COMMISSION STAFF WORKING DOCUMENT

ANNEX II
Results of the public consultation on the EU's modernisation agenda for higher education

Accompanying the document

Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions

A NEW SKILLS AGENDA FOR EUROPE:
Working together to strengthen human capital, employability and competitiveness

{COM(2016) 381 final}

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1. INTRODUCTION

This annex sets out the key findings of the public consultation on the future of the EU's agenda for the modernisation of higher education systems[1]. The results of the consultation underpin the specific initiatives related to higher education presented in the Skills Agenda and will inform the EU's future strategy for the modernisation of higher education.

1.1 Higher education matters…

Demand for highly qualified people and innovative thinking is growing…

1. The evidence underpinning the EU's new Skills Agenda is clear. Europe needs well qualified people with high-level skills if it is to face to up the social and economic challenges of the 21st century. Current labour market projections indicate that over 49% of all job openings in the EU – for new jobs and replacement of people who retire - will require high-level qualifications by 2025[2]. This includes people with vocationally and academically oriented undergraduate degrees, Master's degrees and doctoral-level education. Higher skill and qualification levels in a society are strongly associated not only with higher rates of economic growth, productivity, innovation and job creation, but also with broader social outcomes, including better health and greater levels of social and political engagement[3].

…and our higher education systems are a crucial part of the answer.

2. Europe's higher education systems have already allowed more Europeans to gain a high-level qualification than ever before. The combination of teaching, research and cooperation with wider society in higher education institutions creates unique environments for nurturing talent and stimulating the creativity and innovation on which we depend. In many ways, European higher education is a success. But, no one would deny there are serious challenges and areas where improvement is needed for our higher education institutions - and systems more broadly - to deliver their full potential.

The modernisation agenda has provided an effective framework for EU support…

3. The Agenda for the modernisation of Europe's higher education systems has provided the strategic EU-level policy agenda for the higher education sector since its adoption in 2011. It complemented the headline target for tertiary education attainment target agreed by Member States[4] and broad policy messages about higher education that formed part of the EU's overall Europe 2020 strategy and specific framework for cooperation in education and training, ET 2020. In practical terms, the Communication, endorsed by the Council in November 2011, did three main things:

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[1]   The current modernisation agenda is presented in COM (2011) 567 final
[2]   CEDEFOP (2016) forthcoming
[3]   See, for example, OECD (2015) Education at a Glance 2015, pp.152-164
[4]   The target is for 40% of the age group 30-34 in the EU to have a tertiary level qualification or equivalent by 2020. Tertiary education is defined to encompass ISCED levels 5 (short-cycle qualifications), 6 (Bachelor and equivalent), 7 (Master and equivalent) and 8 (Doctoral education). In Germany, the national target has been defined to include some ISCED 4 (post-secondary, non-tertiary) qualifications.

a) It set out the EU policy position on the way higher education should develop to support the strategic goals of jobs, growth and inclusion;
b) It provided general recommendations for governments and the higher education sector;
c) It set out a programme of EU actions, presenting and linking activities in the framework of Europe 2020, ET 2020 and the funding programmes (Erasmus+, Horizon 2020 and European Structural and Investment Funds).

…by identifying the key priorities for European cooperation…

4. The 2011 agenda contains five key priorities, which have guided EU actions in higher education since 2011: a) raising graduate numbers (in line with the 40% target) through widening access and reducing drop-out; b) enhancing the quality and relevance of learning and teaching; c) promoting more international cooperation and mobility; d) strengthening the knowledge triangle (education, research, innovation) and; e) promoting adequate and efficient funding and effective governance.

…and helping to focus efforts for change.

5. The Agenda has provided a central reference point for EU policy in higher education, informing, for example, work on evidence-building and transparency (studies, U-multirank, European Tertiary Education Register), European semester analysis and country-specific recommendations, the specific work programme for policy cooperation in higher education, the focus of calls for proposals in Erasmus+ and the design of ex-ante conditionalities and, more indirectly, Operational Programmes in the new Structural and Investment Funds.

But it is the right time to take stock and look to the future.

6. Reform in higher education is by its nature a medium to long-term process, with impacts taking time to emerge. However, since 2011, higher education and the world in which it operates have changed. In light of this reality, and with a view to ensuring EU strategy and activities to support the higher education sector remain as relevant as possible, the Commission launched a public consultation exercise to take stock of the state of higher education in Europe and identify areas where focus of EU action should lie.

1.2 Time to take stock of progress and identify next steps…

A wide-ranging public consultation…

7. The consultation and review process has involved a public online questionnaire – open to all respondents - and a targeted questionnaire addressed to Member State authorities and key Higher Education stakeholders in the EU. Both these consultation processes were launched in November 2015 with a deadline for submission of responses at the end of February 2016. Both the online questionnaire and the targeted questionnaire asked respondents for their assessment of the challenges facing higher education in Europe, the priorities for those in charge of higher education in general and the specific areas where the EU could and should act to add value.

…has generated a large volume of replies and valuable feedback.

8. The online consultation, which was widely disseminated via governmental and stakeholder networks, received 1485 contributions, 1005 from individuals (mainly people working in educational institutions and current students or recent graduates) and 480 from representatives of an organisation (mainly higher education institutions - HEIs)[5]. 49 position papers were received in response to the targeted consultation (30 from government authorities and 19 from national and EU level stakeholder organisations). See Annex 1 for more details of respondents.

9. In addition to these questionnaire-based approaches, the views of stakeholders in higher education were gathered through a series of *ad hoc* events, related to the future of higher education in Member States, culminating in a conference on the future of higher education organised by the Dutch Presidency in Amsterdam on 9 March 2016.

This paper summarises main messages from the consultation, with a focus on skills.

10. The consultation focused on all aspects of the higher education sector in Europe, covering three core missions of higher education institutions: a) teaching and learning; b) research and; c) innovation and engagement. The results and feedback received from the different consultation methods have been systematically analysed. In what follows, we provide an overview of the key points emerging from the consultation, with specific attention to the messages relating to higher education's role in skills development.

2.   KEY CHALLENGES FOR HIGHER EDUCATION IN EUROPE

11. Both the online consultation and targeted call for position papers invited respondents to identify the main challenges they see facing the higher education sector in their countries or in Europe more generally. The objective of these questions was to seek views on both the major trends impacting on the role and objectives of higher education and the practical constraints and challenges that affect higher education institutions' ability to respond to these challenges and deliver the outputs and outcomes that society may wish to see.

Technology and globalisation are changing higher education's operating environment…

12. At the macro level, the twin forces of **globalisation and digitalisation** emerged as important "mega trends" affecting higher education institutions directly and the world for which they are preparing graduates and in which they are undertaking research, innovation and civic engagement activities. Both international interdependency and technological change are seen by many respondents as **increasing the rate of change in economic and social structures** (the size and type of businesses that exist and employ graduates or the make-up of society) and occupational profiles (the types of job that will exist in the future). One national rectors' conference highlights, for example, that 30% of todays' occupations did not exist 20

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[5]   While this mode of online consultation used does not involve representative sampling of respondents, the large number of respondents overall, good geographical spread in responses and the large number of responses from higher education institutions means the results provide a solid body of viewpoints.

years ago and that this rate of change will only increase, as many routine jobs are rendered redundant by technological advancement. Higher education is thus seen to be operating in a highly **complex, dynamic and uncertain environment**, which affects how we must approach planning and strategy-setting.

...while graduate employment outcomes are a concern now and in the longer term.

13. Another frequently recurring theme was the legacy of the economic and financial crisis, which has left Europe with uneven and sometimes sluggish economic growth and has led to or exacerbated **(graduate) unemployment and under-employment**[6] in many parts of the Union[7]. In this connection, many respondents to both the targeted and online questionnaires raised the question of the **match or mismatch** in the knowledge and skills with which graduates leave higher education and those required by the economy and society more generally. In response to the online survey, **71% of students or recent graduates** and **61% of higher education institution employees** disagreed with the statement that "*there is a good match between the supply of higher education graduates and the knowledge and skills the economy needs*". Those responding on behalf of higher education institutions were more positive, with only 46% disagreeing with the statement (see Figure 1). Respondents (all categories together) from central and southern Europe were considerably more negative than those from northern and western Europe. However, it is impossible to say whether these views are driven primarily by people's assessment of the effectiveness of higher education or broader labour market and macro-economic conditions[8].

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[6] Graduates working in jobs where they cannot fully use their high-level skills.

[7] This concern is not only highlighted by respondents from countries most seriously affected by the economic crisis. **Denmark's** position paper, for example, points to the findings of an independent Expert Committee on Quality in Higher Education in January 2015, which found strong evidence of skills mismatches affecting higher education graduates, particularly from certain disciplines.

[8] Distinguishing the relative contribution of higher education and labour market conditions in to graduate employment outcomes is complex in general – which is why better information is required.

Figure 1: Response to the statement "*There is a good match between the supply of higher education graduates and the knowledge and skills the economy needs*"
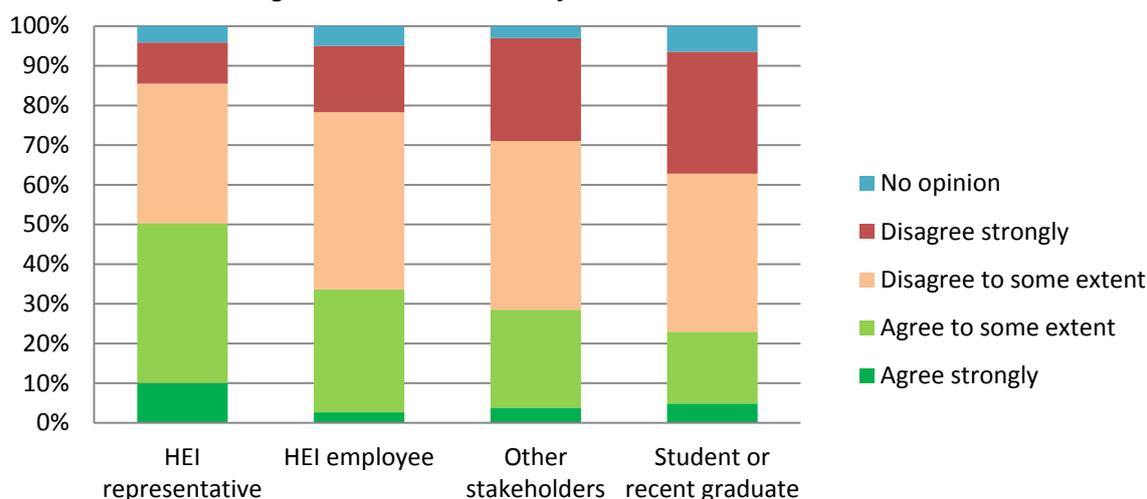
Source: online consultation survey

14. In addition to the overall perception about mismatch, a majority (55%) of online survey respondents from all categories believe that the **people designing higher education courses are insufficiently aware of likely skills needs in the labour market**. As we will discuss in the next section, enhancing skills development in specific areas (including digital skills, for example) and addressing mismatches emerged very frequently among the priority areas respondents identify for action.

Higher education's potential contribution to innovation is under-exploited…

15. Higher education's contribution to economic development and well-being is not limited to supplying qualified people to the *established* labour market, but is also seen by many consultation respondents to result from **HEIs' role in promoting innovation** (creating new products, services and processes), which in turn creates *new* job and wealth-creation opportunities. Particularly, but not exclusively, respondents from southern and central Europe highlight in their position papers a need to **increase innovation in national and regional economies** to create jobs and compete internationally and a need to **harness better the potential of HEIs** in this process. In the online survey, only 20% of all respondents "*agreed strongly*" with the statement "*HEIs play a strong role in contributing to innovation at regional and national level*", while nearly 40% disagreed "strongly" or "to some extent". This finding is reflected, to some extent, in research and transparency exercises undertaken using conventional measures of innovation[9]. However, defining and measuring institutions' contribution to innovation is complex and an area where a better understanding and more sophisticated metrics are needed[10].

…and institutions are grappling with how best to cater to new population groups.

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[9]   U-Multirank, for example, uses co-publications and patents as indicators of higher education institutions' capacity for knowledge transfer and innovation.

[10]   A current EU-supported study is examining precisely this question: how can the broader contribution of higher education institutions to innovation better be captured?

16. Alongside the frequent focus on the economic contribution of higher education, many consultation respondents raised challenges related to **social inclusion**, in a broad sense. Many position papers highlighted how the expansion of higher education in recent years has increased the **diversity of the student body**, which brings with it new challenges. At the same time, many papers also acknowledge further work is needed in the area of **widening access** to higher education[11], while rapid change in the economy will only increase demand for **lifelong learning** from older learners in the future. Both these trends are seen to call for more **tailored approaches to teaching and learning** and better **student support and guidance mechanisms**, in particular, as several respondents from both the government and higher education sectors note, to ensure students from different backgrounds are as well-placed as possible to complete their studies[12]. Several consultation responses explicitly raise the challenge for higher education of responding to the most **recent waves of migration** within Europe, noting the need to support the speedy integration of these new population groups, including better academic recognition, language learning, flexible access routes and, where relevant, conversion and "top-up" programmes.

Technology is changing higher education, although is under-utilised…

17. A number of position papers point out that the technological evolution driving change in the wider economy is also impacting on the activities of higher education institutions in teaching and research. In the online survey, a significant minority (45%) of respondents indicated that **technology was not yet being used effectively** to improve teaching and learning[13]. Elsewhere, governments and stakeholder organisations highlighted how a shift to **Science 2.0**[14] or **Open Science**[15] and increasing concentration of research activities in certain fields on existing patterns of may radically change existing research and publication paradigms in higher education. In a connected point, over half of respondents to the online survey disagreed with the statement that "*researchers receive the support that they need from their institutions to reach their potential*", while many position papers noted the challenge of preparing the researchers of the future.

…but funding conditions for the higher education sector are challenging in many places.

18. A final, but frequently raised, issue affecting higher education raised in the consultation responses is a **perceived inadequacy of current funding levels**. In particular, many higher education stakeholder organisations, but also some governments, note that funding levels to

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[11] In its position paper, **Scotland**, for example, highlighted its new "Blueprint for fairness", published in March 2016, which seeks to improve access to higher education for under-represented groups.

[12] Several position papers note that students from lower socio-economic and some specific ethnic groups have particularly low completion rates in higher education. This is, for example, the case for Roma students in a number of Member States.

[13] A survey of higher education institutions by the European University Association (EUA) in late 2013 found that 91% of surveyed institutions were using blended learning (combining online provision with conventional teaching), but that only 20% were using these technologies across all disciplines. http://www.eua.be/Libraries/publication/e-learning_survey.pdf?sfvrsn=2

[14] A new approach to science that uses information-sharing and collaboration made possible by network technologies

[15] The global shift towards making research findings available free of charge

higher education have often been reduced through fiscal consolidation during the economic crisis and/or have not kept pace with expanding student numbers and increased demands on the higher education sector. Only 20% of respondents to the online survey felt that HEIs "*receive enough funding overall for them to fulfil their missions effectively*". 43% "disagreed strongly" with this statement.

3. PRIORITY AREAS FOR ACTION ACROSS HIGHER EDUCATION

19. The online survey and targeted consultation asked respondents to identify or comment on the importance of different priority areas where institutions and governments should concentrate efforts to effect change in higher education, taking into account the core missions of the sector in a) teaching and learning; b) research and; c) innovation and engagement.

Higher education is crucially important, but there are problems to address…

20. An important overriding point raised in the consultation responses is the **importance of higher education as a driver of social and economic progress**. As one position paper put it, "*in the 21st century, the importance of higher education as a motor of individual emancipation and [social and economic] advancement remains undiminished*". At the same time, in the online survey, opinion on **the current state of European higher education** was divided. While over half of respondents agree strongly or to some extent that their higher education system (or systems in Europe in general) were "*functioning well*", a significant minority (47%) disagreed to some extent or strongly with this assessment. The highest levels of dissatisfaction in this regard were found in central and southern Europe (see Figure 2). An even stronger pattern emerged in terms of the position of higher education in public policy: **65% of all survey respondents disagreed with the statement that "higher education receives adequate attention** in government policy".

Figure 2: Response to the statement "*The higher education system(s) is (are) functioning well***"[16]**
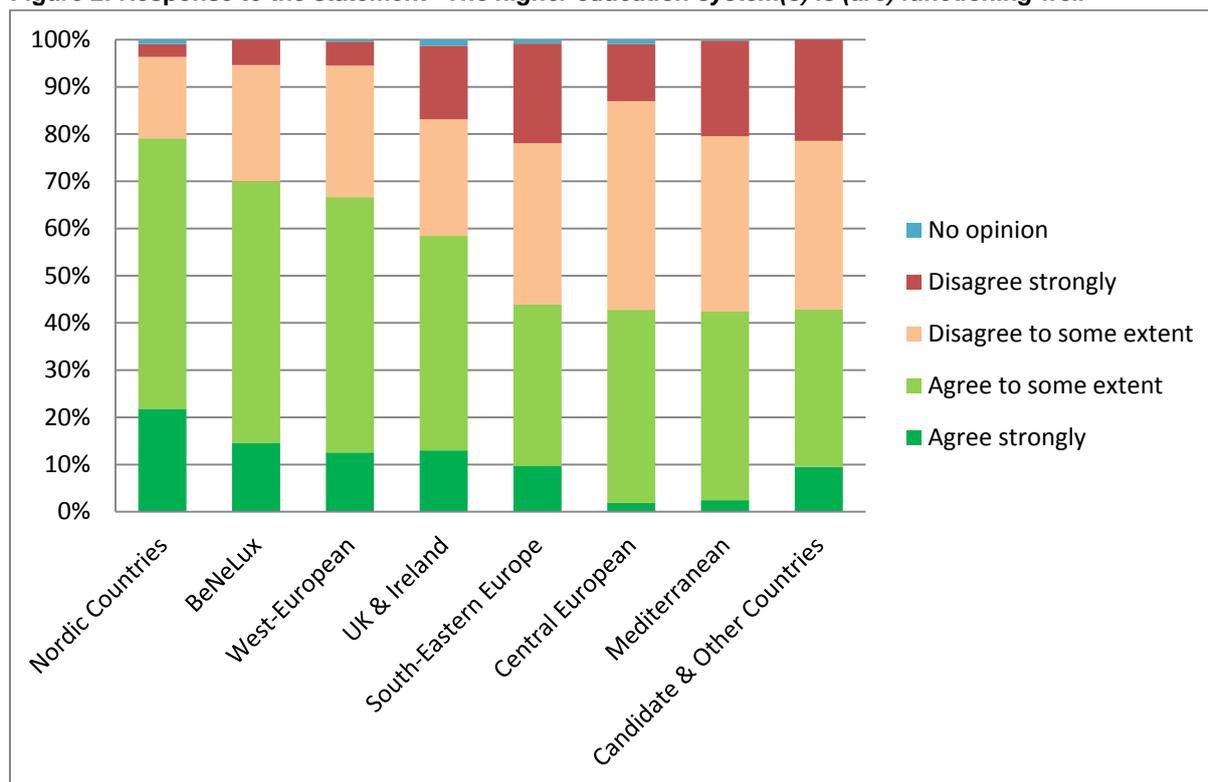
Source: online consultation survey

21. The following sections review key findings from the consultation in relation to teaching and learning, research and innovation.

3.1. Helping students to acquire the right knowledge and skills

22. Helping students to acquire the right knowledge and skills emerged as the single most important priority from the different strands of the public consultation. Responses addressed both the questions of a) which knowledge and skills graduates need and b) what should be done to help students acquire this knowledge and these skills sets.

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[16] **BeNeLux**: Belgium, the Netherlands & Luxemburg; **Central European Countries**: Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia & Slovenia; **Mediterranean**: Cyprus, Italy, Malta, Portugal & Spain; **Nordic Countries**: Denmark, Finland, Iceland, Norway & Sweden; **South-Eastern European Countries** : Bulgaria, Greece, Romania; **West European Countries**: Austria, France, Germany, Liechtenstein, Switzerland; **Candidate Countries**: former Yugoslav Republic of Macedonia & Turkey; **UK and IE**: Ireland & the United Kingdom;

Transversal skills are increasingly important alongside subject knowledge…

23. While generally acknowledging the importance of subject or profession-specific knowledge and skills, many consultation responses highlighted the **growing importance of a range of "transversal", "soft" or "21st century" skills**, such as critical thinking, problem-solving or communication. In the online survey, 84% of respondents agreed that higher education courses should focus more on developing soft skills. Some papers referred to the concept of the **"T-shaped" skills profile**, combining and in-depth knowledge of a specific specialisation (the stem of the T) with a broad set of transversal

> **BOX 1 - What do we know about graduates' skills?**
>
> The consultation reveals a strong consensus that higher education **students need to acquire the "right" sets of skills** during their studies and this includes a broad set of transversal competences, as well as subject specific knowledge.
>
> However, our knowledge of the skills with which graduates actually leave higher education is very limited, as each institution assesses its students in its own way. Studies like the OECD's PIAAC survey of adult skills have revealed **very large differences in the basic skills higher education graduates** possess. But without better comparable assessment methods and the results of these, it is hard to test this further, to identify problem areas and take necessary action.
>
> This is why in the skills agenda the **Commission is supporting a project to develop competence assessment frameworks** for different higher education disciplines, in cooperation with European higher education institutions. The objective is to allow comparable assessment of students' and graduates' skills taking into account differences between subject areas, with a view to supporting teachers and others involved in delivering higher education.

skills. Key arguments for this view, emerging in many position papers and online responses are, first, the increased uncertainty about future professions and career paths noted above, which means people need skills that can be applied in different fields, and, second, the broader "**formative" role of higher education**. One position paper argued that higher education should enable each student to get the best out of themselves and, to do this, should "*alongside "qualification", pay attention to the socialisation and personal development*" of students.

…while digital literacy, training ICT professionals, and new perspectives on STEM deserve particular attention…

24. A second area where skills gaps are highlighted in the consultation responses encompasses the broad fields of **Science Technology, Engineering and Maths** (STEM)[17], where many national authorities and stakeholders see a need to strengthen high-level skills provision. In particular, several contributions note a specific need for more **ICT specialists** and for **students across the board** to acquire better digital skills. In response to the statement

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[17]   Referred to as Maths, Informatics, Natural Sciences and Technology (MINT) in some papers.

"higher education courses are effective at helping students to develop digital skills and digital literacy", the online survey revealed divergent opinions: while over 70% of representatives of HEIs agreed with this (strongly or to some extent), less than 45% of students and recent graduates shared this view (see Figure 3). A number of position papers also highlighted the comparative complexity and diversity of views relating to the science and technology issue, some, for example, arguing for approaches that **combine science, technology and arts and humanities**[18] (summarised in the acronym STEAM, where the A stands for "Arts"). One of the factors underlying shortages of particular types of STEM skills is a generalised under-representation in women across many core STEM disciplines across the EU. Furthermore female STEM graduates are less likely to go on to work in STEM occupations than their male counterparts[19]. Tackling gender stereotyping and promoting a better gender balance in certain fields were issues raised by a number of consultation respondents.

Figure 3: Response to the statement "*Higher education courses are effective at helping students to develop digital skills and digital literacy***"**
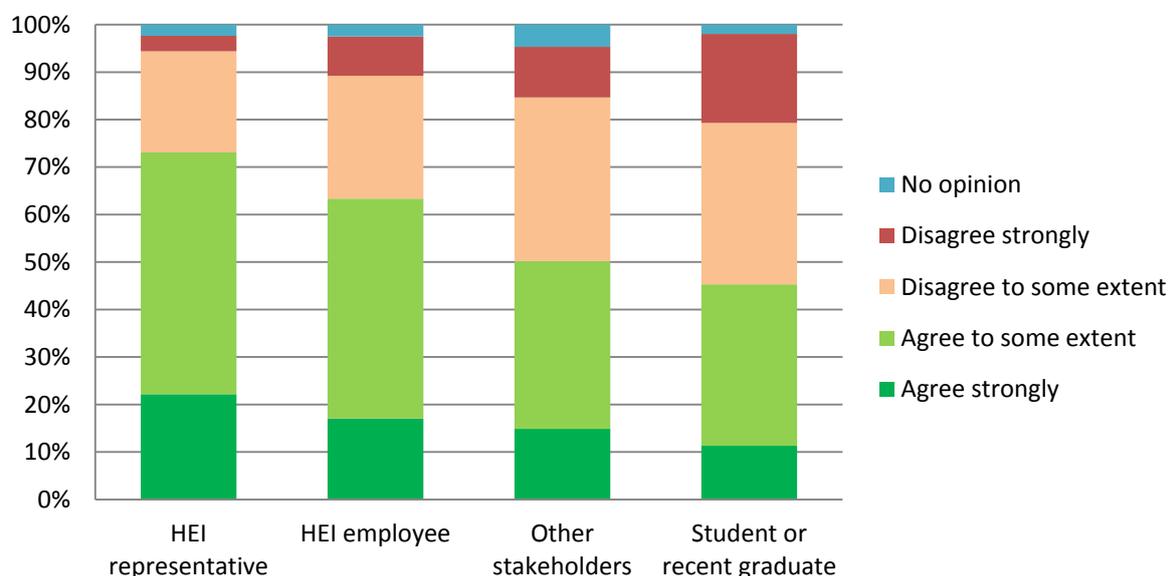
Source: online consultation survey

…and higher education should foster language skills and active citizenship.

25. A more limited number of position papers argued specifically that higher education should do more to promote other skills, competency or attribute sets, including **language skills** (necessary for mobility in a globalised economy, as well as intercultural understanding) and the capacity for **engaged and active citizenship**. When asked about the latter issue, 40% of respondents to the online survey *disagreed* to some extent or strongly with the view that "*higher education courses help prepare students to contribute actively to society*". A number of consultation responses included concrete suggestions for fostering active citizenship, in

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[18]   Some papers also took pains to stress the value of arts and humanities subjects. In **Norway**, for example, a working group is examining the particular contribution of research in the arts and humanities and how this can be better rewarded. **Belgium (FR)** highlights the Numediart project at the University of Mons, which links 70 researchers from 10 departments and 5 faculties across different disciplines.

[19]   OECD (2012) Closing the Gender Gap: Act Now http://www.oecd.org/gender/closingthegap.htm

particular through **better cooperation between higher education in all disciplines and the social and voluntary sectors**, including in curriculum design and delivery[20].

Consultees highlighted many mechanisms to support skills development in higher education.

26. Moving to the question of *how* higher education students can and should be helped develop the right knowledge and skills, consultation respondents highlighted a series of approaches, the most frequently cited of which are summarised in what follows.

At a system level, diversity in the types of programme on offer is important…

27. Although 65% of respondents to the online survey agreed that "*a well-balanced range of academic and professionally oriented study programmes is available*" in their systems, many position papers stressed the **importance of increasing the diversity** (and quality) **of higher education programmes**, to be able to respond to diverse student needs and diverse demand for skills. Many position papers placed specific emphasis on increasing the offer of courses for lifelong learning or Continuing Professional Development (CPD).

…and provide far better guidance to (prospective) students on study choice.

28. While respondents to both the online and targeted consultation appear to be **sceptical about very detailed steering** of students between disciplines (over half of respondents to the online survey disagreed with the idea that students should be steered *away* from courses with no clear link to the labour market), there is **clear support for better guidance** to prospective students about study choices.

> **BOX 2 - What do we know about how well graduates succeed?**
>
> The consultation also points to the importance of better **feedback from "the real world"** about how well different types of higher education prepare students (see also paragraph 13 above). Information from past graduates is useful to get an ex-post assessment of the relevance and effectiveness of particular types of programme. This information can inform those designing and delivering higher education programmes (helping them to adjust content or teaching techniques) and people deciding on which course of study to follow (see paragraph 28 to the left). It can also provide feedback on how the world of work is changing in the dynamic environment mentioned earlier.
>
> A number of EU Member States and HEIs already undertake some form of graduate tracking, using either graduate surveys or administrative data (student, social security and tax registers). However, this practice is **far from universal in the EU** and the information collected is **not comparable** between countries. To help address these existing information gaps and improve knowledge of how graduates progress professionally, how they view the relevance of their studies and how they use their skills, the **Commission is proposing in the Skills Agenda a package of actions to enhance the availability of graduate tracking information**. This includes proposals for a European Graduate Study and increased cooperation between national data collectors.

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[20]   **The Netherlands** highlighted, for example, the *Springlevende Wijk* (Living Communities) initiative, which provides a framework for students to contribute directly to local development projects in major cities.

While around 50% of institutional respondents agree that "*students are supported well to make informed choices about what to study*", this **proportion falls to below 30% for current and recent graduates students completing** the survey.

Figure 4: Response to the statement "*Prospective students are supported well to make informed choices about what to study***"**
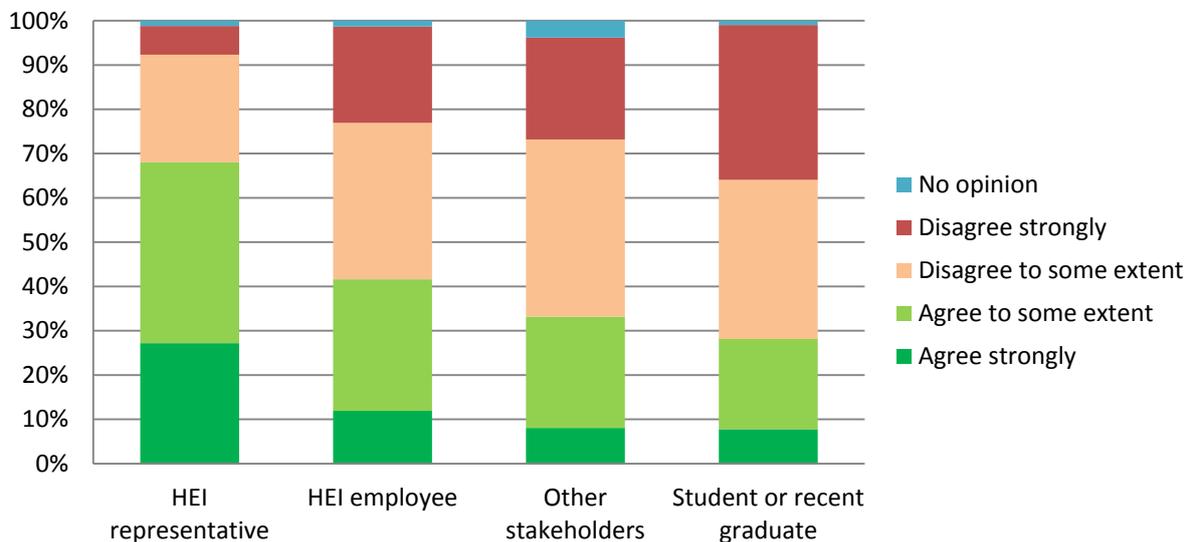
Source: online consultation survey

Provide more support for teachers in higher education…

29. A consistent message from the different elements of the consultation is that more should be done to support teachers and **reward good teaching** in higher education. 93% of respondents to the online survey agree that **training available to teaching staff** in higher educations should be improved, while around 67% of respondents *disagree* with the statement "*the way teaching is funded rewards quality*". These two issues of training and creating rewards and incentives for teaching are recurring themes in many position papers and consultation meetings, and emerge as areas where further work is required.

… and create better links with the world of work.

30. Many position papers explicitly argue for increasing the links between higher education and other economic actors, including through involvement in the **design and delivery of programmes** and the provision of **work-based learning opportunities**. Several papers stressed that cooperation between higher education and employers (private or public) should be a two-way process, not just a question of higher education *responding* to demands of employers. In response to the online survey, 86% of respondents agreed (56% "strongly") that more should be done to **increase cooperation between higher education and business** in the design and provision of courses, while 90% agreed (62% "strongly") that there should be more opportunities for students to gain **work experience** during their studies. Increased cooperation with businesses and other outsider organisations is also widely seen as a factor in increasing the contribution of higher education institutions to innovation (see section 3.2).

Internationalisation and mobility are important for quality…

31. Several national position papers stressed the emphasis placed in increasing internationalisation (international links, presence of international staff, students and researchers) and student mobility (particularly outward) within their own national strategies. Both are seen as **factors for quality and relevance** in education, with mobility in particular seen as a means to help students acquire skills needed for an internationalised world. 89% of online survey respondents believed that that the **presence of foreign students is positive** for higher education courses. 92% of respondents argued more should be done to attract more international staff and researchers to institutions, while 90% believed that, at least to some extent, more should be done to support short-term mobility abroad in higher education courses.

…while flexibility and accessibility are important across the higher education system.

32. Two further areas for improvement, identified in a number of position papers were, first the **transitions and pathways** between different parts of the education and training system and, second, links between disciplines and fields (**inter and trans-disciplinarity**). The references to transitions and pathways encompass link between higher education and schools, flexible pathways between different parts of the post-secondary system (for example between vocational and higher education systems) and recognition of prior learning, as a way into higher education. All of these issues are in some way linked to creating a more **flexible and accessible higher education system**. The potentially positive impact of inter-disciplinarity – creating or facilitating links between different disciplines - is raised by several papers, which highlight the need to prepare students for an increasingly interdisciplinary world of work. In the online survey, 80% of respondents agreed that more should be done to promote interdisciplinary courses.
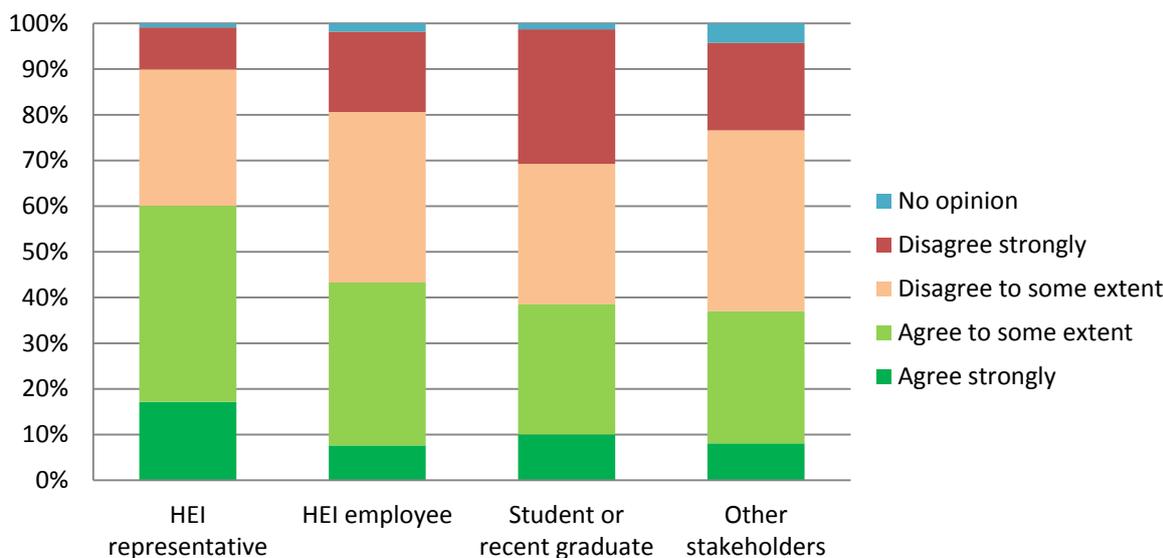
3.2 Higher education's role in innovation

Creativity and entrepreneurial thinking are crucial for innovation…

33. Many respondents to the public consultation also stressed that both higher education institutions and students should be supported to become more innovatively minded: to respond to a globalised and digitalised world in which, as one respondent put it, "*routine and stability have to increasingly make room for creativity and flexibility*". Some responses argued for a broader **conception of innovation** that should include both an **entrepreneurial mind-set** (the potential to develop and deploy ideas to reach short to medium term goals, often, but not necessarily with a commercial objective), as well as a **creative mind-set** with a long-term focus on seeking sustainable solutions across the disciplinary boundaries. Several position papers highlighted the important contribution of **higher education graduates in setting up new businesses** (examples of both entrepreneurship and innovation). As graduates often choose to start their businesses where they studied, the potential of this source of regional innovation should not be under-estimated.

...but these are not seen as strengths of European higher education.

34. If innovation depends to a large extent on individuals' capacity to be creative, many respondents to the online survey cast doubt on the effectiveness of current higher education programmes to help students to develop their abilities in this area. Fewer than half of respondents overall and **fewer than 40% of students and recent graduates believe current programmes "encourage students to be creative and innovative"**. The lowest proportions of respondents (around 30%, taking all respondent groups together) agreeing with this statement were from central and southern European countries.

Figure 5: Response to the statement "*Higher education courses encourage students to be creative and innovative***"**

Source: online consultation survey

Building links within higher education and with outside organisations is key...

35. For many respondents, **strengthening the knowledge triangle of teaching, research and innovation** was a key priority for fostering the innovative potential of students and higher education institutions. 62% of the online survey respondents agreed **that increased links between higher education institutions and businesses** would enhance their opportunities as actors for regional innovation, with over 80% arguing more should be done to encourage such cooperation for product and service innovation. Particularly in countries with a tradition of **significant public or semi-public research sectors** outside the higher education sector, strengthening the knowledge triangle also implies building stronger links between research and teaching and innovation. Furthermore, the increased collaboration with the private and the voluntary sector for programme and course design was mentioned as the way to equip both students and teachers with the most up-to-date knowledge of society's **social and economic innovation needs**. Several position papers highlight specific (infra)structural measures to promote better links between higher education institutions and their regions, in particular

variations of the science park model, where **universities and businesses share space and cooperate** of specific projects[21].

…as are problem and experience-based learning approaches.

36. In order to encourage innovation as an **intrinsic part of higher education teaching and research**, several consultation respondents argue that the use of innovative ways teaching approaches (involving real-world problems, for example) should be promoted and better rewarded. Likewise, and as already noted above, inter-disciplinary teaching and learning should be encouraged.

3.3 Strengthening research

Focus efforts on supporting the researchers of the future…

37. When asked to reflect on priorities related to research and the interaction between research and other function of higher education, many position papers focus in particular on the importance of improving **doctoral training.** High quality doctoral training is crucial not only to ensure high quality academic research, but also to **support high quality teaching and effective cooperation activities** in higher education and deliver the **top-level experts** needed in other parts of the economy and society **outside academia**. More than 50% of the respondents to the online survey believe researchers do not "*receive the support they need from their institutions to reach their potential*". This is just one of the indications that there is room for improvement in Europe's research training systems. Gender is also a relevant issue in this area, as women are under-represented at doctoral level and at later stages in researcher and academic career paths, despite accounting for a majority of graduates at undergraduate level in nearly all EU countries.

…and help all students to develop an inquiring mind…

38. A recurring action theme to promote excellent research was **the structural embedding of research in teaching and learning**. On the one hand, several actors mentioned that graduates should be "*educated by staff in tune with the latest research in their field*". At the same time, research and critical thinking should form an intrinsic part of the higher education curriculum from year one. The development of **Open Science**, already discussed above, is seen by some respondents to facilitate this greater focus on research and research mind-sets across higher education programmes. Several position papers argue that **greater integration of science, research and education policies** is another important mechanism for improving the effectiveness of both teaching and research in higher education.

Providing incentives for international cooperation is important...

39. Finally, the **promotion of research internationalisation** through joint degree programmes and virtual mobility for the creation of international research networks was

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[21] The **UK**'s position paper highlights how this model of cooperation is being used by many universities in England, as a means to enhance the relevance of research and support regional innovation.

mentioned by several respondents as a way to enhance and promote the quality of EU research.

…as is getting the right balance between reward systems for research and teaching

40. Taking a broader, system-level perspective, a number of position papers reiterated the challenge of getting the right balance between incentivising good and excellent research and good and excellent teaching, including for academics' career progression. One national position paper, for example, argued that "*universities and ministries still do not know how to valorize teaching activities in a balanced way with respect to research activities*". Some countries highlighted how "excellence in teaching" initiatives, alongside measures for research excellence, could help to redress this balance[22].

4.   WHERE AND HOW THE EU CAN ADD VALUE

There is strong support for the EU's role in supporting higher education…

41. A strong consensus emerges among respondents to the consultation that **the EU can and should play a constructive role** in supporting the development of the higher education sector in Europe. As one position paper stated, "*In Europe and worldwide, we are increasingly part of different social, economic and cultural networks. Higher education sits in this complex world. This makes international cooperation, the sharing of good practices and a European modernisation all the more useful*".

…and agreement that the existing modernisation agenda has been useful.

42. Equally, position papers submitted were almost universally agreed that the **current EU modernisation agenda** for higher education has been useful. In particular, many position papers argue that European cooperation and programmes to promote sharing of good practice between governments and stakeholders, support cooperation between institutions and promote individual mobility have contributed to **enhancing the overall quality and performance of higher education in the EU**.

*But consultees identify areas for improvement and further work at EU level.*43. Notwithstanding the generally positive views expressed about the EU's contribution in the field of higher education, respondents to the consultation identified a range of areas **where more work at EU-level could add value**. These areas can be summarised as follows:

   a) **Support for increasing the labour market relevance of higher education**. A majority of respondents considered that there is a **mismatch** between the knowledge and skills with which graduates leave higher education and those required by the economy and society more generally.
   b) **Provision of comparable information**: here, there is considerable support for the EU helping to improve our **collective knowledge of higher education systems** and the

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[22]   **Norway**, for example, has highlighted how its Centres of Excellence initiative helps to reward excellent teaching as well as excellent research.

transparency of the outputs and outcomes they produce. A number of respondents stress that the EU's particular added value lies in its greater ability than national authorities and organisations to support **comparative, trans-national data provision and analysis**[23].

c) **Support for cooperation between higher education institutions**: often referring to existing project types supported by the Erasmus+ and Horizon 2020 programmes, there was strong support for the EU doing more to encourage **more cooperation** between higher education institutions and between HEIs and outside organisations. More specific suggestions included additional support for **university-employer-government** cooperation (in particular to improve mutual understanding of skills needs), more **innovation-oriented** cooperation projects, **more joint higher education programmes** (at different levels) and, in a limited number of submissions, the establishment of **joint European campuses**. Additional opportunities for cooperation between higher education and the **social and voluntary sector** were also highlighted in a number of papers[24].

d) **Support for additional mobility of students, staff and researchers**. The EU's role in supporting internationalisation through individual mobility was also widely highlighted as an area where the EU should **continue and step up its efforts**. Respondents often highlight the value of time spent studying or working abroad for individuals' **skills development**. Several papers and contributions to the online survey also argue that greater use should be made of **digital networking** to enhance international cooperation and exposure.

e) **Promotion of academic recognition**: several position papers call for a step change in this area, to ensure that recognition ceases to be a barrier to mobility between EU countries. These contributions typically underline the scope for more effective implementation of existing tools, in particular ECTS, and faster and less complicated recognition procedures.

44. As set out in the skills agenda Communication, the Commission will take the views expressed in the public consultation fully into account in its further work to support the **modernisation of higher education in Europe**. The Communication on A New Skills Agenda for Europe already announces two initiatives which are being considered, namely a project to develop competence assessment frameworks for different higher education disciplines, as well as actions to enhance the availability of graduate tracking information.

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[23] Respondents to the online survey agreed almost unanimously (95% of respondents) that is was quite or very useful for the EU to support work to "*collect comparable information on higher education in the EU*", "*provide information about future skills needs*" and "*examining how EU higher education graduates move into the labour market and their career development*".

[24] These were usually linked to discussions of higher education's role in promoting active and engaged citizenship.

ANNEX 1

1.1 POSITION PAPERS ANALYSED

Country Position Papers (Ministry):

- Austria
- Belgium (FR)
- Belgium (NL)
- Bulgaria
- Croatia
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Iceland
- Ireland
- Italy
- Latvia
- Lithuania
- Luxembourg
- Poland
- Netherlands
- Norway
- Romania
- Serbia
- Slovakia
- Slovenia
- Sweden
- Switzerland
- United Kingdom (Dept of BIS)
- United Kingdom (Scottish govt)

Country Position Papers (Rectors Conferences):
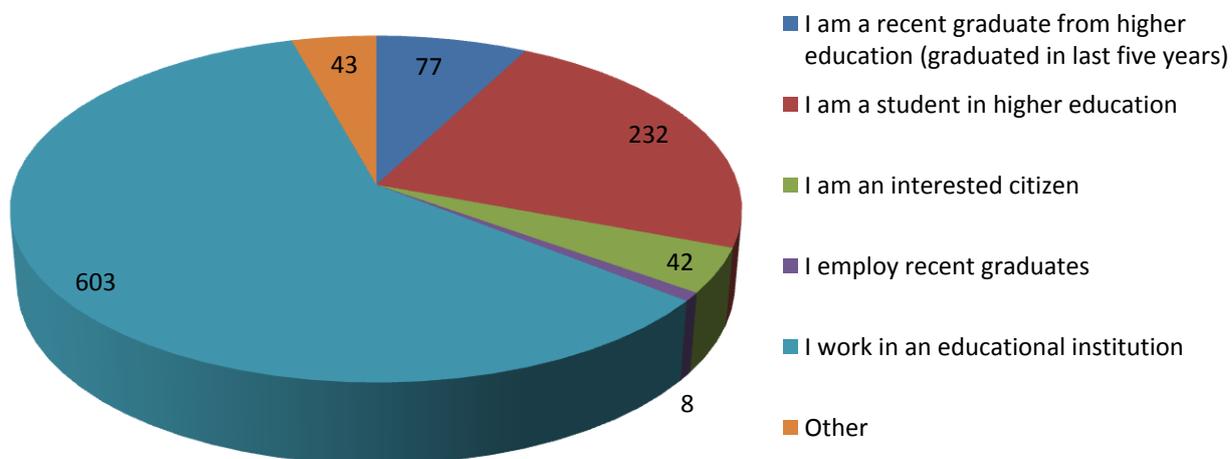
- Croatia
- France
- Poland
- Spain
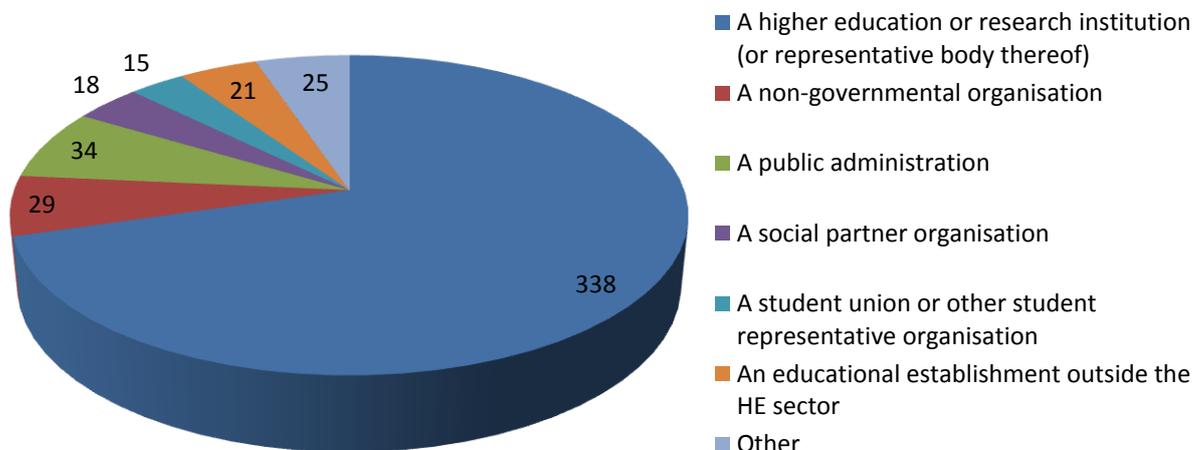- Sweden

European stakeholder position papers:

- Budapest University of Technology and Economics
- Coimbra Group of Universities
- Corvinus university of Budapest
- CESAER
- CGU
- Eurocadres
- ESN
- ESU
- EUA
- EURASHE
- EuroTech
- LERU
- SIU
- University of Cambridge

1.2 PROFILE OF RESPONDENTS TO ONLINE SURVEY[25]
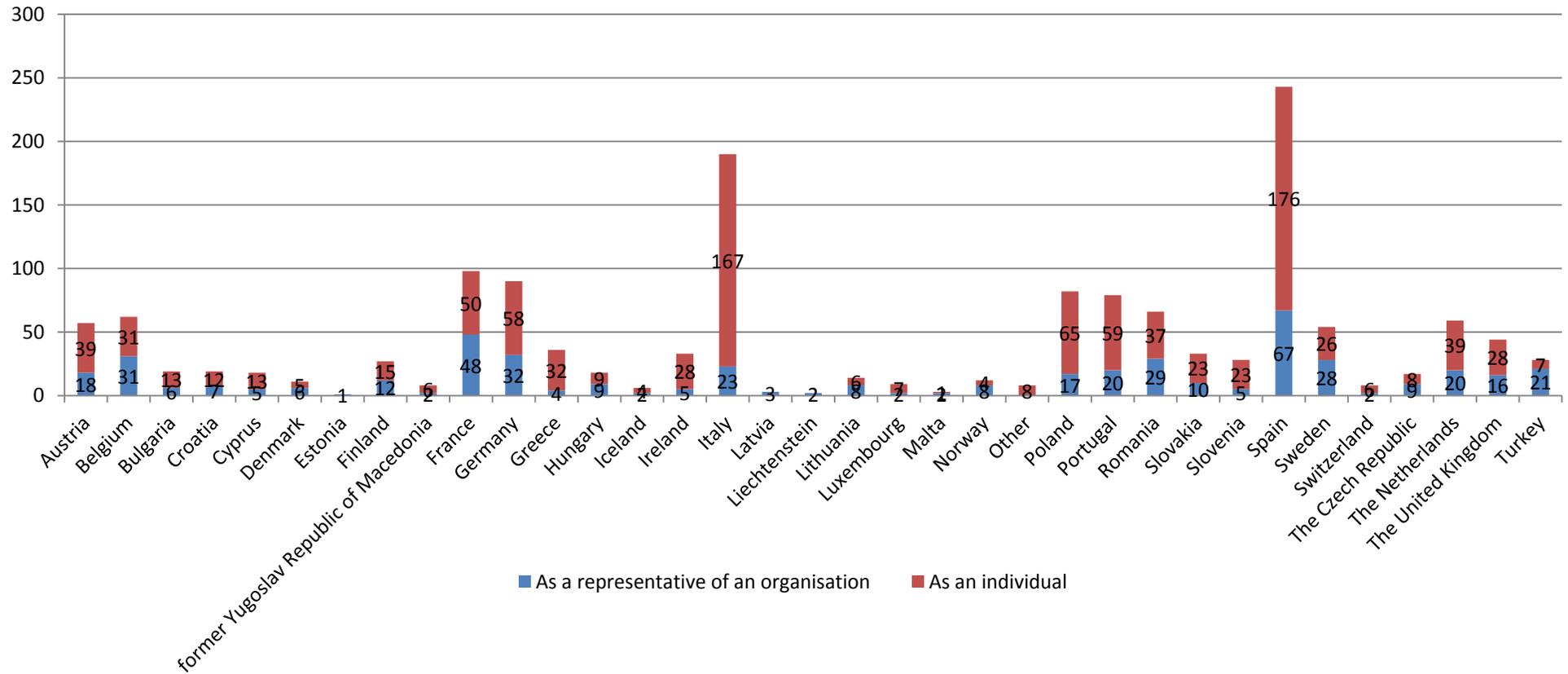
Overview of 1,005 Individual respondents

- ■ I am a recent graduate from higher education (graduated in last five years)
- ■ I am a student in higher education
- ■ I am an interested citizen
- ■ I employ recent graduates
- ■ I work in an educational institution
- ■ Other

Overview of 480 Institutional respondents

- ■ A higher education or research institution (or representative body thereof)
- ■ A non-governmental organisation
- ■ A public administration
- ■ A social partner organisation
- ■ A student union or other student representative organisation
- ■ An educational establishment outside the HE sector
- ■ Other

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[25] Regroupings of 1485 individual (1.005) & institutional (480) replies - for analytical & statistical purposes: In order to achieve meaningful analytical & statistical categories, some categories in the sample have been regrouped, as outlined below:
- **HEI representative** [338 replies]: I represent a HE or research institution (or representative body thereof)
- **HEI employee** [603 replies]: I work in an educational institution
- **Student or recent graduate** [309 replies]: I am a HE student; I am a recent HE graduate (graduated in last 5 years);
- **Other stakeholder**[235 replies]: I am an interested citizen; I employ recent graduates; I represent an NGO; I represent a public administration; I represent a social partner organisation; I represent a student union or other student representative organisation; I represent an educations establishment outside the HE sector; Other

Respondents by country[26]

Chart data (value labels, blue = "As a representative of an organisation", red = "As an individual"):

Country	As a representative of an organisation	As an individual
Austria	18	39
Belgium	31	31
Bulgaria	6	13
Croatia	7	12
Cyprus	5	13
Denmark	6	5
Estonia	1	
Finland	12	15
former Yugoslav Republic of Macedonia	2	
France	48	50
Germany	32	58
Greece	4	32
Hungary	9	
Iceland	2	4
Ireland	5	28
Italy	23	167
Latvia	3	
Liechtenstein	2	
Lithuania	8	6
Luxembourg	2	7
Malta	1	
Norway	8	4
Other	8	
Poland	17	65
Portugal	20	59
Romania	29	37
Slovakia	10	23
Slovenia	5	23
Spain	67	176
Sweden	28	26
Switzerland	2	
The Czech Republic	9	8
The Netherlands	20	39
The United Kingdom	16	28
Turkey	21	7

■ As a representative of an organisation ■ As an individual

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[26] Regroupings of 1485 replies by region - for analytical & statistical purposes: In order to achieve meaningful regional categories, respondents from various countries have been grouped into regional clusters: **BeNeLux** [130 replies]: Belgium, the Netherlands & Luxemburg; **Central European Countries** [215 replies]: Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia & Slovenia; **Mediterranean** [533 replies]: Cyprus, Italy, Malta, Portugal & Spain; **Nordic Countries** [110 replies]: Denmark, Finland, Iceland, Norway & Sweden; **South-Eastern European Countries** [123 replies]: Bulgaria, Greece, Romania; **West European Countries** [263 replies]: Austria, France, Germany, Liechtenstein, Switzerland; **Candidate Countries** [36 replies]: former Yugoslav Republic of Macedonia & Turkey; **UK and IE** [77 replies]: Ireland & the United Kingdom;