis made in the mapping study on graduate tracking measures (European Commission, 2020) along five dimensions: level of inclusion of graduate programmes and of types of graduates, longitudinality, quality of data, and dissemination and use of data. The timeline of implementation proposed by the expert group sees 80 % implementation by 2025 and 100 % implementation by 2030, though the group acknowledges that the VET sector may follow a different timeline due to a different starting position. A detailed overview of principles and guidelines for the development of VET graduate tracking was produced. It could be used by policy-makers to develop and operate graduate tracking systems in the VET sector.

In terms of access to graduate data in the future European coordinated information system, different possibilities for data sharing and use will need to be explored, in line with the European legislation on privacy, open data and the re-use of public sector information. The expert group recommends that indicators are made available, while acknowledging the value of microdata for some end users, provided that the rules and regulations of national data protection and the General Data Protection Regulation (GDPR) are respected.

An efficient and lean coordination structure to steer further development.

To ensure the ownership and sustainability of the initiative, the expert group proposed a model of a coordination structure that can bring forward the development of graduate tracking in Europe, while respecting the competences and choices of the Member States and other EEA countries. The proposed structure would consist of a network of national coordination centres on graduate tracking in all participating countries, a steering committee to provide strategic guidance, with the support from a European Commission secretariat. Educational institutions, social partners and other stakeholders would play an important role in the coordination structure.

This new coordination structure should look into the feasibility of the use of a potential unique identifier to track graduates across systems and borders, and on ways to capture those leaving education.
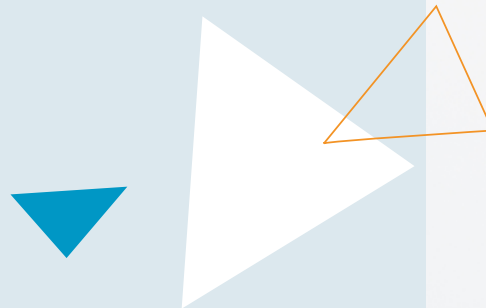
1.0 Introduction

Society is changing rapidly: Europe will need to respond to the twin challenges of digital and green transition; people face more frequent job changes; the need for upskilling and reskilling is rising. Information on the destinations of recent graduates[1] can provide insights into the extent to which graduates' skills and knowledge match the needs of the economy and society.

In the single European market, increasingly characterised by international study and labour mobility, it is also important to have quantitative and qualitative comparable information on graduates with regard to their recruitment and employment situation, their international mobility, their perception about skills and jobs, and their career progress.

As a consequence of the COVID-19 (SARS-CoV-2) pandemic, which is likely to have a significant impact on students and graduates, the need for timely, high-quality and comparable EU data on graduates' labour market outcomes is now even greater. The economic downturn that European countries are now experiencing will likely affect their decisions to enrol in tertiary education and their choice of field and university. Besides, and as a consequence of the accelerated digital transformation, the demand for labour will also be affected, with the possibility that new graduates in certain fields (e.g. ICT experts) will be in high demand. Labour mobility patterns of graduates (both within and across countries) are also likely to be affected.

High-quality data enables policy-makers and educational/training institutions to improve learning outcomes and the employability of graduates; tackle skills gaps and mismatches; and ensure social inclusion. Data comparable at EU level enable cross-country comparisons that in turn enable benchmarking, identification of policy areas in need of attention, and better targeting and higher efficiency of education investment.

Tracking graduates can also be a core component of quality assurance systems as it provides a mechanism for gathering intelligence on skills utilisation in the labour market, placement rates and the career paths of graduates[2]. It should be noted, however, that European-level graduate tracking is not intended for the purposes of ranking educational institutions.

As a follow-up to the 2017 Renewed Agenda for Higher Education[3] and the 2016 New Skills Agenda for Europe[4], the European Commission proposed, and the European Council adopted, a Recommendation in November 2017 on tracking graduates[5]. In this Recommendation, Member States, with the support of the European Commission, committed to collect graduate tracking information in higher education and vocational education and training (VET) that is comparable at European level.

The European Skills Agenda adopted on 1 July 2020 aims at strengthening skills intelligence – among other tools, through graduate tracking – as the foundation for up- and re-skilling that is relevant for the labour market. The more recent Commission Communication on the European Education Area[6] further emphasises that feedback from the graduates after they finish their education – obtained through graduate tracking – is essential for ensuring that the knowledge, skills and competences acquired by students are of a high quality and relevant for the job markets of today and tomorrow.

Following the Council Recommendation on tracking graduates, a *Eurograduate Pilot Survey* was launched in 2018[7]. That same year a mapping study of graduate tracking in VET was completed[8], and a European Commission *Expert group on Graduate Tracking* (2018-2020)[9] was established to provide a forum for cooperation and mutual learning about graduate tracking.

The objectives of the expert group were to facilitate implementation of the Council Recommendation by monitoring progress in the development of graduate tracking systems in the Member States, exploring options for collecting national data that is mutually compatible and comparable at EU level, discussing effective ways of tracking graduates, including considering the optimal frequency of longitudinal surveys and following the work on the pilot European Graduate Survey, and communicating about the lessons learned in the home country. This report sets out the group's recommendations for the further development and support of the graduate tracking strategy and tool development at European and national/system levels.

The expert group consisted of 66 policy members – policy-makers, data analysts, researchers and representatives of stakeholder organisations – representing a wide range of expertise and covering all Member States and other European Economic Area (EEA) countries. The diversity of the experts' backgrounds contributed to rich discussions that looked at issues from many different angles. The authors of the final report sought the broadest possible consensus among the expert group's members in order for the final recommendations to reflect a large majority of views.

2.0 Scene setter

In this chapter, several important topics are outlined, which set the framework conditions for discussions in the task forces and lead to the group's final recommendations.

2.1 The starting point – purpose and content of European graduate tracking

The 2017 Council Recommendation invited Member States to take steps to ensure the timely, regular and broad dissemination and exploitation of the results of their analysis of data from their graduate tracking system(s), with the following objectives:

> Strengthen career guidance for prospective students, current students and graduates.

> Support the design and updating of curricula to improve the acquisition of relevant skills and employability.

> Improve skills matching so as to support competitiveness and innovation at the local, regional and national levels, and to resolve skills shortages.

> Plan for and forecast evolving employment, educational and social needs.

> Contribute to policy development at both national and EU levels.

An additional and important goal specified in the 2017 Council Recommendation is to improve the comparability of data at the EU level. To support this objective, the Recommendation invited Member States to collect data in the following areas:

> Socio-biographical and socioeconomic information.

> Information on education and training.

> Information on employment or further education and training.

> Relevance of education and training to employment or lifelong learning.

> Career progress.

The expert group discussed these objectives and noted that, in some countries, additional objectives are associated with graduate tracking. These include:

> Monitoring the effectiveness of particular programmes, qualifications or types of training.

> Monitoring emerging regional imbalances.

> Supporting quality assurance initiatives/processes at the system and provider levels.

2.2 Organisation of the expert group's work

The expert group on graduate tracking was set up in September 2018 as an 'informal Commission expert group' and as such is subject to the horizontal rules established by Commission decision C(2016)3301, which should be read in conjunction with Commission Communication C(2016)3300.

The expert group included 66 standing members representing EEA governments and key European stakeholders, as well as several EU bodies – Eurostat, European Training Foundation, European Centre for the Development of Vocational Training (Cedefop) and the Joint Research Centre (see 6.0 Annex 0). It set up a comprehensive work programme for exchanging practices on the design, development, sustainable implementation and enhancement of national graduate tracking systems, including both administrative information matching and surveys, as well as developing options for comparative EU graduate data.

In order to facilitate the work of the group, it was decided to divide into four dedicated task forces to enable deeper study and discussion. Each task force was invited to develop and agree on its specific mandate, to appoint a chair (or joint chairs) for the coordination and to look into good practice examples. Discussions in the task forces were complemented by plenary presentations on emerging issues and developments at a national or European level. Each task force developed materials, guidance and recommendations that were presented to the entire expert group.[10]

The mandates of the task forces focused on the following areas:

Task force 1: Visionary task force on the options for comparative EU graduate data

The mandate of the task force was to examine different ways to organise the data collection in the higher education sector and in VET at the European level, including looking in depth at the methodology of the European Graduate Survey. First the task force identified the data required to track graduates at European level in order to satisfy the 'policy objectives' set in the 2017 Council Recommendation. This led them to assess the potential and feasibility of three options, primarily focused on higher education, according to their strengths and weaknesses, for national systems and at the European level.

Task force 2: Task force on the pilot of exchanging data on migrant graduates

This task force examined potential questions and methodologies in order to exchange information and track graduates across borders. It also considered the nature and extent of students and graduates' mobility between European countries. Finding ways to gather harmonised information across Europe about the volumes and patterns of mobile graduates is important because 1) mobility is a key feature of the labour market outcomes of graduates and 2) expanding knowledge on mobile graduates provides insight into one of the core principles of the EU: the free movement of workers.

Task force 3: Technical subgroup on comparative analysis of national graduate tracking indicators

This task force analysed the potential use of administrative data, collected in education and population registries, social security or tax databases, to support graduate tracking systems in the Member States in order to 1) evaluate if and to what extent part of a graduate tracking system could be based on administrative data sets and 2) identify core indicators that could constitute cross-national comparable data. The mandate of the task force was to establish a registry of key academic, economic and social statistical indicators that are comparable and common for all countries. The task force extended its reflections to IT development, information content, IT governance and General Data Protection Regulation (GDPR) issues.

Task force 4: Task force on the development of VET graduate tracking

This task force's mandate focused on the specificities of graduate tracking for vocational education and training. It organised a series of mutual learning activities and, based on best practices, sought to identify principles and standards that could be used by policy-makers to develop and operate graduate tracking systems in the VET sector. In compliance with the 2017 Council Recommendation, these principles and standards support cooperation among authorities to improve the availability, reliability and comparability of graduate tracking information for VET (including the tracking of migrating graduates).

2.3 State of graduate tracking in national systems

Throughout the discussion, expert group members increased their awareness of the different approaches used by Member States and other EEA countries to track graduates. The scanning of the current state of play of graduate tracking in the individual countries helped formulate recommendations for the way forward.

The recent European Commission study (2020) on 'Mapping the state of graduate tracking policies and practices in the EU Member States and EEA countries'[11] served as a baseline analysis by developing criteria to measure the extent to which Member States and EEA countries implemented the Council Recommendation. A summary of the main results of the mapping study is available in 6.0. This study also contains advice rich in detail on good practices in setting up and running graduate tracking systems[12].

Lessons learned as part of the expert group's work, as well as the resources developed, are easily transferable beyond the EU's borders to a broader geographical context of the European Higher Education Area.

2.4 Coverage of different groups of students

Graduate tracking systems may focus on a wide range of students and graduates, ranging from 'traditional' students who complete a full-time degree to those who complete a short 'unit of learning' on their employer's premises as part of a continuing professional development programme, and from the European Qualifications Framework (EQF) level 4 up to the EQF level 8 graduates.

Most of the recommendations of the expert group are relevant for all types of graduates; however, many of the deliberations focused on graduates of full degrees at EQF levels 6 and 7 for higher education and for EQF levels 4 and 5 for VET. The expert group supports the inclusion of doctoral-level (EQF level 8) graduates in the European graduate tracking initiative, as it is an important segment of higher education with growing labour market relevance. The specificities of this level were, however, not discussed in detail in the scope of this group's work.

In addition, the expert group recognised the importance of following up on early leavers from VET and higher education. However, due to the tight agenda of the group and the complexity of the problems already covered by the four task forces, the expert group recommends that the tracking of early leavers is addressed at a later stage. There are, nevertheless, some recommendations on early leavers from vocational education and training (see Annex 4)*.

2.5 Specificities of tracking higher education vs. VET graduates

The 2017 Council Recommendation addresses both VET and higher education. The expert group considered it important that the statements in this report apply to both higher education (HE) and VET. On the other hand, there are some notable differences between the sectors that will affect the implementation of recommendations in HE and in VET.

These are the commonalities:

> Both HE and VET graduate tracking is fairly widespread and developing further. About two thirds of the Member States and EEA countries have system-level graduate tracking in higher education and VET: AT, BE-NL[13], CZ, DE, DK, EE, ES, FI, FR, IE, IT, LU, LT, NL, NO, SE, SK, UK.

> Policy aspirations for students/graduates are almost identical. They include the development of knowledge, skills, competences and behaviours that enable graduates to succeed in their career and in society; the acquisition of 'soft skills', helping graduates to gain employment and work effectively with others; the potential to succeed in further study/learning; the encouragement to desire, and recognise the importance of, lifelong learning.

> Including mobile graduates in the tracking system is interesting for both HE and VET sectors. An increasing number of graduates move to a different country following the completion of their programme and the interest in tracking graduates abroad is growing.

> There is alignment in the use of agreed definitions of indicators and statistics, i.e. several classification systems are in place, which, when applied to graduate tracking, enable comparability across different information sources within countries but also across countries[14].

These are the differences:

> The governance of the education systems differs, which has an effect on the potential for standardised data. Largely, Member States and EEA countries organise and manage higher education in similar ways in line with the commitments of the European Higher Education Area[15]. This is not the situation in vocational education and training, as VET is organised in different ways across Europe.

> A centralised register of education programmes and providers is more frequently available for higher education compared to the VET sector, which is especially challenging as regards continuous VET and non-formal VET. These governance structures impact on the possibilities to collect representative information.

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> Continuous VET and non-formal VET is least covered by systemic tracking measures and there is considerable room for improvement across all benchmarking criteria (coverage, quality of data, longitudinal, dissemination). The high number of providers and the diverse range of courses available make standardised tracking less straightforward. If graduate outcome information is only available on a selected number of programmes, it will limit the understanding of the impact policies and interventions have and also the comparability at national and EU level.

> Information on the educational history (as well as background information) on HE and VET graduates is often not held by the same administration.

> Graduate tracking is generally well embedded in higher education institutions across the EU and EEA countries, which makes it easier to run graduate surveys in HE. A survey[16] conducted among higher education institutions showed that 9 out of 10 survey respondents said their higher education institution undertakes some form of graduate tracking. In VET, this coverage is smaller and therefore the potential for a EU-wide survey is less.

Despite differences in the organisation and state of development of VET graduate tracking in the EU, the commonality of policy aspirations is the basis for proposing some common approaches to the tracking of both HE and VET graduates (see 4.3 Target groups). At the same time, in light of the differences between the situations in the two sectors, it appears that European graduate tracking can be achieved sooner for higher education than for VET.
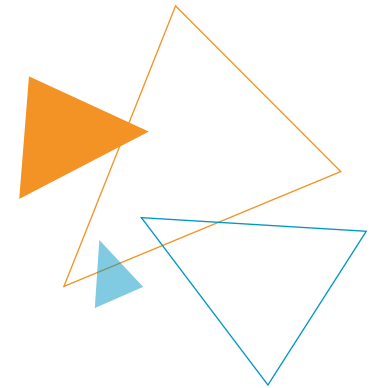
2.6 Alternative ways of collecting graduate data

The expert group examined the possibilities of using alternative data sources, e.g. the European Union Statistics on Income and Living Conditions (EU-SILC), the Labour Force Survey (LFS) and others) as the basis of a European graduate data collection. The group considered that in their current format, these sources/surveys are not suitable to ensure the implementation of the Council Recommendation.

EU-SILC and LFS are not designed to provide a representative sample of graduates: they do not provide information on the school/higher education institution (or the country) from which individuals graduated, and they do not provide information on the satisfaction of graduates with their learning experience nor on the relevance of their studies for their current job. Nevertheless, duplication between graduate tracking and other data collections at European level should be avoided.

Some complementarity between the European graduate tracking data and other large European datasets, e.g. European Tertiary Education Register (ETER) and U-Multirank, LFS, is desirable to allow for the linking of data and analysing the role of additional drivers on graduate outcomes, such as local economic conditions or institutional characteristics (e.g. research performance; ranking of the institution, teacher/student ratios, etc.).

The expert group also considered the current and potential use of 'big data' to support graduate tracking, e.g. through presentations from international IT companies and national initiatives for graduates to use online databases to identify their skills and competences. At this stage in the development of these tools, the expert group felt it would be premature to invest heavily in such approaches.

2.7 Data protection regulation

In the course of the mandate, the expert group was familiarised with the rules and requirements of the GDPR legislation, including the responsibilities of data controllers, the principle of account-ability and the risk-based approach. An important principle that emerged from the discussions is that the implementation of the GDPR legislation is in the remit of Member States. Any future European graduate tracking initiative has to be fully in line with the GDPR requirements; individual Member States have to make sure that any handling of personal data as part of European graduate tracking is in line with their national requirements.

A more detailed analysis of the specific data protection rules applicable to a future European graduate tracking was outside the remit of the expert group but it is evident that data protection will play a significant role in determining the future model for the collection of comparable information on graduate outcomes.

3.0 Work and recommendations of task forces

This section summarises the work of each individual task force, based on their mandates, and outlines their conclusions and recommendations. More detailed reports of the work of the taskforces are available in four annexes to this report, one for each task force*.

3.1 Task force 1: Options on comparable European graduate data

In examining the different options for organising a graduate outcomes data collection at EU level, task force 1 took into account the policy priorities of the EU, of the Member States and other EEA countries, and the needs of other potential users of EU-level graduate outcomes data. The starting point were three specific options for data collection at the European level:

> **Option 1:** a European graduate outcomes project where data already collected through national surveys and/or administrative data matching is collated and made available (possibly accompanied by a technical or substantive report).

> **Option 2:** a European-wide Graduate Survey along the lines of the Eurograduate Pilot Survey, but covering all Member States and EEA countries.

> **Option 3:** a combination of nationally available data on graduate outcomes with a European survey or a European set of survey questions to be gradually integrated into national surveys.

The evaluation of these options was based on three sets of criteria: i) the ability to provide information on the main 'policy objectives' as set out in the 2017 Council Recommendation (see 2.1 The starting point – purpose and content of European graduate tracking); ii) the effectiveness of each option, based on scientific (e.g. quality, regularity and novelty of data) and non-scientific criteria (e.g. cost effectiveness); iii) governance and administration issues, all of which are elaborated in detail in Annex 1*.

Each option was also discussed in relation to the different groups of graduates and different education sub-systems, with particular emphasis on the implementation in the VET sector and the inclusion of those with doctorates. For each option, task force 1 analysed strengths and weaknesses, and made a proposal to the entire expert group, combining elements of the three initial options.

The final proposal, agreed upon after an intense and exhaustive debate, combines various aspects of the three original options. It is based on the reflection that, in the short term, a European Graduate Survey (to be designed in such a way as to avoid conflicts or incongruences with existing national graduate surveys) is the most appropriate solution to gather comparable graduate tracking information as quickly as possible, since administrative data and indicators – due to lack of homogeneity among the Member States – cannot guarantee comparability, completeness and quality.

For the medium term, it is recommended that Member States and other EEA countries, possibly supported by the EU, develop relevant administrative information systems (in case they are not yet in place) and ensure the interlinking (educational information linked to social security and tax data). This will guarantee the possibility of generating a common set of comparable indicators through commonly identified and defined administrative data.

However, due to the very nature of administrative data, this common set does not cover all the objectives of the 2017 Council Recommendation. The proposed solution is to invest in the development of comparable and reliable administrative data at the national level that would provide the bulk of the factual information, leaving to a (flexible) European Graduate Survey the task of gathering data on aspects such as opinions and evaluations that are not provided by administrative data. Member States and other EEA countries, in agreement with the European Commission, should handle the organisation of the survey.

Ultimately this will generate a European coordinated information system in which Member States and other EEA countries could share their national information (administrative data, values of the statistical indicators as well as survey data). This shall be achieved by respecting such fundamental European values as institutional freedom, national autonomy and social dialogue. When completed, this European coordinated information system would include information on all graduates covered by the Council Recommendation, including VET graduates and holders of doctorates. These activities should go hand in hand with broader initiatives such as the European Data Strategy[17] and the review of the Public Sector Information (PSI) directive[18]. Where technical conditions can be met, the collection of comparable EU graduate data should be as comprehensive as possible.

The understanding of the group, however, is that this process will be gradual and that not all Member States and other EEA countries and education sectors/areas/systems will be able, or willing, to participate in the European Graduate Survey and the administrative data sharing for all graduates, certainly not from the start. It is very important to ensure that the information collection – via a European Survey, national surveys or national administrative data – satisfies high-quality data standards in order to guarantee that the collected data are reliable and comparable.

3.2 Task force 2: Information on mobile graduate students and employees

European harmonised information about the volume and pattern of mobile graduates is important to ensure a full picture of the labour market outcomes for graduates. Including mobile graduates in tracking systems provides an insight into one of the core principle of the EU: the free movement of people. This task force carried out the following:

> Provided the definition of the mobile graduate.

> Explored options on how to best capture mobile graduates with graduate tracking measures; assessed data sources to be used.

> Assessed the scope and relevance of data collection efforts at national, EU and international levels.

> Discussed the data protection rules to be considered.

> Identified the information needed to analyse the drivers of international graduate mobility and the socioeconomic effects of brain drain/brain gain at regional and national levels.

For the purpose of this graduate tracking initiative, a mobile graduate is a person possessing an academic (equivalent to EQF level 6 and higher) or a vocational degree (equivalent to EQF level 4 and higher), and working or learning in a different country from that of graduation at any point following completion of his/her studies.

Below are some of the key 'policy questions' (derived from the 2017 Council Recommendation 'policy objectives') that data on mobile graduates would help to answer:

> What are the sectors that attract most mobile graduates?

> To what extent are the skills and knowledge acquired by individuals while studying in one country relevant for employment in another country?

> What are the skills and knowledge needed in an international labour market?

> Do mobile graduate workers earn, on average, more than similar workers who do not move abroad? If they do, does the wage premium associated with moving abroad change depending on the home or destination country?

> Do mobile graduate workers display higher levels of job satisfaction than similar graduates who do not move abroad?

Regardless of the sources of data on mobile graduates (surveys or administrative data), the data itself needs to satisfy the informational requirements defined by task force 1 (see 4.1 Identification of the informational requirements), with one additional criterion: information needs to be representative with respect to the 'mobile graduate' dimension.

Task force 2 recognises that there are several obstacles to creating a harmonised European system that would also track mobile graduates and provide meaningful messages about this population. The most prominent difficulty is the current implausibility of connecting different graduate tracking systems and different countries, which could potentially be solved by establishing a cross-border (or European) identity.

Finally, task force 2 recommends a modular approach that distinguishes between short and medium term. In the short term, a European Graduate Survey appears as the only solution able to guarantee that comparable graduate data (including on mobile graduates) are collected and used to provide information on the dimensions specifically underlined by the 2017 Council Recommendation. For the medium term, it is advisable to support the development and linking of administrative data, both within and across EU Member States and EEA countries, together with the adoption of a unique student/EU ID registration number (possibly linked to stable contact details) that would allow the tracking of mobile graduates.

3.3 Task force 3: Information on administrative data items

Task force 3 focused its work on the following work aspects:

1. Graduate identification (e.g. using a unique identifier) for graduate tracking at national level and across borders.

2. Identification of administrative/registry data that could be used for tracking graduates and their availability in Member States.

3. Prerequisites for the creation of a EU graduate tracking system based on administrative data.

Firstly, a prerequisite for tracking graduates using administrative data is a unique identifier (ID), which enables the identification of an individual through various registers. Examples from Austria and other countries show that this matching is possible with total respect for data privacy regulations. Tracking an individual across records – both at national and international levels – can be supported by the work done on cross-border identification and authentication by the eIDAS[19] project. Although this system cannot be applied directly to graduate tracking at the moment, it should be possible at a later stage.

Secondly, task force 3 set up an electronic survey to evaluate the current status of administrative data availability and coverage in the Member States and other EEA countries. Of the 27 Member States invited to participate, 20 responded, providing the requested information[20] on higher education, VET or both. The results of the survey show the vast heterogeneity in data availability across Member States and signal that it would be necessary to invest resources at national level to improve the administrative data collection in many Member States and other EEA countries, which would guarantee completion, reliability and the comparability of graduate tracking data.

Thirdly, task force 3 identified the following prerequisites for establishing a EU graduate tracking system using administrative data:

1. A uniform methodology for collecting individual graduate tracking data should be set up at the European level. This will ensure comparability and reliability of data. As the evolution of the HE and VET systems and labour market is an ongoing process, the methodology should be re-evaluated periodically.

2. As a first step, graduate tracking at the EU level should be based on Member States reporting commonly agreed indicators, which are calculated on the basis of Europe-wide standardised data features (i.e. coverage of the entire target population, coverage of specific graduate cohorts for specific years of graduation etc.).

3. Ultimately, it is desirable to provide access to anonymised microdata, in accordance with GDPR and national regulations, as this would allow for an in-depth analysis of graduate tracking information at EU level. Member States and other EEA countries are encouraged to find appropriate IT solutions to guarantee high-quality data for graduate tracking within a coordinated EU system of information.

4. A clear model of data access and governance should be established. Data collection and processing at EU level could be entrusted to Eurostat in cooperation with national statistical offices.

5. Finally, EU-level data should be made publicly available in coherence with open access politics, in accordance with GDPR and national regulations.

3.4 Task force 4: Principles and standards for VET

The task force identified a set of principles and standards that can be used for the following:

> To guide those responsible for designing and implementing VET graduate tracking systems.

> To encourage self-reflection and self-evaluation.

> To facilitate the development of comparable European data.

These principles and standards build on existing European work such as the European Quality Assurance in VET framework (EQAVET)[21], the research and development work of Cedefop and the European Training Foundation (ETF), and national good practices.

When taken together, the principles and standards provide the basis for ensuring the availability or strengthening of the quality of tracking data, and enable tracking systems to align at EU level (even though national VET systems and approaches remain different). The principles and standards have been designed for the target audience of the VET sector with concrete examples of VET tracking measures from the countries represented in the task force. However there is much that is also applicable to higher education and school tracking systems.

The principles are fundamental to the development and strengthening of graduate tracking systems. They enable long-term trends to be established and analysed, and they create a framework for the strategic direction of a graduate tracking system.

A graduate tracking system should:

1. put the students' right to high-quality, inclusive, relevant and efficient education and training at the centre of the tracking process, as set by the first Chapter of the European Pillar of Social Rights, with special focus on the right to quality education, training and lifelong learning and to active support to employment;

2. be underpinned by a quality assurance system;

3. respect private information in line with the data protection rules and ensure confidentiality for all graduates who are tracked;

4. demonstrate clear links with other education policies;

5. supplement other sources of intelligence to support the evaluation, planning and governance of complex skills systems.

Standards provide practical guidelines for those seeking to design or improve tracking systems. These standards are based on a synthesis of good practice, current knowledge and emerging ideas relating to tracking. Taken together, they enable the effective operation of a graduate tracking system in line with the principles set out above.

Tracking systems should:

1. contribute to the agreed objectives of the VET system(s);

2. aim at covering all initial and continuing VET programmes;

3. aim at providing quality data on the full graduate population;

4. enable comparative analysis between subgroups of learners;

5. use comparison groups;

6. be based on multiple measurement points in order to create a longitudinal analysis;

7. define the desired quality of the tracking information and use quality assurance to support the graduate tracking system;

8. ensure that information from graduate tracking systems is accessible in a form that meets the agreed needs of stakeholders and social partners;

9. strengthen cross-border partnerships by including graduates who move to another country following the completion of their programme;

10. contribute to EU-level cooperation in VET.

The task force recommended that these principles and standards should be adopted by the expert group as the basis for developing and strengthening VET graduate tracking systems. This recommendation was accepted by the expert group.

4.0 Recommendations from the expert group

This section sets out the recommendations from the whole expert group based on the work of the task forces and the deliberations in the plenary. These recommendations represent the broadest possible consensus among the experts.

4.1 Identification of the informational requirements

4.1.1 Policy objectives and related policy questions

To operationalise the 'policy objectives' of the 2017 Council Recommendation, the expert group translated them into 'policy questions' of value for European and national policy-making. Starting off with some 40 policy questions prepared by the European Commission, task force 1 was able to narrow down the number of key policy questions to 16 (widest list), 10 (wide list), and 7 (limited list), elaborated in detail in Annex 1*. These policy questions then framed the practical decisions around the statistics to be collected at EU level (see 4.1.2 Essential and recommended information).

The first challenge the group encountered in this process was to differentiate clearly between policy objectives, policy questions, indicators, variables and data/information requirements. The second challenge in this process was to find agreement on a definitive list of policy questions that would satisfy all the different target groups, from European and national policy-makers to data analysts and researchers. Finally, an added complexity was the need to take into account the feasibility of collecting data on the policy questions from two different sources, (administrative statistical data and survey data), both in their own state of development across European countries.

Finally, the broad policy areas that the informational requirements correspond to are:

> Relevance of education and training to employment and lifelong learning.

> Existence of horizontal and vertical skill-mismatches and their drivers (including field of study, student's/graduate's ability, parental background, area of residence, etc.).

> Social mobility and integration: i) the role of higher education in fostering vertical social mobility; ii) labour market outcomes of underrepresented groups in higher education after graduation in comparison with other groups.

> Impact of learning mobility on labour mobility and employment (including destination countries/regions).

4.1.2 Essential and recommended information

The expert group has identified a set of factual background information that is essential to meet the requirements of the 2017 Council Recommendation and which needs to be collected for all graduates (**Essential information (A)**).

The expert group also recognises that there exists a set of information beyond the factual background information that would need to be obtained to fully satisfy the policy objectives set by the 2017 Council Recommendation. It therefore recommends that these data be also collected for all graduates (**Recommended information (B)**). These informational requirements are subdivided into thematic areas for ease of reading.

Member States and EEA countries are also free to expand the list of information collected for graduate tracking beyond those suggested by the expert group.

The classification into two categories of 'information' here aims to offer a list of future comparable European graduate tracking data with a degree of complexity and usefulness. In the long run, the idea is that most of the items on list A could be gathered using linked administrative data, while some of the items on list B would require a graduate survey.
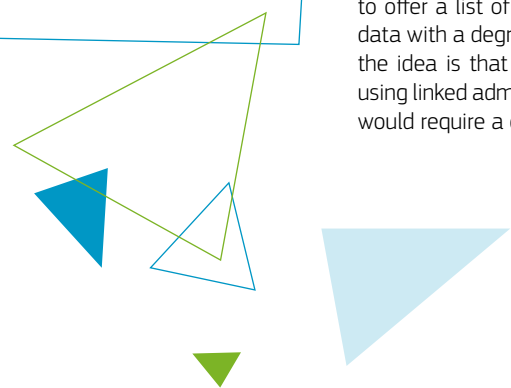
Essential information (A)

- Date of birth (month/year)
- Gender
- Country of birth and citizenship
- Country of residence
- Completed degree (possibly with indications of the final grade[22]) and field of education
- Employment status
- Sector and occupation (for those employed)
- Geographical destination of employment
- Basic information on working conditions (full time vs. part time; contract type)
- Educational achievement level of parents
- Information on career progression (job history before present job), including further formal learning after graduation
- International study mobility (i.e. degree and credit mobility of graduates while studying)
- International labour mobility of graduates

Recommended information (B)

Background information

- Children and partner (and basic related information such as age, education and employment status)
- Employment duration and work experience
- Income/earnings (labour and other forms of income)

Education

- Full education history
- Education delivery models (fully online vs. fully face-to-face vs. mixed model; working student)
- Education experience and work-based learning experience after or before graduation, and perception of relevance for the current job

Skills

- Self-assessment of skills
- Relevance of the skills acquired by graduates during education and training, and the skills they are using in their current job (self evaluation)
- Reasons for the lack of a horizontal match (for graduates not horizontally matched) (self-evaluation)
- Reasons for the lack of a vertical match (for graduates not vertically matched) (self-evaluation)

●●●

Job search, career progression and satisfaction

- Job search duration/length of time incurred between graduation and first job
- Satisfaction with the learning experience (education and work-based), in general and in relationship with the current and with past jobs and with the job search experience
- Job satisfaction
- Quality of employment

Mobility

- Drivers of mobility decision (including expectations)
- Detailed information on the work/education conditions of mobile graduates (see Annex 2)*

4.2 A gradual approach that includes both a European Graduate Survey and administrative data

There are significant differences in the existing graduate tracking systems in Member States and EEA countries, and in the organisation, governance, quality assurance and qualifications offered by higher and vocational education institutions (see 2.3 State of graduate tracking in national systems). The expert group recommends that the European Commission works with Member States and EEA countries to establish a gradual two-step approach to graduate tracking, taking into account the status quo of data collection in the different Member States and EEA countries and also the relative pros and cons of survey and administrative data.

Step 1: Short term – a European Graduate Survey

Considering the results of the work done by task force 3 (see Annex 3[*]) on the status of administrative data, the expert group considers that, in the short term, only a European Graduate Survey (or surveys) could generate comparable graduate tracking data, especially for countries that have no graduate tracking systems in place. It is also the only solution, under the current conditions – and provided that stable contact details are recorded – that would allow the tracking of graduates who have moved to other Member States and EEA countries, either for education, work or personal reasons.
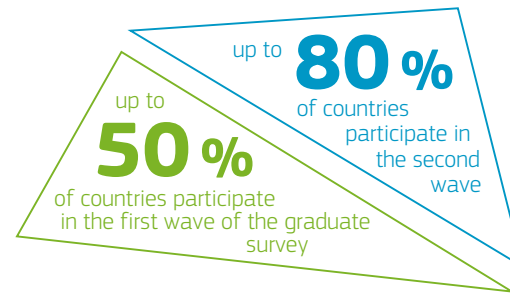
This survey (or surveys) should take place (at least) every 4 years and Member States and EEA countries should be invited to become involved (participation is voluntary). The European Commission should encourage participation with the aim of gradually achieving full coverage for all EU and other EEA mem-

bers, in line with the 2017 Council Recommendation. During the development of this survey, it will be important to ensure that the statistical process for selecting graduates is based on a rigorous sampling methodology to allow for the collection of representative data rather than being based on the pragmatic availability of graduate contact information. Where the conditions are not in place to ensure the highest methodological standards, the cohorts should not be included.

It is also fundamental to design the questionnaire properly, ensuring that the relevant 'policy questions' can be assessed, that the questionnaires are coherent across Member States and other EEA countries, that high response rates are obtained in individual Member States and other EEA countries and that the response rates of national surveys are not negatively affected.

Each wave of the European Graduate Survey (surveys) should address two cohorts of graduates: the cohort of graduates who completed their course in the previous year and the cohort of graduates who completed their course 5 years prior to the survey[23].

The expert group recommends that with regard to higher education:

up to **80 %** of countries participate in the second wave

up to **50 %** of countries participate in the first wave of the graduate survey

However, it is important to note that a survey roll-out requires that the governance structure and funding has been agreed upon by Member States, other EEA countries and the European Union. After that, it would probably take between 1 and 2 years before the survey can be conducted. Indeed, the COVID-19 crisis may have an effect on the proposed timeline. It is important for some members of the expert group to note that the funding of this initiative through EU sources should not be to the detriment of existing actions funded through the Erasmus programme, in a scenario of limited resources following the COVID pandemic.

Step 2: Medium term – linked administrative data

Looking at the medium term, the expert group recommends that Member States and other EEA countries, with the support of the European Union, improve the collection and linking of administrative data, particularly in relation to education, labour market participation and earnings. Member States and other EEA countries that have experience in collecting and linking this type of data could provide valuable information on how to structure such data collection, its costs and its benefits. The European Union (the European Commission, Eurostat, etc.) could also support this process by suggesting how to make the relevant administrative data reliable and comparable across all countries.

In order to track mobile graduates, the expert group recognises that the adoption of a unique European identifier (possibly linked to stable contact details) would be an important step forward. However, this point will need to be further addressed by the European Union and by the Member States and other EEA countries.

The process of administrative data integration should start as soon as possible, but is not likely to be completed in a short time, as it involves many complex issues that must be discussed and

coordinated across different Member States and other EEA countries (including disclosure policies, which need to be addressed thoroughly). However, when completed, there will be a collection of comparable data on many 'policy questions' of national and European relevance. Regarding administrative data, work needs to commence with the preparation of a methodological handbook so as to ensure comparability and help countries by setting a benchmark.

When comparable and high-quality administrative data become available for many participating countries, it will be possible to further reduce the length of the questionnaire of the European Graduate Survey, which could be dedicated to those 'policy questions' that cannot be addressed with administrative data (such as those in list B in 4.1.2). The elaboration of the method of linking administrative data with survey responses was outside the remit of this expert group. However, the group acknowledged that much can be learned from those EU countries that have this kind of matching in place.

4.3 Target groups

The expert group recommends a pragmatic approach to tracking different types of graduates. Ultimately, European-wide comparable graduate tracking should include EQF levels 4 to 8, as set out in the Council Recommendation. However, given that higher education systems are more comparable across the EU than VET systems, and given that in many countries the conditions for tracking higher education graduates are more easily met, higher education is likely to move faster towards that goal.

Participation in the European Graduate Survey is voluntary. Also, Member States can choose whether to include the doctoral/PhD graduates in the European Graduate Survey. Future work on tracking PhD graduates can rely on the resources already available on this topic[24], EU projects[25] and professional networks of stakeholders[26].

The roadmap for potential inclusion of VET graduates will be finetuned in the framework of the future governance structure. In countries where the conditions are already in place in the short term, Member States can choose to include VET graduates in the European Graduate Survey.

For the advancement of VET graduate tracking, the expert group recommends that the European Commission and national/regional authorities use a common set of principles and standards to inform the development and strengthening of system-wide tracking measures (for details see 3.4 Task force 4: Principles and standards for VET).

4.4 Implementation and integration of a European Graduate Survey with national graduate tracking measures: a modular approach

The introduction of a European Graduate Survey needs to take into account the fact that, in some Member States and EEA countries, national graduate surveys and administrative data tracking measures are already in place. The technical assessment of the Eurograduate pilot survey notes that for the majority of countries there is either no national graduate survey conflicting with a European graduate survey or that it was possible to identify workable solutions for aligning the national survey with a European survey[27]. However, for 7 (out of 29) Erasmus+ countries no workable solutions have yet been identified.

The expert group has considered various options for the integration of national graduate tracking measures and the European Graduate Survey, and recommends the following solutions:

1. EU Member States and other EEA countries that do not have a graduate survey in place participate in the European Graduate Survey, with the possibility of expanding the list of data requirements in light of national policies and interests.

2. EU Member States and other EEA countries that have in place national graduate tracking measures and wish to participate in the European Graduate Survey, need to choose one of the three options below:
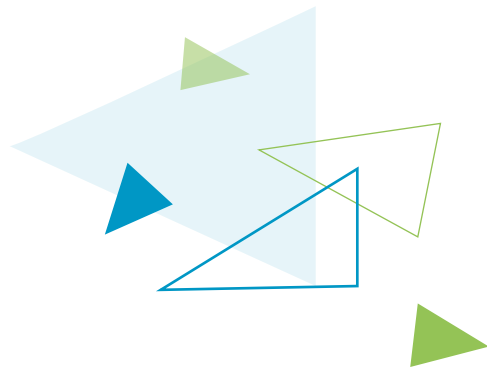
2.a. Countries can either choose to stop running their national graduate survey in the year in which the European Graduate Survey is carried out and only run the latter, or they can choose to run their national survey in parallel with the European Graduate Survey.

2.b. Add a national module to the European Graduate Survey in the year in which the latter is run. In the national module, participating countries can add questions that are of national interest. Since the European Graduate Survey is designed to ensure cross-country comparability, the addition of national modules will only affect the cross-country comparability of these modules.

2.c. Satisfy the data requirements with data gathered through their national survey or administrative data, while guaranteeing comparability of data. It is within the limits of the countries to use existing instruments of data collection adapted to the national context to collect all or parts of the data. In this case, it is important to ensure that the data gathered are fully comparable across countries, which requires the collaboration of Member States and other EEA countries.

Concerning Option 2.c., the timing of the national graduate surveys (i.e. the interval following graduation), the sampling methods adopted and the methods used to contact graduates will all heavily influence the degree of cross-country comparability. Member States and EEA countries making use of this option would need to provide evidence that their data satisfy the quality standards and informational requirements to ensure full comparability across countries.

The introduction of a European Graduate Survey should also take into account the principles, timing and approaches used by the Eurostat, Eurostudent and Eurydice data collections.

A full assessment of the quality standard achieved in each wave of the European Graduate Survey should be ensured.

4.5 Access to data

The expert group recommends that Member States, other EEA countries and the European Commission explore different possibilities for data sharing and use between Member States, other EEA countries, the EU and other stakeholders in compliance with the European legislation on open data and the re-use of public sector information[28].

The expert group recommends that when discussing the possibilities for data sharing, the following key principles are observed (for both survey and administrative data):

a) It is essential to ensure compliance with national data protection laws and the GDPR. This requires a careful assessment of the legal implications of every proposed solution, considering the relevant national and EU laws and regulations.

b) It is important to ensure that the data gathered for the European graduate tracking project (survey and administrative data) provides value to the largest number of stakeholders. These include Member States, other EEA countries, EU institutions (including the European Commission, the European Parliament and the European Council), higher education institutions, social partners, researchers, citizens, companies and organisations.

Different types of users are likely to benefit from this data in different ways. For this reason, graduate tracking data should be made available in styles and formats that are useful for the different stakeholders. Further discussions between the European Commission and the countries need to take place to ensure that the outcomes and the presentation of data are aligned with the policy requirements and fully adapted to the user groups.

c) Following on from point b) above, there are different ways and formats in which data can be collected at the European level. One option is to produce indicators on the relevant policy dimensions.[29] On the other side of the spectrum are microdata, which are used to derive aggregate measures, such as indicators.

The use of microdata provides additional value to stakeholders, including policy-makers, because they enable: 1) identifying the role of each individual driver (hence satisfying the so-called 'other things being equal' condition); 2) analysing and estimating the effect of specific drivers (including policies) on the relevant outcome variables. Microdata are essential for understanding 'what works' and 'for whom', and their use can greatly support policy-makers, both at national and international levels.

The expert group recommends that indicators are made available. There is also a need for further discussions on the possibility of making microdata available as well, provided that data protection and GDPR rules and regulations are respected. This discussion needs to take place as part of the follow-up work because the expert group has not yet had a chance to discuss it in depth.

d) The expert group acknowledges the expertise of research data centres to host and provide access to data gathered by the European graduate tracking project in observance of data protection laws and GDPR.

4.6 Governance within a European network

Given the gradual and modular approaches recommended by the expert group, it is important to design a governance model that can bring forward the development of graduate tracking in Europe, while respecting the competences and choices of the Member States and other EEA countries. The governance model will need to ensure that the required competences are provided in the relevant decision-making bodies. The expert group has identified three sets : a) competences in the area of survey design and implementation; b) competences in the area of administrative data integration; and c) competences in the area of privacy protection and GDPR (possibly from a comparative perspective).

The group also acknowledged the crucial role that higher education institutions and VET institutions play in the success of the graduate tracking project, especially in the area of graduate surveys. As key partners in building the relationship towards graduates (often educational institutions only hold the contact details of graduates), the institutions need to see a clear benefit of a European-wide graduate tracking in order to take ownership of the process. The educational institutions need to be part of the future governance structure in order to help shape the final product according to their needs.
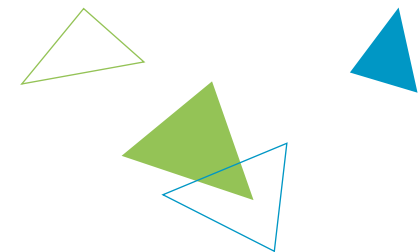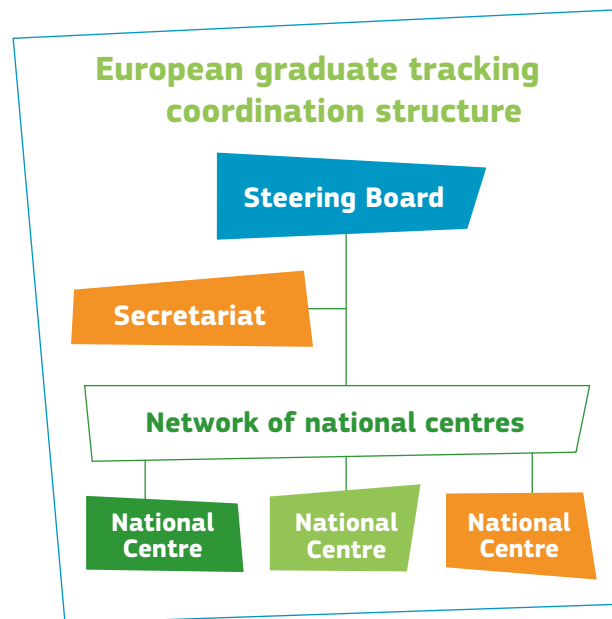
The proposed governance model is structured as follows:

1. Member States and other EEA countries are invited to establish, if currently not in existence, a Graduate Tracking Coordination Centre or reference point for both higher and vocational education and training. Such centres (which may be virtual, based on a network of contacts/experts, or a physically-located organisation) should be invited to build on the existing structures and arrangements in each Member State. In accordance with national practice, they should bring together existing relevant organisations (for example, National Statistical Institutes, representatives of educational institutions, etc.) and involve social partners and relevant stakeholders at national and regional levels in order to support the development or strengthening of national graduate tracking systems in line with EU policy.

2. These national Coordination Centres/reference points should form a European network of experts, as foreseen by the Council Recommendation on tracking graduates.

3. The European Commission is invited to provide a Secretariat to the network of the Coordination Centres/reference points, in order to support implementation of the Council Recommendation on graduate tracking. This Secretariat would facilitate cooperation and mutual learning, develop and promote guidance material, and provide information on developments in graduate tracking across Member States and EEA countries and more widely.

4. The network (point 2 above) and the network's Secretariat (point 3 above) are invited to create a Steering Committee/Board to strategically guide the implementation of graduate tracking among all participating countries. The Steering Committee/Board should consist of a limited number of representatives of the network, the Secretariat/European Commission, representatives of European networks,

Eurostat, European agencies in the relevant fields[30] and European-level social partners[31]. It will provide guidance for the practical work of the network and the Secretariat towards the implementation of the Council Recommendation. The representatives of the network should either be elected from among the centres/reference points biannually, or follow the sequence of the trio Presidencies of the Council.

The European Commission is invited to continue working with Member States in the framework of the Open Method of Coordination in order to advance the implementation of the Council Recommendation on tracking graduates among policy-makers and representatives of the EU governments.

European graduate tracking coordination structure

Steering Board

Secretariat

Network of national centres

National Centre   **National Centre**   **National Centre**

4.7 Monitoring the graduate tracking recommendation

Monitoring the implementation of the Council recommendation on graduate tracking means measuring the extent to which national systems collect, analyse and use data to improve the quality and relevance of students' programmes. As described above, the expert group recommends that the Secretariat should work with the Coordination Centres/reference points to monitor progress in implementing the graduate tracking recommendation. The Secretariat should coordinate this process to ensure that the information provided is available in a standardised format. It is important that the approach used for monitoring is developed in partnership with the Coordination Centres/reference points to ensure a non-judgemental and supportive methodology and reporting system.

The expert group noted the current position in relation to the implementation of the 2017 Council Recommendation (as described in Section 4 of the 2020 study on mapping graduate tracking practices[32]) and proposes that this is used as the basis for monitoring its implementation every 2 years. In order to simplify the work of the Coordination Centres/reference points, the timing of this 2-yearly monitoring cycle should be aligned with the collection of data through the European Graduate Survey.

The monitoring arrangements should be based on a broad view of the recommendation's implementation. The expert group recommends that the following five criteria (as put forward by the 2020 mapping study) form the basis of evaluating the progress made in implementing the Council Recommendation:
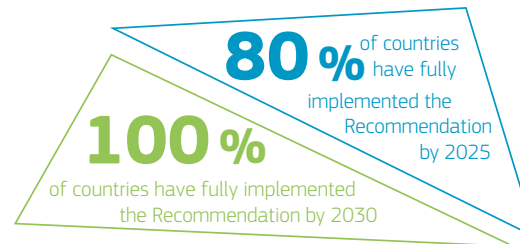
> **Inclusion of graduate programmes** – coverage of relevant programmes in higher education, initial and continuing vocational education and training, PhD programmes.

> **Inclusion of graduates** – inclusion of all types of graduates in each cohort, including people who migrate to another country after graduation.

> **Longitudinal tracking** – tracking graduates at different times after they have graduated.

> **Quality of data** – based on qualitative and quantitative information from both survey and administrative data[33], the gathered information should be used to understand graduates' progress based on education/training providers, regions, fields of study, etc.

> **Dissemination and use of data** – anonymised data is available in an open format so that it can be used for different purposes and by different users in the national/regional systems in compliance with GDPR. Ongoing communication with the users of data is ensured and data is published under open access policy.

The expert group recommends that the Secretariat uses these measures as the basis for the initial monitoring of the implementation of the graduate tracking recommendation. Over time, the Secretariat, in partnership with the Graduate Tracking Coordination Centres/reference points and the European Commission, should refine these criteria to reflect emerging developments and priorities.

4.8 Timelines

The expert group recommends that national authorities (at either regional or system level) agree a timeline to implement the Council Recommendation on graduate tracking.

The expert group recommends that the target timeline should be:

80 % of countries have fully implemented the Recommendation by 2025

**100 %** of countries have fully implemented the Recommendation by 2030

5.0 Next steps

This report should be published and disseminated in the Member States and other EEA countries, as well as to the relevant EU agencies, and discussed in relevant EU entities that relate to higher education, vocational education, data gathering and evidence-based policymaking.

The topic of the use and proper utilisation of data on graduate outcomes at national and European level in line with the needs of the different users should be further explored.

The European Commission and Member States need to make formal political decisions on the issues of capacity building, the content, schedule and roll-out of the European Graduate Survey, EU-level data management and access issues, the governance model and the funding of the EU-level graduate tracking.

The open issues identified in this report should be discussed at the relevant level in the context of the new governance model. In particular, clarifying the role of Eurostat and national statistical offices is important for the further development of EU-level graduate tracking.

The European Commission, Member States and other EEA countries should start taking steps towards implementing the expert group's recommendations.
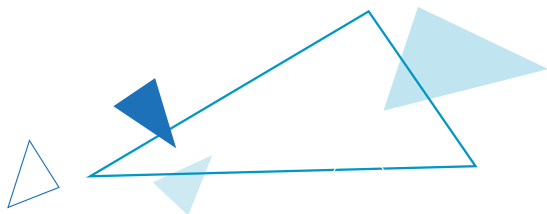
6.0 ANNEX 0: Detailed background information

6.1 Composition of the expert group

The establishment of a network of experts is part of the European Commission's work to encourage cooperation and mutual learning in relation to tracking systems and their further development. The expert group consisted of: i) delegations from 27 EU Member States and EEA countries, with each delegation comprising up to 2 representatives and 2 alternates, making a total of 52 Member State representatives; ii) representatives from 10 stakeholder organisations; iii) 4 representatives from EU bodies.

The expert group members came from a diverse range of organisations, including ministries of education, state agencies, research institutes and higher education institutions. The expert group included stakeholders from the European University Association, European Council of Doctoral Candidates and Junior Researchers (EURODOC), the European Students' Union, the European Trade Union Confederation (ETUC), the European Trade Union Committee for Education (ETUCE), the European Association of former members of the European Association of Aerospace Students (EUROAVIA), the European Vocational Training Association (EVTA), the Groningen Declaration Network, the German Academic Exchange Service (DAAD) and The Guild of European Research-Intensive Universities.

Four EU bodies (Cedefop, the European Training Foundation, Eurostat and the Joint Research Centre) were also invited to participate in the expert group, which was chaired by a representative from the European Commission's DG Education, Youth, Sport and Culture (DG EAC) and managed in close liaison with DG Employment, Social Affairs and Inclusion (DG EMPL).

Members of the expert group met in plenary on 5 occasions between October 2018 and September 2020 (the latter 2 of these meetings were held virtually). The taskforce chairs met on many occasions in between the plenary meetings. Members who voluntarily acted as taskforce chairs were instrumental in pushing the work of the group forward and in translating the outcomes of the discussions into recommendations.

6.2 State of play of graduate tracking in the Member States and other EEA countries

The work of the expert group was informed by the 2020 study on 'Mapping the state of graduate tracking policies and practices in EU Member States and EEA countries'[34].

1. In terms of coverage of graduate tracking measures, the study concluded that about two thirds of the countries have system-level graduate tracking in higher education and VET. The remainder will have to make considerable improvements if they are to establish system-level graduate tracking in the next 5 years. In particular:

    > Higher education and VET graduate tracking is an established practice in 18 countries: AT, BE-NL, CZ, DE, DK, EE, ES, FI, FR, IE, IT, LU, LT, NL, NO, SE, SK, UK.

    > Five countries have system-level graduate tracking measures for just one of the sectors: higher education: BG, HU, PL; VET: BE-FR, PT.

    > Two countries can be expected to have higher education graduate tracking in place during the next 1 to 2 years: LV, SI.

    > In RO and IS there are activities but not necessarily at the system level.

    > In three countries without system-level graduate tracking, the Eurograduate survey provided a significant push to start developing a national system: HR, GR and MT.

    > In CY and LI there is currently little or no relevant experience with graduate tracking.

2. In terms of whether graduate tracking is an entrenched practice, the study found that the countries where graduate tracking is a legal obligation tend to have well-established tracking systems. However, a legal basis is not a necessary condition for regular graduate tracking.

    > In almost half of the countries, graduate tracking is both a legal obligation and a regular practice: AT, DE, DK, EE, ES, FI, FR, HU, IT, NL, PL, SE, and UK.

    > In another third of countries, graduate tracking is a well-developed practice, despite not being a legal obligation: BG (in higher education), BE-NL, CZ, IE, LT, LU, NO and SK. In some of these countries, tracking is considered to be a policy objective (BG, CZ, IE, LT, SK) but in a few there is no policy focus on the topic (BE-NL, LU and NO).

    > A few countries with poorly developed graduate tracking have included the aim to do so in recent policy documents: BE-FR, BG (in VET), HR, MT, RO and SI.

    > In the remaining countries, graduate tracking is poorly developed and there are no policy objectives related to it: CY, GR, IS, LI.

3. In terms of governance for graduate tracking, the responsibility for graduate tracking generally lies with the national or regional authorities that oversee higher education or VET policies. In the countries where no measures can be identified at system level, it was not possible to establish which level is responsible for graduate tracking. This happened for VET in BG, for higher education in RO, and for both sectors in CY, GR, HR and IS.

4. Ongoing reforms indicate an increasing use of administrative data and a combination of administrative data and surveys:

> New graduate tracking measures are currently under development in BG, LV and SI and have been announced in FR, HU, LI, LT, PL, RO and SK[35].

> Reforms of existing tracking measures are ongoing in BE-NL, DE, ES, FI and SE.

> Ongoing or announced reforms indicate an increase in the use of administrative data for graduate tracking (ES, FR, SK) and an awareness of the importance of combining administrative data and surveys.

5. Graduate tracking requires the involvement of different ministries, national agencies and departments, including statistical offices and research agencies. Smooth cooperation between these entities as well as with other relevant parties, such as education and training providers and employer representatives, can be a key factor to the successful implementation of graduate tracking.

Common obstacles to the development of graduate tracking include lack of leadership or prioritising the fostering of cooperation between the different actors, restrictions due to differing legislation on personal data protection in Member States, insufficient methodological and technological capacity, and insufficient funding.

6.3 Feasibility of a full roll-out of the European Graduate Survey

The group's work has also been informed by the Eurograduate Pilot Survey[36], which approached higher education graduates in 8 countries (AT, CZ, HR, DE, GR, LT, MT, NO). It covered nearly 21 000 bachelor-level and master-level graduates from graduating cohorts in the academic years of 2012/13[37] and 2016/17. The survey covered the following aspects: labour market reference, skills, (international) mobility, democratic values and further studies.

Within its technical report[38], the Eurograduate pilot consortium has produced country sheets, primarily based on information provided by representatives of the Erasmus+ countries within a standardised questionnaire and a guided qualitative follow-up interview. Such sheets contain information on countries' interest in participating in a European Graduate Survey and on the risk of conflict with existing graduate surveys.

Of the 29 countries that provided information, only 3 declared that they are currently not interested (BE Flanders, NL, UK). A further 5 countries indicated that being interested would require more information or solutions to problems in participating in a European Graduate Survey (DE, DK, FI, IE, LU), and 7 countries (DE, DK, FI, IE, NL, UK) mentioned the risk of a conflict with existing national surveys. For several of these countries the adoption of a modular and flexible approach to the European Graduate Survey is likely to solve these problems.

The Eurograduate Technical Assessment provides more detailed information on the need and possibilities of coordinating a European Graduate Survey with the existing graduate surveys for all 29 countries covered. Moreover, almost all Erasmus+ countries are interested in enhancing their graduate tracking capacities with a comparative dimension (even when they see a potential risk of conflict/need of coordination with existing national surveys).

The technical report of the Eurograduate Consortium, based on its experience in collecting comparable data on higher education graduates across the 8 European countries, concludes that a full roll-out of a European Graduate Survey would be feasible. To ensure participation of the largest possible number of Erasmus+ countries it would be necessary to satisfy the following conditions: … 'the added value for institutions needs to be very clear, the topics must be relevant to policymaking in the country, the data quality must be high in all countries, there must be no conflict with existing surveys and ways for cooperation need to be found (often they were already identified), and the tasks of countries and required resources need to be clearly spelled out before decisions on participation can be taken'[39].

6.4 The link between the information requirements and policy questions

The following section was drafted by the Joint Research Centre as a background exploration of the kind of data analysis that is possible if the essential and recommended information is collected at the European level. It is for informational purposes only and does not form part of the expert group's recommendations.

How to use Essential information (A) to answer policy questions

Below we show how different items belonging to list A (Essential information) can be combined to provide evidence on the 'policy objectives' highlighted in the 2017 Council Recommendation and identified by this expert group. We present examples of: 1) the creation of indicators (e.g. indexes) that can be used to monitor the performance of countries (e.g. existence of trends in horizontal mismatches); 2) the analysis directed at better understanding the role of specific drivers on the relevant outcome variables (e.g. the impact of credit mobility on the likelihood of finding a matched job; the impact of family background on the probability of being employed).

Examples of indicators (in relation to the key policy question):

Relevance of education and training to employment and lifelong learning:

> Share of graduates who are employed, by gender.

> Distribution of graduates by field of study, by gender.

> Employment patterns by gender, country of birth and field of study.

●●●

> Share of graduates employed in full-time jobs, by gender.

> Distribution by field of study of graduates finding a job within 6 months from graduation, by gender.

Analysis of skills mismatches and their drivers:

> Share of graduates employed in occupations that are coherent with the field of study in which they graduated (horizontal match based on occupation and field of study), by gender.

> Share of graduates employed at a qualification level coherent with the level of educational attainment (vertical match based on educational attainment level and occupation), by gender.

Social mobility and integration:

> Distribution of graduates by parental educational background, by gender.

> Employment rates of graduates from under-represented groups, by gender.

Impact of learning mobility on labour mobility and employment:

> Characteristics and mobility patterns of degree mobile graduates after graduation, by gender.

> Share of degree/credit mobile graduates that work in a country different from that in which they graduated, by gender.

Examples of analysis of drivers (in relation to the key policy questions):

Relevance of education and training to employment and lifelong learning:

> Relationship between post-graduation formal learning and the likelihood of being employed (or employed in a well-matched job), taking into account gender, country of birth, field of study, student's ability and degree/credit mobility.

> Relationship between on-the-job training and the likelihood of being well matched, taking into account gender, country of birth, field of study, student's ability and degree/credit mobility.

Analysis of skills mismatches and their drivers:

> Relationship between the probability of being vertically/horizontally mismatched and gender, country of birth, field of study, student's ability, degree/credit mobility, etc.

> Relationship between career progression and the condition of being vertically/horizontally mismatched, taking into account gender, country of birth, field of study, student's ability, degree/credit mobility, etc.

Social mobility and integration:

> Relationship between labour market outcomes (e.g. employment vs. no employment; type of employment) and socioeconomic background (such as parental education; migrant background), taking into account, gender, level of education, field of study, student's ability, etc.

●●●

●●●

> Relationship between credit/degree mobility and socioeconomic background (such as parental education; migrant background), taking into account, gender, level of education, field of study, student's ability, etc.

Impact of learning mobility on labour mobility and employment:

> Relationship between the probability of being employed (including abroad) and credit/degree mobility, taking into account socioeconomic background, gender, level of education, field of study, student's ability, etc.

> Relationship between the probability of being vertically/horizontally mismatched and credit/degree mobility, taking into account gender, country of birth, field of study, student's ability, etc.

How to combine Essential (A) and Recommended (B) information to answer policy questions

Below we show how, by combining items on list A (Essential information) with information from list B (Recommended information), it is possible to expand the possibilities of answering the policy questions.

Examples of indicators (in relation to the key policy questions):

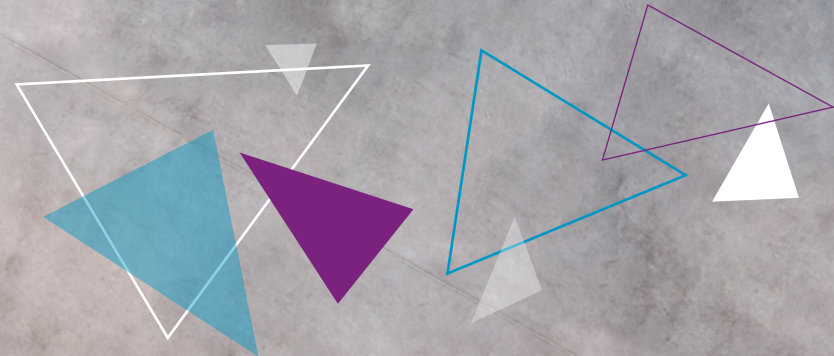*Relevance of education and training to employment and lifelong learning:*

> Percentage of graduates who are employed and **satisfied with their current job**[40], by gender.

> Percentage of graduates **who are satisfied with their learning experience**, by gender.

Analysis of skills mismatches and their drivers:

> Percentage of graduates who **self-assess themselves as horizontally/vertically mismatched**, by gender.

> Percentage of graduates who **self-assess themselves as vertically/horizontally mismatched and their satisfaction with their learning experience**, by gender.

Social mobility and integration:

> Percentage of graduates from low vs. high parental education background **that are in the top deciles of the distribution of earnings**, by gender.

> Percentage of graduates from low vs. high parental education background **who are satisfied with their job**, by gender.

Impact of learning mobility on labour mobility and employment:

> Percentage of graduates who are employed among those **whose foreign degree was recognised**, by gender.

> Percentage of graduates **who are satisfied with their job** among those who were credit/degree mobile, by gender.

Examples of analysis of drivers (in relation to the key policy questions):

Relevance of education and training to employment and lifelong learning:

> Relationship between **non-formal and informal learning** and labour market outcomes (employment vs. no employment; type of employment; **satisfaction with current job; quality of employment, labour income**), taking into account gender, field of study, **self-assessment of skills**, sector, occupation, **full education history**, **work history**, etc.

> Relationship between the probability of being employed (alternatively: the **quality of employment** or **job satisfaction**) and **household composition** (including the presence of children) for female graduates vs. male graduates, taking into account field of study, country of birth, **self-assessment of skills, full education history, work history**, etc.

Analysis of skills mismatches and their drivers:

> Relationship between the probability of being vertically and/or horizontally mismatched and participation to **non-formal learning**, taking into account field of study, gender, country of birth, full **education history, work history**, etc.

Social mobility and integration:

> Relationship between **earnings** (or **satisfaction with the current job or quality of employment**) and parental educational attainment, taking into account gender, field of study, **self-assessment of skills**, sector, occupation, **full education history**, work history, etc.

Impact of learning mobility on labour mobility and employment:

> Relationship between labour market outcomes (employment vs. no employment; type of employment; **satisfaction with current job; quality of employment, labour income**) of mobile graduates and **formal recognition of their foreign degrees** (or **support from the graduating institution**), taking into account gender, parental educational attainment, field of study, country of birth, **existence of special relationship with the host country** and others.

Footnotes

a   Council Recommendation of 20 November 2017 on tracking graduates (Text with EEA relevance), OJ C 423, 9.12.2017, pp. 1-4, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32017H1209%2801%29

1   In line with the recommendation, this report uses the term 'graduate' to refer to a person completing any level of higher education or vocational education and training that is offered at the European Qualifications Framework (EQF) level 4 or above, while recognising that some countries also have initiatives to track school leavers.

2   This is recommended in both the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) and the European Quality Assurance Framework for Vocational Education and Training (EQAVET)

3   A renewed EU agenda for higher education (COM/2017/0247 final), available at https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1496304694958&uri=COM:2017:247:FIN

4   A NEW SKILLS AGENDA FOR EUROPE: Working together to strengthen human capital, employability and competitiveness (COM/2016/0381final), available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016DC0381

5   Council Recommendation of 20 November 2017 on tracking graduates (Text with EEA relevance) OJ C 423, 9.12.2017, pp. 1-4, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32017H1209%2801%29

6   Achieving the European Education Area by 2025 – Communication, COM(2020) 625 final, https://ec.europa.eu/education/resources-and-tools/document-library/eea-communication-sept2020_en, p. 23

7   See project website www.eurograduate.eu

8   Directorate-General for Employment, Social Affairs and Inclusion (European Commission), ICF Consulting Services: Mapping of VET graduate tracking measures in EU Member States: Final report (2018), available at https://op.europa.eu/en/publication-detail/-/publication/00d61a86-48fc-11e8-be1d-01aa75ed71a1/language-en

9   Entry of the expert group in the Register of Commission Expert Groups and Other Entities: https://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetail&groupID=3580&NewSearch=1&NewSearch=1

10   The reports of the task forces are published as annexes to this report on the following website: https://ec.europa.eu/education/policies/higher-education/relevant-and-high-quality-higher-education_en

11   Directorate-General for Education, Youth, Sport and Culture (European Commission) and ICF Consulting, Mapping the state of graduate tracking policies and practices in the EU Member States and EEA countries, Final report (2020), available at https://op.europa.eu/en/publication-detail/-/publication/93231582-a66c-11ea-bb7a-01aa75ed71a1/language-en, pp. 47-57.

12   Directorate-General for Education, Youth, Sport and Culture (European Commission) and ICF Consulting, Graduate tracking: A 'how to do it well' guide (2020), available at https://op.europa.eu/en/publication-detail/-/publication/5c71362f-a671-11ea-bb7a-01aa75ed71a1/language-en/format-PDF/source-search

13   BE-NL is an abbreviation for Flanders.

14   For more details, see Annex 4: Principles and Standards for graduate tracking for VET, standard 10, available at: https://ec.europa.eu/education/policies/higher-education/relevant-and-high-quality-higher-education_en

15   The European Higher Education Area is an international collaboration in higher education between 48 countries with different political, cultural and academic traditions. During the last 20 years, an area has been created that uses a common set of commitments: structural reforms and shared tools. See http://www.ehea.info/

16   Directorate-General for Employment, Social Affairs and Inclusion (European Commission), ICF Consulting Services: Mapping of VET graduate tracking measures in EU Member States: Final report (2018), available at https://op.europa.eu/en/publication-detail/-/publication/00d61a86-48fc-11e8-be1d-01aa75ed71a1/language-en

17   https://ec.europa.eu/digital-single-market/en/news/summary-report-public-consultation-european-strategy-data

18   https://ec.europa.eu/digital-single-market/en/news/summary-report-consultation-review-directive-re-use-public-sector-information

19   eIDAS – Regulation (EU) No 910/2014 on electronic identification and trust services for electronic transactions in the internal market.

20   These are: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Luxembourg, Netherlands, Poland, Romania, Slovenia and Sweden. In Belgium more than one authority replied, due to the federal nature of the country. However, 7 Member States are not included in the analysis: Finland, Hungary, Italy, Latvia, Lithuania, Malta, Portugal and Slovakia. For these countries there is currently no information to evaluate the existence of (linked) administrative data. For Hungary, the national-level VET graduate tracking indicators development project only started in March 2020, financed by a specific European Social Fund (ESF) project (EDIOP-625-2019). The project is therefore at too early a stage to be able to provide answers to questions on administrative data, but this can be done when it has reached the appropriate level of maturity. Cyprus replied that administrative data are not available for graduate tracking.

21   https://www.eqavet.eu/What-We-Do/European-Quality-Assurance-Reference-Framework

22   This is often taken as a proxy for students' ability.

23   This assumes the majority of students start programmes in the autumn and complete in the following summer. Other arrangements may be needed for those whose 'academic year' follows a different pattern.

24   Tracking the Careers of Doctorate Holders (EUA-CDE, 2020), How to develop EU-level graduate tracking for doctoral graduates (Eric Carver, 8 October 2020), Declaration on Sustainable Research Careers, (Eurodoc/MCAA, 2019), Delivering talent: careers of researchers inside and outside academia (LERU 2018), Career Tracking of Doctoral Holders (ESF, 2017), MORE3 Study 'Support data collection and analysis concerning mobility patterns and career paths of researchers' (EC, 2017), Eurograduate Feasibility Study (2016), Careers of Doctorate Holders. Analysis of Labour Market and Mobility Indicators (OECD, 2013).

25   MORE4, DocEnhance, DOC-CAREERS II

26   European Council of Doctoral Candidates and Junior Researchers (Eurodoc), EUA Council for Doctoral Education (EUA-CDE), Professionals in Doctoral Education (PRIDE Network), Marie Curie Alumni Association (MCAA), national associations of doctoral candidates in the EU Member States.

27 Directorate-General for Education, Youth, Sport and Culture (European Commission), Eurograduate pilot study: Technical assessment of the pilot survey and feasibility of a full rollout (2020), available at https://op.europa.eu/en/publication-detail/-/publication/8f748637-d079-11ea-adf7-01aa75ed71a1/language-en

28 https://ec.europa.eu/digital-single-market/en/european-legislation-reuse-public-sector-information

29 An example would be the share of horizontally mismatched graduates (the outcome variable), by gender and field of study (the relevant characteristics).

30 For example, Cedefop and the European Training Foundation.

31 Since graduate tracking has relevance for the national policies on education, training and employment, the participation of social partners should be ensured in line with the social dialogue principles.

32 Directorate-General for Employment, Social Affairs and Inclusion (European Commission), ICF Consulting Services: Mapping of VET graduate tracking measures in EU Member States: Final report (2018), available at https://op.europa.eu/en/publication-detail/-/publication/00d61a86-48fc-11e8-be1d-01aa75ed71a1/language-en

33 https://ec.europa.eu/eurostat/web/quality/european-statistics-code-of-practice

34 Directorate-General for Employment, Social Affairs and Inclusion (European Commission), ICF Consulting Services: Mapping of VET graduate tracking measures in EU Member States: Final report (2018), available at https://op.europa.eu/en/publication-detail/-/publication/00d61a86-48fc-11e8-be1d-01aa75ed71a1/language-en

35 A new graduate tracking measure based on administrative data collection was launched in 2019 in Slovakia. Information on the measure was not yet available at the time the ICF (2020) study was completed.

36 Directorate-General for Education, Youth, Sport and Culture (European Commission), Eurograduate Pilot Survey: Design and implementation of a pilot European Graduate Survey (2020), available at: https://op.europa.eu/en/publication-detail/-/publication/51f88c2e-a671-11ea-bb7a-01aa75ed71a1/language-en

37 In one of the eight countries, the 2012/13 cohort was covered by a sub-sample of the national graduate survey.

38 Directorate-General for Education, Youth, Sport and Culture (European Commission), Eurograduate pilot study: Technical assessment of the pilot survey and feasibility of a full rollout (2020), available at https://op.europa.eu/en/publication-detail/-/publication/8f748637-d079-11ea-adf7-01aa75ed71a1/language-en

39 Ibid.

40 The additional information provided by list B (Recommended information) is in bold. Notice that by using information on list B we can increase the number (and quality) of observable outcomes' data (e.g. job satisfaction; earnings) as well as the number (and quality) of potential drivers (e.g. full education history).

* The reports of the task forces are published as annexes to this report on the following website: https://ec.europa.eu/education/policies/higher-education/relevant-and-high-quality-higher-education_en

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