

Employment Challenges and Training Needs of Unemployed and Underemployed Higher Education Graduates in Europe

Findings from the Reboot Project

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Findings from the Reboot Project

This report has been developed by the partnership of the Erasmus+ co-funded project 'Reboot - Rebooting, Re-rooting and Re-skilling Unemployed and Underemployed Higher Education Graduates for Work 4.0'

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Foreword

Higher education has traditionally assured employment and long work careers. Investing in education is part of the European Union's competitiveness strategy. It places education at the centre of innovation, job creation, competitiveness and sustainability. Consequently, the number of higher education attendants and graduates has increased in the European Union, reaching almost 40%. However, the positive outcomes and the educational return of investment at the social, financial and innovation level are at risk due to development trends.

The increased number of higher education graduates has created an unprecedented supply of skilled workforce in labour markets while employing organisations are not able to absorb this supply sufficiently. The unpredictability, fragmentation and fluidity of work life are increasing, digitalisation is replacing people and many professions are changing or disappearing. This creates a need for continuous adaptation and redirecting of own skills and career paths. There is a need for new work life oriented skills and competencies which higher education graduates are also expected to master in work life. These are so-called Work 4.0 skills and competencies, such as problem-solving, creativity, readiness for change, people dimension and teamwork. However, there is a discrepancy between the skills and competencies needed in work life and skills taught in higher education. The combination of the aforementioned factors creates employment-related challenges for higher education graduates across Europe that need to be addressed.

This report provides an insight into the challenges unemployed and underemployed higher education graduates are facing and conditions leading to unemployment and underemployment, but also information about the existing training solutions and services offered to unemployed and underemployed higher education graduates in the EU, Belgium, Finland, Greece and the UK. This report also investigates the skills and competencies needed in work life and validates the tentative Work 4.0 competency clusters for the development of the Reboot online training course, self-test and handbooks.

Reboot is a European project co-funded by the Erasmus+ Programme of the European Commission, and its sub-programme Strategic partnership – Adult Education. We would like to thank the European Commission for the support and the opportunity to develop the Reboot training material and this report.

We would also like to thank all parties who have contributed to this report and hence the development of the training material by sharing their experiences, expertise and knowledge in the surveys and interviews.

Executive Summary

The Reboot project, Rebooting, Re-rooting and Re-skilling Unemployed and Underemployed Higher Education Graduates for Work 4.0, is a European Union co-funded project of the Erasmus+ Programme. The aim of the Reboot project is to increase the employability potential of unemployed and underemployed higher education graduates by upskilling and developing relevant skills and competencies for Work 4.0 in five future-oriented and sector-agnostic competency clusters, their ability to recognise and demonstrate these skills and adapt them for their career development.

This report is the first outcome of the Reboot project. It collides the outcomes of the three phases of the research: the desk research, surveys and interviews. The research was conducted in four project countries, Belgium, Finland, Greece and the UK in winter 2018 – 2019. In total, 172 unemployed and underemployed higher education graduates, 72 representatives of training and education organisations and 74 representatives of work life and employing organisations answered the survey, while the qualitative interviews were conducted with 13 unemployed and underemployed higher education graduates, 13 representatives of employing and training organisations, and 13 stakeholders including, for instance, policy makers, developers and researchers.

The aim of the desk research was to investigate the general state of and conditions leading to the unemployment and underemployment of higher education graduates and the existing training solutions offered to unemployed and underemployed higher education graduates, as well as to create country profiles and comparisons to understand differences and variations between the countries for the Pan-European perspective with potential national inclinations in Reboot training. The aim of the surveys and interviews was to investigate the perceptions of and attitudes towards Work 4.0 competency clusters and the soft skills they consist of, which soft skills are found the most important, the level of mastery of these skills, and how they manifest in work life. This assisted to validate and potentially alter the tentative competency clusters. Interviews and surveys also investigated the challenges and preferences in training options for unemployed and underemployed higher education graduates.

Key findings show that the nature of unemployment and underemployment of higher education graduates is versatile in Europe varying by country, region, educational and industrial sectors, gender, age, life situation and time of graduation. Unemployment is the highest in Greece, Italy and Spain, and the lowest in Western Europe, the UK and Luxemburg. Underemployment has been increasing in the EU during the past 15 years being the lowest in Eastern Europe, and the highest in Greece but also in the West-European countries, which receive a large number of higher education graduate migrants. The groups most at risk are young graduates, women, migrants, especially non-EU migrants, and over 45-years higher education graduates who have been absent from work life for different reasons, for instance for being laid off. Unemployment and underemployment are more common among young graduates, and they have also been addressed most support, while adult higher education graduates have received little support. Despite this, all higher education graduates struggle with a reduced number of services and limited attention provided to them. Employment and training services are predominantly common with other groups of unemployed and do not answer to the specific needs of unemployed and underemployed higher education graduates. Employment challenges should be tackled in a holistic way starting from higher education and they should last throughout the years of employment as lifelong activity. It was suggested that a policy at European level should be created for them.

The findings from the research reveal a strong correlation in the answers and findings between all the target groups and the countries, hence supporting the Pan-European nature of the challenges and

solutions. The main challenges for unemployed and underemployed higher education graduates are high competition and saturation of labour markets, work experience and the lack of it for young graduates and being too experienced for adult graduates, skills mismatch between what higher education provides and what employers want, transitions from higher education to work life and from temporary precarious work to long-term contracts with satisfactory working conditions, job seeking skills, personal factors from health to life situation and attitudes, and poor employment services and training for higher education graduates. Additionally, educational institutions, especially in some countries, may also hinder obtaining a job or the desired work position due to their reputation.

Soft skills are important for employers and hence higher education graduates should be able to master and demonstrate them. Soft skills are not needed only for performing the work but also for finding work. In work life, a balance between soft and hard skills is needed as they are used together; hard skills create the content and soft skills create the frames to deliver and perform the work. Metacognitive skills may be a linking element between hard and soft skills. The important soft skills to master at work cover the following competency clusters People dimension, Problem-solving, Project skills, Readiness for change, and Curiosity and Internationality.

Training provided for higher education graduates should be user-oriented, easy to find and easily available, use easy-to-use platforms, and be specially addressed and tailored to the needs and levels of higher education graduates. Training should use versatile methods including individual and group work, but also online and face-to-face training. Examples, narration, simulations and observing examples from own life may assist in identifying soft skills and their application in work life.

A set of drivers, i.e. key definition points, were selected for the development of the Reboot training, handbooks and soft skills self-testing. The 10 core drivers are:

1. All unemployed and underemployed higher education graduates, young and adults, need the same soft skills for work life. However, how these manifest, are delivered and applied varies by the target group, earlier work experience and the state of job seeking.
2. Recognising, understanding, demonstrating, productisation, updating and customising own soft skills according to the need is essential. Productisation of own skills can take place through an understandable path, for instance, a product development process.
3. Soft skills develop through experience and practice. Creating touch points of soft skills recognition can help to identify and concretise intangible and tacit soft skills.
4. Examples, scenarios and narrations assist in recognising soft skills and how they are used in work life
5. The connection between soft and hard skills, how these integrate in work life, and how soft skills facilitate delivering the content and the hard skills, should be made visible. Soft skills can hence be combined with previously learnt discipline-based knowledge. Metacognitive skills can support bridging the gap between hard and soft skills, and managing own career paths.
6. Soft skills are not needed solely for delivering work (what work life needs) but also for job seeking and career development (what I need to organise my work life and employment).
7. Training should be versatile, user-oriented, clear in communication, easy to find and easy to use, include individual and group training methods, and be a combination of e-learning and face-to-face learning. Training should be tailored to the specific needs and educational levels of high education graduates.
8. Portfolio development should be part of training and a tangible outcome of it.
9. Training of trainers and employment officials is essential when preparing them to facilitate higher education graduates in job seeking.

10. Other suggested skills: listening, tolerance to stress, self-branding and self-marketing, understanding and recognising own career interests and dreams, sense of justice, and creative and design methods.

Tiivistelmä

The Reboot project, Rebooting, Re-rooting and Re-skilling Unemployed and Underemployed Higher Education Graduates for Work 4.0, on Euroopan Unionin Erasmus+ -ohjelman tukema kehittämishanke. Sen tavoitteena on edistää työttömien ja alityöllistettyjen korkeakoulutettujen työelämäntaitoja, ja täten myös heidän työllistymispotentiaaliaan. Hanke keskittyy erityisesti työssä tarvittavien toimialariippumattomien pehmeiden, niin sanottujen Work 4.0, taitojen ja kompetenssien kehittämiseen, tunnistamiseen, esiin tuomiseen sekä hyödyntämiseen urakehityksessä.

Tämä raportti koostaa Reboot-projektin ensimmäisen työvaiheen, tutkimusvaiheen tulokset. Tutkimus koostui kolmesta osasta: kirjoituspöytätyöstä, verkkokyselyistä sekä haastatteluista. Se suoritettiin projektin partnerimaissa, Belgiassa, Ison-Britanniassa, Kreikassa ja Suomessa, talvella 2018 – 2019. Verkkokyselyyn vastasi yhteensä 172 työtöntä sekä alityöllistettyä korkeakoulutettua, 72 koulutus- ja valmennusorganisaatioiden edustajaa sekä 74 työelämän ja työllistävien organisaatioiden edustajaa. Haastateltavina oli 13 työtöntä ja alityöllistettyä korkeakoulutettua, 13 työelämän ja koulutus- sekä valmennusorganisaatioiden edustajaa, sekä 13 sidosryhmien edustajaa.

Kirjoituspöytätyön tavoitteena oli kartoittaa korkeakoulutettujen työttömyyden ja alityöllisyyden tilaa sekä työttömyyteen ja alityöllisyyteen johtavia syitä, mutta myös työttömille ja alityöllistetyille korkeakoulutetuille tarjottuja koulutusratkaisuja partnerimaissa sekä Euroopassa. Tutkimuksen aikana luotiin maaprofiilit auttamaan havaitsemaan partnerimaiden välisiä eroja sekä luomaan yleiseurooppalainen näkökulma korkeakoulutettujen työttömyydestä ja alityöllistymisestä koskevaan haasteeseen mahdollisine kansallisine variaatioineen. Verkkokyselyiden ja haastattelujen tavoitteena oli tutkia ihmisten käsityksiä työelämässä tarvittavista, Work 4.0 kompetenssiklusterit muodostavista pehmeistä taidoista, kattaen muun muassa asenteet, käsitykset tärkeimmistä taidoista sekä havainnot miten taidot ilmenevät työelämässä. Tutkimus auttoi validoimaan alustavasti määritetyt kompetenssiklusterit. Haastattelut ja kyselyt tutkivat myös työttömille ja alityöllistetyille korkeakoulutetuille tarjottuun koulutukseen liittyviä haasteita sekä mieltymyksiä.

Tutkimuksen mukaan korkeakoulutettujen työttömyys ja alityöllisyys on Euroopassa moninaista. Niihin vaikuttavia tekijöitä ovat muun muassa maa, alue, koulutusala, toimiala, sukupuoli, ikä, elämäntilanne sekä valmistumisesta kulunut aika. Työttömyys on korkeinta Kreikassa, Italiassa sekä Espanjassa, ja matalinta Itä-Euroopassa, Iso-Britanniassa sekä Luxemburgissa. Alityöllisyys on lisääntynyt Euroopan Unionissa viimeisen 15 vuoden aikana. Se on alhaisinta Itä-Euroopassa mutta korkeinta Kreikassa sekä niissä Länsi-Euroopan maissa, jotka vastaanottavat paljon korkeakoulutettuja maahanmuuttajia.

Työttömyyden ja alityöllisyyden riskiryhmään korkeakoulutetuista kuuluvat naiset, nuoret valmistuneet, maahanmuuttajat, erityisesti EU:n ulkopuolelta tulevat maahanmuuttajat, sekä yli 45-vuotiaat, jotka ovat olleet poissa työelämästä eri syistä, erimerkiksi jouduttuaan työttömiksi. Työttömyys ja alityöllisyys ovat yleisintä nuorten valmistuneiden keskuudessa. Vaikka työttömille ja alityöllistetyille korkeakoulutetuille on tarjolla hyvin vähän työllisyyteen liittyvää tukea, palveluja ja koulutusta, saavat sitä heistä suhteessa eniten nuoret vastavalmistuneet, kun taas aikuisille korkeakoulutetuille on tarjolla hyvin vähän tukea. Korkeakoulutetuille tarjotut työllisyys- ja koulutuspalvelut ovat suureksi osaksi samoja kuin muiden opintoasteiden edustajille tarjotut palvelut, eivätkä ne siten vastaa korkeakoulutettujen erityistarpeisiin. Korkeakoulutettujen työllistymistä koskevia haasteita tulisikin lähestyä kokonaisvaltaisesti koko työelämän keston ajan. Se tulisi aloittaa jo opintojen aikana. Tutkimuksen aikana ehdotettiin myös Euroopan Unionin laajuisen korkeakoulutettujen työllisyyttä koskevan menettelytavan ja linjausten luomista.

Huolimatta maiden ja kohderyhmien erilaisuudesta, tutkimuksen tulokset korreloivat voimakkaasti sisäisesti eri tutkimusosioiden, kohderyhmien ja maiden välillä. Tämä tukee haasteiden ja kehitettävien ratkaisujen yleiseurooppalaista luonnetta. Työttömien ja alityöllistettyjen kohtaamia suurimpia haasteita ovat kova kilpailu ja työmarkkinoiden saturatio, puutteellinen (nuorilla) tai liiallinen (aikuisilla) työkokemus, korkeakoulussa opittujen taitojen vastaamattomuus työelämän tarpeisiin, siirtymisvaiheet korkeakoulusta työelämään tai väliaikaisesta epävarmasta työstä pitkäkestoiseen työsuhteeseen, työnhakutaidot, henkilökohtaiset seikat terveydestä elämäntilanteeseen ja asenteeseen, sekä heikosti korkeakoulutettujen tarpeisiin vastaavat työvoima- ja koulutuspalvelut. Lisäksi joissain maissa työnantajat valitsevat työntekijöitä mieluummin vain arvostetuimmista korkeakouluista, jolloin myös oppilaitos voi vaikuttaa työllistymiseen.

Pehmeät taidot ovat erityisen tärkeitä työnantajille, ja täten korkeakoulutettujen tulisi hallita ja kyetä osoittamaan hallitsevansa ne. Niitä ei tarvita vain työn suorittamiseen, vaan myös työnhakuun. Pehmeitä ja kovia taitoja käytetään työelämässä yhdessä ja siksi niiden tasapaino on tärkeä: kovat taidot luovat sisällön kun taas pehmeät taidot luovat keinot ja raamit työn suorittamiselle. Metakognitiiviset taidot saattavat edistää pehmeiden ja kovien taitojen yhteen sovittamista. Työssä tarvittavia pehmeitä taitoja ovat vuorovaikutustaidot ja käyttäjälähtöisyys, ongelmanratkaisutaidot, projektinhallintataidot, joustavuus ja mukautumiskyky, uteliaisuus sekä kansainvälisyystaidot.

Korkeakoulutetuille tarjotun valmennuksen tulisi olla käyttäjälähtöistä, helposti löydettävissä ja saavutettavissa, sekä räätälöityä erityisesti korkeakoulutettujen tarpeeseen ja koulutustaustaan. Käytettyjen menetelmien tulisi olla monipuolisia sisältäen yksilö- ja ryhmämenetelmät, sekä verkko- ja lähiopetuksen. Esimerkit, tarinallisuus, simulaatio ja omasta elämästä nousevien esimerkkien tarkkailu auttavat tunnistamaan pehmeitä taitoja ja ymmärtämään kuinka niitä voi soveltaa työelämässä.

Tutkimuksesta nousi esiin joukko Reboot-valmennusmateriaalin, oppaiden ja testin kehittämistä määritteleviä seikkoja, eli drivereita. Näitä ovat muun muassa:

1. Sekä nuoret ja aikuiset työttömät että alityöllistetyt tarvitsevat työelämässä samoja pehmeitä taitoja. Niiden soveltamiseen ja esiin tuomiseen vaikuttavat kuitenkin aikaisempi työkokemus ja tausta.
2. Pehmeiden taitojen tunnistaminen, ymmärtäminen, osoittaminen, tuotteistaminen, päivittäminen ja räätälöinti tarpeen mukaan on tärkeää. Pehmeiden taitojen tuotteistamiseen voidaan käyttää esimerkiksi tuotekehitysprosessia.
3. Pehmeät taidot kehittyvät tekemisen ja kokemuksen kautta. Ilmenemiskontaktipisteiden luominen auttaa tunnistamaan sekä konkretisoimaan aineettomia ja hiljaisia pehmeitä taitoja.
4. Esimerkit, skenaariot ja tarinat auttavat tunnistamaan pehmeitä taitoja ja niiden ilmentymistä työelämässä ja työtehtävissä
5. Kovien ja pehmeiden taitojen nivoutuminen käytännön työelämässä tulisi osoittaa. Pehmeät taidot voidaan nivoa aikaisemmin opittuun substanssiosaamiseen ja koviin taitoihin. Metakognitiiviset taidot voivat auttaa tässä sekä myös yksilön urakehityksen hallinnassa.
6. Pehmeitä taitoja tarvitaan sekä työn suorittamiseen että työnhakuun.
7. Valmennuksen tulisi olla monipuolista, käyttäjälähtöistä, helposti löydettävissä ja saatavissa, monimuoto-opetusta, sekä sisältää yksilö- ja ryhmäsessioita. Valmennus tulisi räätälöidä korkeakoulutettujen erityisiin tarpeisiin ja opintotasoon.
8. Portfolion kehittäminen tulisi olla osa koulutusta ja yksi sen konkreettisista tuotoksista.
9. Kouluttajien ja virkailijoiden valmentaminen korkeakoulutettujen tarpeisiin on tärkeää

10. Muita ehdotettuja taitoja: kuunteleminen, stressinsietokyky, itsen brandays ja markkinointi, unelmien ja uraintressien tunnistaminen, oikeudentaju, sekä luovat ja muotoilumenetelmät.

Sommaire exécutif

Le projet "Reboot, Rebooting, Re-rooting and Re-skilling Unemployed and Underemployed Higher Education Graduates for Work 4.0", est un projet cofinancé par l'Union Européenne dans le cadre du programme Erasmus +. L'objectif du projet Reboot est d'accroître le potentiel d'employabilité des diplômés de l'enseignement supérieur au chômage et sous-employés en améliorant et en développant les qualifications et les pour le "Work 4.0" dans cinq groupes de compétences, et leur capacité à reconnaître et à démontrer ces compétences et à les adapter dans leur parcours de carrière.

Ce document est le premier résultat du projet Reboot. Il met en relation les conclusions des trois phases de la recherche: la recherche théorique, les enquêtes et les entretiens. La recherche a été menée dans les quatre pays du projet: Belgique, Finlande, Grèce et Royaume-Uni au cours de l'hiver 2018/2019. Au total, 172 diplômés de l'enseignement supérieur au chômage et sous-employés, 72 représentants d'organismes de formation et d'éducation et 74 représentants de la vie professionnelle et de centres pour l'emploi privés et publiques ont répondu à l'enquête, tandis que les entretiens ont été réalisés avec 13 diplômés de l'enseignement supérieur sans emploi et sous employés, 13 représentants des centres pour l'emploi et la formation et 13 acteurs comme, par exemple, législateurs, développeurs et chercheurs.

Le but de la recherche théorique était d'étudier l'état général et les conditions qui conduisent au chômage et au sous-emploi des diplômés de l'enseignement supérieur et l'offre de formation existante, ainsi que de créer des profils nationaux et les comparer pour comprendre les différences et variations entre pays dans la perspective pan-européenne. Le but des enquêtes et des entretiens était d'examiner les perceptions et les attitudes à propos des groupes de compétences non techniques du "Work 4.0", quelles compétences non techniques sont jugées les plus essentielles, comment ces compétences sont maîtrisées et comment elles se manifestent dans la vie professionnelle. Les entretiens et Les enquêtes ont également fait le point sur les défis et les préférences en matière d'options de formation pour les diplômés de l'enseignement supérieur au chômage et sous-employés.

Les résultats principaux montrent que la nature du chômage et du sous-emploi des diplômés de l'enseignement supérieur est variée en Europe selon les pays, les régions, les secteurs éducatifs et industriels, le sexe, l'âge, la situation personnelle et le moment de l'obtention du diplôme. Le chômage est le plus élevé en Grèce, en Italie et en Espagne, et le plus bas en Europe orientale, au Royaume-Uni et au Luxembourg. Le sous-emploi a augmenté dans l'UE au cours des 15 dernières années, étant le plus faible en Europe de l'Est et le plus élevé en Grèce, mais aussi dans les pays d'Europe occidentale qui accueillent un grand nombre de migrants qui ont obtenu un diplôme d'enseignement supérieur. Les groupes les plus exposés sont les jeunes diplômés, les femmes, les migrants (en particulier les migrants non européens) et les diplômés de plus de 45 ans qui ont été absents du monde du travail pour différentes raisons, par exemple pour avoir été licenciés. Le chômage et le sous-emploi sont plus fréquents chez les jeunes diplômés et, généralement, ils reçoivent beaucoup d'aide; tandis que les diplômés adultes de l'enseignement supérieur reçoivent peu d'aide. Malgré cela, tous les diplômés de l'enseignement supérieur se heurtent à un manque de services et d'attention à leur égard. Les services d'emploi et de formation sont principalement communs avec d'autres groupes de chômeurs et ne répondent pas aux besoins spécifiques des diplômés de l'enseignement supérieur au chômage et sous-employés. Les défis de l'emploi doivent être abordés de manière holistique, en commençant par l'enseignement supérieur et en restant tout

au long de la vie professionnelle. Il a été suggéré qu'une politique européenne soit créée à leur bénéfice.

Les résultats de la recherche montrent une forte corrélation entre tous les *target groups* et les pays, ce qui confirme le caractère pan-européen des défis et des solutions. Les principaux défis pour les diplômés de l'enseignement supérieur au chômage et sous-employés sont la forte compétitivité, la saturation du marché du travail, la faute d'expérience professionnelle (ou le contraire pour les diplômés plus âgés), la non-correspondance entre les compétences offertes par les universités et celles que les employeurs recherchent, le passage de l'éducation au monde du travail et donc du travail précaire au travail de longue durée avec des conditions satisfaisantes, compétences en matière de recherche d'emploi, facteurs personnels et services pour l'emploi et la formation médiocres pour les diplômés de l'enseignement supérieur. En outre, les établissements universitaires, en particulier dans certains pays, peuvent également entraver l'obtention d'un poste de travail souhaité en raison de leur réputation.

La formation proposée aux diplômés de l'enseignement supérieur devrait être axée sur l'utilisateur et facilement accessible. Elle devrait adopter des plateformes faciles à utiliser, et spécialement adaptée aux besoins et au niveau des diplômés de l'enseignement supérieur. La formation devrait faire appel à des méthodes versatiles, y compris le travail individuel et en groupe, mais aussi à des séances de formation en ligne et vis-à-vis. Exemples, narration, simulations et l'observation d'exemples de sa propre vie peuvent aider à identifier les compétences générales et leur application dans la vie professionnelle.

Un groupe de *drivers*, c'est-à-dire des points de définition clés, ont été utilisés pour l'élaboration de la formation, des manuels et de l'auto-test des compétences de Reboot. Les 10 *drivers* principaux sont:

1. Tous les diplômés de l'enseignement supérieur, jeunes et adultes, au chômage ou sous-employés, ont besoin des mêmes compétences non techniques dans leur vie professionnelle. Toutefois, la façon dont ils se manifestent, sont mises en œuvre et appliquées varie selon le *target group*, l'expérience professionnelle antérieure et l'état de la recherche d'emploi.
2. Il est essentiel de reconnaître, de comprendre, de mettre en valeur, de produire, de actualiser et de personnaliser ses propres *soft skills* en fonction des besoins. L'adaptation de ses propres *soft skills* peut se faire par une méthode intelligible, par exemple un processus de développement de produits.
3. La création de *soft skills* se produit grâce à l'expérience et à la pratique. La création de points de contact pour la reconnaissance des compétences non techniques peut aider à identifier et à concrétiser les *soft skills* intangibles et tacites.
4. Exemples, scénarios et narrations aident à reconnaître les *soft skills* et la façon dans laquelle elles sont utilisées dans le travail.
5. Le lien entre les *soft skills* et les *hard skills*, la façon dont elles se combinent dans la vie professionnelle, dans la pratique, devrait être illustré. Les compétences non-techniques peuvent donc être combinées avec les connaissances acquises précédemment dans une discipline. Les compétences métacognitives peuvent aider à réduire l'écart entre les *soft skills* et les *hard skills*, et à gérer les trajectoires de carrière de chacun.
6. Les compétences non-techniques sont nécessaires non seulement pour fournir un travail (ce dont la vie professionnelle a besoin), mais aussi pour la recherche d'emploi et le développement de carrière (ce dont j'ai besoin pour organiser ma vie professionnelle).

7. La formation doit être flexible, orientée vers l'utilisateur, claire dans la communication, facile à trouver et à utiliser, inclure une formation individuelle et de groupe, et être une combinaison d'apprentissage en ligne et d'apprentissage en face à face. La formation devrait être adaptée aux besoins spécifiques et au niveau d'instruction des diplômés de l'enseignement supérieur.
8. Le développement du Portfolio devrait faire partie de la formation et en être un résultat tangible.
9. La formation des formateurs et des responsables de l'emploi est essentielle pour les préparer à faciliter la recherche d'emploi des diplômés de l'enseignement supérieur.
10. Autres compétences suggérées : l'écoute, la tolérance au stress, la valorisation de soi et l'autopromotion, la compréhension et la reconnaissance de ses propres intérêts et rêves professionnels, le sens de la justice, les méthodes créatives.

Σύνοψη

Το ευρωπαϊκό συγχρηματοδοτούμενο έργο 'Reboot - Rebooting, Re-rooting and Re-skilling Unemployed and Underemployed Higher Education Graduates for Work 4.0' στοχεύει στην επαγγελματική υποστήριξη ανέργων και υπο-απασχολούμενων αποφοίτων της τριτοβάθμιας εκπαίδευσης μέσω της ανάπτυξης 'μαλακών' δεξιοτήτων, όπως καθίστανται ολοένα και περισσότερο απαραίτητες στην αγορά εργασίας σε ευρωπαϊκό επίπεδο. Πρόκειται για δεξιότητες που πρέπει να κατέχουν, να μπορούν να επιδεικνύουν και να εφαρμόζουν στην πράξη οι απόφοιτοι, παράλληλα και συμπληρωματικά με τις ακαδημαϊκές και επιστημονικές δεξιότητες και γνώσεις, ώστε να μπορούν να ενταχθούν πλήρως και να εξελιχθούν στο σύγχρονο επαγγελματικό περιβάλλον.

Στην έκθεση που ακολουθεί παρουσιάζονται τα αποτελέσματα της έρευνας που διεξήχθη στο πλαίσιο το έργου Reboot, η οποία αποτελεί και το πρώτο βήμα που θα οδηγήσει στο σχεδιασμό υποστηρικτικού υλικού για την ανάπτυξη σχετικών δεξιοτήτων σύμφωνα με τις ανάγκες των ανέργων και υπο-απασχολούμενων αποφοίτων. Για την άντληση των αναγκαίων στοιχείων η κοινοπραξία του έργου πραγματοποίησε πρωτογενή (ποσοτική και ποιοτική) και δευτερογενή έρευνα στις 4 χώρες εφαρμογής του έργου (Φινλανδία, Βέλγιο, Ελλάδα, Ηνωμένο Βασίλειο) στο διάστημα μεταξύ Νοεμβρίου 2018 και Φεβρουαρίου 2019.

Στην πρωτογενή (ποσοτική) έρευνα συμμετείχαν συνολικά 172 άνεργοι και υπο-απασχολούμενοι απόφοιτοι τριτοβάθμιας εκπαίδευσης, 72 εκπαιδευτές ενηλίκων και ειδικοί/εκπρόσωποι/συνεργάτες εκπαιδευτικών οργανισμών για την επαγγελματική ανάπτυξη, καθώς και 74 άτομα που εκπροσωπούν την αγορά εργασίας (εργοδότες, ειδικοί οργανισμών για την προώθηση της απασχόλησης κλπ). Στο πλαίσιο της πρωτογενούς, ποιοτικής έρευνας πραγματοποιήθηκαν συνεντεύξεις με 13 απόφοιτους, 13 εργοδότες και εκπροσώπους της αγοράς εργασίας και των οργανισμών για την προώθηση της απασχολησιμότητας (εκπαιδευτικών και άλλων), καθώς και 13 εκπροσώπους του χώρου της έρευνας και του σχεδιασμού πολιτικών για την ανεργία, και ειδικότερα την ανεργία και υπο-απασχολησιμότητα των αποφοίτων τριτοβάθμιας εκπαίδευσης.

Ο στόχος της δευτερογενούς έρευνας ήταν να καταγραφούν τα βασικά χαρακτηριστικά της ανεργίας των αποφοίτων στις 4 χώρες που συμμετέχουν στο έργο, ώστε να αναπτυχθούν τα σχετικά προφίλ για κάθε χώρα, όπου τα μεγέθη της ανεργίας παρακολουθούνται σε σχέση με δομικά στοιχεία της οικονομίας και της αγοράς εργασίας κατά περίπτωση. Μέσα από την αξιοποίηση των αποτελεσμάτων της δευτερογενούς και πρωτογενούς έρευνας είναι δυνατή η αξιολόγηση κοινών παρονομαστών, αλλά και διαφορών σε ευρωπαϊκό επίπεδο, όσον αφορά στην πρόσληψη του φαινομένου της ανεργίας και της υπο-απασχολησιμότητας των αποφοίτων, την έντασή του, και τις ανάγκες για καθοδήγηση και υποστήριξη των αποφοίτων στο επίπεδο δεξιοτήτων με στόχο την ένταξη στην αγορά εργασίας.

Σύμφωνα με τα βασικά ευρήματα της έρευνας, τα χαρακτηριστικά της ανεργίας και της υπο-απασχολησιμότητας των αποφοίτων ποικίλουν ανά χώρα, δημογραφικά στοιχεία (φύλο, ηλικία), εκπαιδευτικά συστήματα, καθώς και ηλικιακή κατανομή σε σχέση με το χρόνο απόκτησης ακαδημαϊκού τίτλου. Σε ευρωπαϊκό επίπεδο, η ανεργία αποφοίτων εμφανίζει τα υψηλότερα ποσοστά στην Ελλάδα, την Ιταλία και την Ισπανία και τα χαμηλότερα στις χώρες της ανατολικής Ευρώπης, το Ηνωμένο Βασίλειο και το Λουξεμβούργο. Η υπο-απασχολησιμότητα από την άλλη πλευρά εμφανίζει ανοδικές τάσεις κατά τη διάρκεια των τελευταίων 15 ετών σε όλα σχεδόν τα Κράτη-Μέλη της ΕΕ εκτός από αυτά της ανατολικής Ευρώπης και πάλι. Η Ελλάδα εμφανίζει κι εδώ τα υψηλότερα ποσοστά, ενώ οι ίδιες τάσεις παρατηρούνται σε πολλές ευρωπαϊκές χώρες, κυρίως εξαιτίας της μεγάλης εισροής αποφοίτων-μεταναστών. Οι ομάδες αποφοίτων που πλήττονται περισσότερο από την ανεργία και την

υπο-πασχολησιμότητα είναι οι νέοι, οι γυναίκες, οι μετανάστες και οι απόφοιτοι άνω των 45 ετών που έχουν διανύσει μεγάλα διαστήματα εκτός αγοράς εργασίας.

Μια βασική διαπίστωση στην οποία οδηγούν τα αποτελέσματα της έρευνας είναι η απουσία υποστηρικτικών παρεμβάσεων και πρωτοβουλιών που στοχεύουν συγκεκριμένα στην ανεργία των αποφοίτων. Στις περισσότερες περιπτώσεις, οι υποστηρικτικοί μηχανισμοί και οι διαθέσιμες εκπαιδευτικές υπηρεσίες δεν εξειδικεύουν στο προφίλ, τις προοπτικές και ανάγκες των αποφοίτων, προσεγγίζοντας συχνά την ανεργία ως αδιαφοροποίητο φαινόμενο. Η επαγγελματική ανάπτυξη των αποφοίτων κι ο εφοδιασμός τους με δεξιότητες που είναι απαραίτητες στο εργασιακό περιβάλλον θα πρέπει ως εκ τούτου να αποτελούν αντικείμενο στοχευμένου σχεδιασμού, ο οποίος ιδανικά θα πρέπει να είναι προϊόν κοινής ευρωπαϊκής πολιτικής.

Σύμφωνα με την έρευνα παρατηρούνται κοινές τοποθετήσεις των ερωτώμενων σχετικά με την παραπάνω διαπίστωση, ήτοι, τον πανευρωπαϊκό χαρακτήρα των προκλήσεων, αλλά και των αναγκών λύσεων για την καταπολέμηση της ανεργίας των αποφοίτων. Πιο συγκεκριμένα, στο πεδίο των προκλήσεων κυριαρχούν ο υψηλός ανταγωνισμός σε σχέση με τον κορεσμό της αγοράς εργασίας, η έλλειψη επαγγελματικής εμπειρίας για τους νέους απόφοιτους σε συνδυασμό με 'τα περισσότερα από τα απαιτούμενα' προσόντα για τους μεγαλύτερους σε ηλικία, η ασυμβατότητα μεταξύ 'ακαδημαϊκών' προσόντων και των δεξιοτήτων που απαιτούνται στην αγορά εργασίας και τις επιχειρήσεις, αγκυλώσεις και εμπόδια στη μετάβαση από την εκπαίδευση στον εργασιακό βίο, αλλά και τη μετάβαση από 'προσωρινές', χαμηλής προστιθέμενης αξίας θέσεις εργασίας σε αντίστοιχες υψηλότερου επιπέδου και απαιτήσεων, ελλείψεις σε δεξιότητες για επιτυχημένη αναζήτηση εργασίας, οι χαμηλής ποιότητας υποστηρικτικές παρεμβάσεις που συνήθως δεν είναι ειδικά σχεδιασμένες για απόφοιτους τριτοβάθμιας εκπαίδευσης, καθώς και η αμφισβητούμενη από την αγορά εργασίας ποιοτική επάρκεια εκπαιδευτικών ιδρυμάτων σε κάποιες περιπτώσεις.

Οι 'μαλακές' δεξιότητες θεωρούνται στο σύνολό τους εξαιρετικά σημαντικές από τους εργοδότες και τις επιχειρήσεις. Οι απόφοιτοι τριτοβάθμιας εκπαίδευσης δεν αρκεί να 'κατέχουν' αυτές τις δεξιότητες, αλλά να είναι ικανοί να τις επιδεικνύουν και να τις εφαρμόζουν στην πράξη σε διαφορετικά εργασιακά περιβάλλοντα, καθώς και στη διαδικασία ανεύρεσης εργασίας. Επιπλέον, ιδιαίτερα σημαντική παράμετρο αποτελεί η ικανότητα συνδυασμού και αξιοποίησης γνώσεων και δεξιοτήτων σε συγκεκριμένα γνωστικά αντικείμενα (hard skills) με 'μαλακές' δεξιότητες στο ρόλο εγκάρσιων δεξιοτήτων. Οι 'σκληρές' δεξιότητες (hard skills) αναφέρονται στις προϋποθέσεις και τις απαιτούμενες γνώσεις (τεχνικές ή μη) για την εκτέλεση μιας εργασίας, ενώ οι 'μαλακές' δεξιότητες συγκροτούν το πλαίσιο εντός του οποίου εκτελείται μια εργασία σε όλες της τις διαστάσεις (ατομικές, διαπροσωπικές, κοινωνικές, επικοινωνιακές κλπ. εντός κι εκτός του εργασιακού περιβάλλοντος). Σε αυτό το σημείο αναγνωρίζεται ο σημαντικός ρόλος των ονομαζόμενων μετα-γνωστικών δεξιοτήτων ως συνδετικού κρίκου μεταξύ 'σκληρών' και 'μαλακών' δεξιοτήτων – η ικανότητα δηλαδή οργάνωσης και συντονισμού υφιστάμενων γνώσεων και δεξιοτήτων με στόχο την εφαρμογή σε νέους λειτουργικούς στόχους.

Στο πλαίσιο της έρευνας που πραγματοποιήθηκε, αλλά και σύμφωνα με τους μεθοδολογικούς στόχους του έργου Reboot, αναδεικνύονται πέντε ομάδες δεξιοτήτων (competency clusters) οι οποίες καλύπτουν τις ανάγκες για επαγγελματική ανάπτυξη και θα αποτελέσουν τους βασικούς άξονες ανάπτυξης του εκπαιδευτικού υλικού: Ανθρώπινη διάσταση, Επίλυση προβλημάτων, Δεξιότητες διαχείρισης 'έργου' (project skills), Διαχείριση 'αλλαγών', Περιέργεια και διεθνική αντίληψη.

Όπως προκύπτει από την έρευνα, το περιεχόμενο και η μορφή του εκπαιδευτικού υλικού για την ανάπτυξη αντίστοιχων δεξιοτήτων για τους απόφοιτους τριτοβάθμιας εκπαίδευσης θα πρέπει να έχει στο κέντρο του τον χρήστη-εκπαιδευόμενο κι εκκινώντας από εκεί να είναι εύκολο στη χρήση, σαφές στους υποστηρικτικούς του στόχους και τη μεθοδολογία που ακολουθεί, προσβάσιμο online αλλά και

πρόσφορο για 'πρόσωπο-με-πρόσωπο' εκπαίδευση/υποστήριξη, κατάλληλο για ατομική και ομαδική εκπαίδευση, και πλούσιο σε παραδείγματα που αντλούν από πραγματικές συνθήκες.

Τέλος, εντοπίστηκαν 10 κεντρικά σημεία/διαπιστώσεις που θα ενισχύσουν την αποτελεσματικότητα και τα επιθυμητά μαθησιακά αποτελέσματα του εκπαιδευτικού υλικού:

1. Οι άνεργοι και υπο-απασχολούμενοι απόφοιτοι τριτοβάθμιας εκπαίδευσης στο σύνολό τους χρειάζονται υποστήριξη σε κοινές 'μαλακές' δεξιότητες, ενώ είναι σημαντική η διαφοροποίηση στην υποστήριξη και καθοδήγηση στον τρόπο που διαφορετικές ομάδες αποφοίτων καλούνται να τις εφαρμόσουν στον εργασιακό τους βίο ανάλογα με πρότερες επαγγελματικές εμπειρίες, συμπεριλαμβανομένης της διαδικασίας ανεύρεσης εργασίας.
2. Η αναγνώριση, κατανόηση κι εφαρμογή δεξιοτήτων στην πράξη διαμεσολαβούνται από την κατά περίπτωση ανάγκη που καλούνται να καλύψουν. Για παράδειγμα, η εφαρμογή δεξιοτήτων θα μπορούσε να αναπτυχθεί μέσα από μια διαδικασία ανάπτυξης προϊόντος ή υπηρεσίας.
3. Η ανάπτυξη των 'μαλακών' δεξιοτήτων περνά μέσα από την πράξη. Η δημιουργία κόμβων κατανόησης και εντοπισμού δεξιοτήτων μέσα από την εμπειρία βοηθά στην συγκεκριμενοποίηση άρρητης γνώσης και δεξιοτήτων.
4. Παραδείγματα, 'σενάρια' και αφηγηματικές πρακτικές βοηθούν μεθοδολογικά την ανάπτυξη 'μαλακών' δεξιοτήτων και την κατανόηση του τρόπου που αυτές εφαρμόζονται στο εργασιακό περιβάλλον.
5. Η κατάδειξη της συσχέτισης μεταξύ 'σκληρών' και 'μαλακών' δεξιοτήτων είναι ιδιαίτερα σημαντική. Ο ρόλος των ονομαζόμενων μετα-γνώστικων δεξιοτήτων ως συνδετικού κρίκου μεταξύ 'σκληρών' και 'μαλακών' δεξιοτήτων – η ικανότητα δηλαδή οργάνωσης και συντονισμού υφιστάμενων γνώσεων και δεξιοτήτων με στόχο την εφαρμογή σε νέους λειτουργικούς στόχους είναι ιδιαίτερα σημαντικός.
6. Οι απόφοιτοι τριτοβάθμιας εκπαίδευσης δεν αρκεί να 'κατέχουν' απαραίτητες 'μαλακές' δεξιότητες, αλλά να είναι ικανοί να τις επιδεικνύουν και να τις εφαρμόζουν στην πράξη σε διαφορετικά εργασιακά περιβάλλοντα, καθώς και στη διαδικασία ανεύρεσης εργασίας. Οι 'μαλακές' δεξιότητες πρέπει ως εκ τούτου να εκλαμβάνονται ως εργαλείο οργάνωσης του επαγγελματικού βίου στο σύνολό του.
7. Το περιεχόμενο και η μορφή του εκπαιδευτικού υλικού για την ανάπτυξη αντίστοιχων δεξιοτήτων θα πρέπει να έχει στο κέντρο του τον χρήστη-εκπαιδευόμενο κι εκκινώντας από εκεί να είναι εύκολο στη χρήση, σαφές στους υποστηρικτικούς του στόχους και τη μεθοδολογία που ακολουθεί, προσβάσιμο online αλλά και πρόσφορο για 'πρόσωπο-με-πρόσωπο' εκπαίδευση/υποστήριξη, κατάλληλο για ατομική και ομαδική εκπαίδευση.
8. Η ανάπτυξη ατομικού portfolio θα πρέπει να συμπεριλαμβάνεται στο εκπαιδευτικό υλικό.
9. Η αντίστοιχη εκπαίδευση εκπαιδευτών και συμβούλων επαγγελματικής ανάπτυξης θεωρείται απαραίτητο εφόδιο για την ολοκληρωμένη υποστήριξη και καθοδήγηση των αποφοίτων τριτοβάθμιας εκπαίδευσης.
10. Συμπληρωματικές δεξιότητες που αναδείχθηκαν ως σημαντικές: ενεργός ακρόαση, διαχείριση stress, self-branding και self-marketing, εντοπισμός και κατανόηση ατομικών επαγγελματικών προσδοκιών, αίσθηση δικαίου, δημιουργικότητα και γνώσεις μεθόδων design.

What is Reboot

The Reboot project, Rebooting, Re-rooting and Re-skilling Unemployed and Underemployed Higher Education Graduates for Work 4.0, aims to increase the employability potential of unemployed and underemployed higher education graduates by upskilling and developing relevant skills and competencies for Work 4.0 in five future-oriented and sector-agnostic competency clusters, as well as the ability of higher education graduates to recognise and demonstrate these skills, and adapt them for their career development.

The target group of the project consists of unemployed and underemployed higher education graduates in Europe, with special attention on young higher education graduates, women who have taken parent leave, employees over 45 who have been made redundant, and migrants including young EU migrants. The project and its outcomes are also addressed to higher education institutions and career counsellors, continuing education and training and unemployment training organisers, unemployment offices, higher education professors and teachers, key-actors in human resources and management and employment areas, and to other interested parties.

Unemployment and underemployment of higher education graduates have increased in Europe during the past decade due to the oversupply of higher education graduates in labour markets and structural and societal changes. Unemployment and underemployment create multiple risks for higher education graduates, such as lack of developing essential skills and experience needed in work life, fragmented and short-term employment, accepting lower-skills job positions, poorer employment opportunities and work conditions. Long-term unemployment increases difficulties to return to work, placing the graduates at risk of social exclusion. On a national and regional level, as higher education graduates try to secure a job and emigrate for better employment opportunities, this may cause brain-drain which is harmful to the economy of the region or country of departure. Hence, unemployment and underemployment of HE graduates must be addressed in a holistic way from a long-term and future-oriented point of view.

Reboot aims to address the issue by developing Work 4.0 related soft skills needed in work life. The vehicle for this is an online non-formal training programme with a skill-competence testing tool especially targeted for unemployed and underemployed higher education graduates. Handbooks for Implementing the Reboot training support the process. Combining the new Work 4.0 related competencies in own discipline-knowledge may have a further positive impact on the subjects' employability. The tentative Work 4.0. competency clusters with soft skills are people dimension, problem-solving, project skills, readiness for change, and curiosity and internationality.

The Reboot project is implemented in Belgium, Finland, Greece and the UK, which all represent a different economic profile and employment situation of higher education graduates. This diversity is expected to create a Pan-European approach to the training material for each country to use according to their needs. The project has been co-funded by the Erasmus+ Programme of the European Commission, and its sub-programme Strategic partnership – Adult Education.

Key Concepts

Adult unemployed higher education graduate

A higher education graduate with longer time from graduation with a longer work history or unemployment history

Driver (development driver)

A key definition point defining development

High skilled job

A job requiring higher-level qualification, i.e. a higher education degree

Low skilled job

A job not requiring higher-level qualification, i.e. not a higher education degree

Non-cognitive skills

A set of attitudes, thinking patterns, interpersonal skills, character traits, skills and knowledge that develop through experience, including for instance cultural awareness, teamwork, problem-solving, creativity, critical thinking and leadership. These are also called soft skills

Sector agnostic

Not related to a specific sector but can be adopted and used by any sector

Underemployed higher education graduate

A higher education graduate who works in a position that does not correspond to the level of his/her education is lower than the educational degree

Work 4.0 skills

Work skills based on non-cognitive soft skills. These can also be called 21st-century skills

Young unemployed higher education graduate

A higher education graduate between 20-34 years of age with little work experience especially in own sector and with a relatively short time from graduation

1. Reboot from the Literature

The aim of the desk research was to investigate the general state of and the conditions leading to the unemployment, underemployment of higher education graduates (later HE graduates), the existing training solutions offered to unemployed, and underemployed HE graduates in the partner countries and in the EU. In addition, country profiles were created to understand the differences and variations between the partner countries for the creation of a Pan-European perspective with potential cultural and national inclinations to take into consideration in the Reboot training.

1.1 How Was the Study Conducted?

Desk research was conducted in November – December 2018 in each partner country, Belgium, Finland, Greece and the UK, and on the European level. The European level of investigation provided a point of reference against which to compare the country data, hence assisting to create the Pan-European approach. The particular focus of the desk research was on the national conditions that influence the employment of HE graduates and the attractiveness of the country, including its economic structure and culture, nature of and reasons behind unemployment, forms of work, trends and approaches towards Work 4.0. competencies and the challenges of unemployment and underemployment.

The data was gathered from several sources including national and EU policy documents, reports, statistics, information about learning solutions, and research and development documents. The data was analysed using the template in Appendix 1 of this report. In order to harmonise the data for the creation of the country profiles and the Pan-European approach, competitiveness and innovation rankings, Geert Hofstede's cultural dimensions and the World Happiness Report as an indicator of good life as safety and reliability and equal opportunities as a degree of freedom to make own choices in life were added to each country profile.

Hofstede's cultural dimensions used in the research are the masculine versus feminine dimension and the power distance in cultures. These may influence the country's approach to innovation or competitiveness, the opportunities given to HE graduates during and after higher education and the attitudes towards unemployment. The feminine culture is traditionally less competitive and more caring than a masculine culture; therefore, feminine cultures would be expected to provide greater support to disadvantaged groups. The power distance dimension expresses the level of democracy in a society where a culture of a low power distance is more democratic and approachable.¹ For instance, the innovation potential of a country could be interesting for HE graduates due to professional aspirations. The cultural distances find different expressions under different conditions.

The aspects from the World Happiness Report, good life as safety and reliability and equal opportunities as a degree of freedom to make own choices, are related to the attractiveness of a country as the quality of life and as increased academic and career opportunities.

¹ Hofstede Geert. (n.d.). The 6-D model of national culture

1.2 Key Insights - What Was Found

1.2.1 Economy and Attractiveness in Europe and in the Partner Countries

The European Union (EU) is a single market economic area with regional and national differences in the main industries and in levels of income, unemployment and attractiveness. Over the centuries, many European countries have accumulated material and immaterial capital that enables them to be among the world leaders in economics, industry, culture and innovation. Intellectual human capital is essential to maintain Europe's current level of competitiveness.

Industry and career development: Europe is a post-industrial society with a significant industrial history. Many prestigious and well-known companies are European. Combined with a relatively steady economic development, high level of education and innovation, and culture open for creativity and self-expression, Europe has created cutting-edge industries, organisations and workplaces, which provide interesting opportunities for personal and career development, for example for high education graduates. Currently, leading countries in innovation and competitiveness, at global and European level, are mainly found in North-West Europe^{2,3,4}.

Income: The European economy is relatively stable. The European countries represent globally high-income countries, with the income levels being the highest in the North-West European countries⁵. The economic differences between the European countries have been continuously evening out.

Education and quality of life: The level of European education and universities is high. The continent is characterised by functional societies, good social security and high quality of life. These factors are able to increase the attractiveness of a location⁶. The World Happiness Report 2019⁷ measures criteria linked to a good life, such as the overall well-being and the freedom of choice regardless the background of a person, which can exert an impact on the feeling of safety in the society, social movement and opportunities for HE graduates.

Opportunities in life, educational and career development, income, livelihood, the quality of life, a personal idea of a location, and social networks collide into a personal perception of the attractiveness of a location. If the attractiveness of another location or country exceeds a personal threshold related to attractiveness, the probability of a person to relocate or migrate may increase. Internal migration in Europe benefits from the EU's policy of free movement. Besides internal migration, the EU receives migrants from outside the Union. According to Eurostat⁸, the main region for work and income-related migration is North-West Europe, with many internal immigrants coming from the Eastern and Southern Europe. Among them are HE graduates who are looking for better career opportunities. This can be expected to provide an additional supply of HE graduates to North-western labour markets.

Each of the four Reboot partner countries represents a different economic, cultural and income background that may influence on the attractiveness and ability to provide jobs for HE graduates.

² Belinchón, F., & Moynihan, R., 2018, July 03

³ European Commission, 2018b

⁴ WIPO, 2018

⁵ Eurostat, 2018, September 24

⁶ Simpson, N.B.

⁷ United Nations, 2019

⁸ Eurostat, 2018, April 18

The following country descriptions observe the attractiveness of each country from viewpoints that might be beneficial for the career development of HE graduates.

Belgium

Belgium is a Central-European country. Its development has benefitted from its central geographic location and good connections to the other European countries. It has a stable economy and political situation. The country is divided into three main regions, the Flemish Region (Flanders), the Walloon Region (Wallonia) and the Brussels-Capital Region, and the German-speaking community.

The biggest employers in Belgium are the service sector, followed by industry and agriculture, while the main industry sectors are engineering and metal products, motor vehicle assembly, transportation equipment, scientific instruments, processed food and beverages, chemicals, pharmaceuticals, base metals, textiles, glass, and petroleum^{9,10}.

Belgium is a high-income country at a global level¹¹. It currently ranks 21st on the global competitiveness level¹² but it is foreseen to rise to 18th in the near future¹³, and it is 25th on the global innovation index right after Estonia¹⁴. With high educational quality, Belgium can be expected to be an attractive country for HE job seekers. Belgium represents a medium masculine cultural dimension with a high power distance¹⁵, which could indicate support towards the unemployed, a medium level of competition in the society, but bureaucracy due to power distance. Belgium ranks 16th on the World Happiness Report 2019¹⁶ suggesting a high quality of life.

Finland

Finland is a highly industrialised country with one of the most acclaimed educational systems in the world. Despite its rather isolated location, it has quickly industrialised after the WW2, being today the 7th most innovative country in the world¹⁷, and one of the most competitive countries as well ranking 11th on the global competitiveness¹⁸. It is, however, foreseen to rank 15th between 2018 and 2023¹⁹. Finland represents a high-income country at a global level²⁰.

The key employing industries in Finland in 2018 were manufacturing, human health and social work activities, wholesale, professional, scientific and technical activities, and construction²¹, whereas the biggest industries were electronics, motor industry, chemical industry, forest industry, energy, and metal mining industry²². Among the promising industries are business services, pharmaceuticals, finance, chemicals and plastics, clean-tech, bioenergy, digital health data records and biobanks, smart energy, smart transport and smart retail, data centres and gaming²³.

⁹ IndexMundi, 2018a

¹⁰ Britannica

¹¹ Eurostat, 2019c

¹² The World Economic Forum, 2018

¹³ Statistic Times, 2018

¹⁴ WIPO, 2018

¹⁵ Hofstede Insights. (n.d.). Compare countries.

¹⁶ United Nations, 2019

¹⁷ WI WIPO, 2018

¹⁸ The World Economic Forum, 2018

¹⁹ Statistic Times, 2018

²⁰ Eurostat, 2019c

²¹ Statistics Finland, 2018a

²² IndexMundi, 2018b

²³ Invest in Finland, n.d.

Finland is among the top global performers in democracy, equality, safety and social security, hence ranking the number one in the World Happiness Report²⁴. Universities are accessible for all depending only on performance, and higher education is free to EU citizens. Finland represents the feminine cultural dimension with a lower power distance²⁵. This is expected to promote equal opportunities and innovation.

Greece

Greece is a European border country with a long international and strong cultural history. Today the most important economic sectors of Greece are wholesale and retail trade, transport, accommodation and food services (24,5%), public administration, defence, education, human health and social work activities (21%) and real estate (17,7%)²⁶. The importance of education is strong; however, the potential of education has not yet been fully exploited. One reason for this, especially in more remote regions, is the positioning of HE graduates in small companies, which may not provide high-skilled positions.²⁷

Greece ranks 22nd in the GDP per capita in PPR (Purchasing Power Standards)²⁸. The effect of the recent recession is still perceptible, although the situation is improving, as Greece ranks 26th in the income level in the EU 28²⁹. It is currently 42nd on the global innovation index³⁰, and 57th on the global competitiveness³¹ but it is foreseen to improve its position to 43rd between 2018 and 2023³². Yet, the beautiful nature, lifestyle and weather make the country attractive. Greece ranks 79th on the World Happiness Report³³.

Greece represents a slightly masculine cultural dimension with a slightly higher than average power distance³⁴. As the dimensions are not far from Belgium, but the competitiveness and innovation rankings are different to Belgium, we should look at other reasons for the ranking as well (for e.g. uncertainty avoidance).

The United Kingdom

The UK has a long history of industrialisation - after all, the industrial revolution started in the UK - enabling it to become one of the world's industrial leaders. This has influenced the development of other sectors as well, such as the financial sector. Today the UK's most relevant sectors are manufacturing, construction and tourism³⁵, whereas growing sectors in the future are Fintech, digital marketing and advertisement, biotechnology, and virtual reality³⁶. The country, despite being an island, is centrally located and well connected with Europe and North America.

²⁴ United Nations, 2019

²⁵ Hofstede Insights. (n.d.). Compare countries.

²⁶ European Union, 2019

²⁷ Development Center for Education Policy of the General Confederation of Greek Workers (KANEP), 2018

²⁸ Eurostat, 2018, December 1

²⁹ Eurostat, 2019

³⁰ WIPO, 2018

³¹ The World Economic Forum, 2018

³² Statistic Times, 2018

³³ United Nations, 2019

³⁴ Hofstede Insights. (n.d.). Compare countries.

³⁵ Investopedia, 2018

³⁶ NIG, 2018

The UK is a high-income country³⁷. It ranks as the 4th most innovative country in the world³⁸, and it is one of the most competitive countries in the world ranking currently 8th on global competitiveness³⁹. However, it is foreseen to rank 23rd between 2018 and 2023⁴⁰. The country is globally well known and well presented. It ranks 19th on the World Happiness Report⁴¹ which suggests a high quality of life.

British society is a class-society, although it represents a lower power distance. Yet it represents a higher masculine cultural dimension⁴². It could be analysed that the lower power distance assists the country's innovation potential and hence, the development of future industries, whereas the masculine dimension increases the disparity in the society.

1.2.2 The Current Situation of Unemployed and Underemployed Higher Education Graduates in Europe and in the Partner Countries

In its higher education policy, the EU has set a goal to increase the number of higher education attendance to 40%⁴³. The goal was almost reached in 2017 when higher education attendance reached 39,9%, women representing the majority of the attendees at 44,9% compared to men at 34,9%⁴⁴. Although, traditionally, higher education graduates have higher employability rates than graduates from vocational education or those with basic qualifications⁴⁵, this unprecedented amount of skilled workforce is saturating high-skilled jobs and has started to be sensitive to economic cycles. Thus, it has created unemployment and underemployment among HE graduates. Despite the improved situation over the past few years, unemployment and underemployment have remained a phenomenon in Europe. Unemployment and underemployment do not distribute evenly across Europe but vary geographically and by gender, age, sectors, life situation and time of graduation.

According to the OECD, the countries most affected by HE graduate unemployment between the ages of 25 – 64, in relation to the OECD average of 4,1%, and EU average of 4,2%⁴⁶ in 2017, are⁴⁷:

- Over 7%: Greece, Spain, Italy
- Above average (4,1% - 7%): Denmark, France, Finland, Slovenia, Portugal
- Below average (4,1% - 2%) Sweden, Belgium, Luxemburg, Ireland, Slovak Republic, Latvia, Estonia, Austria, Netherlands, Lithuania, the UK, Poland, Germany
- 2% or under: Hungary, the Czech Republic, (also Bulgaria according to Eurostat⁴⁸)

³⁷ Eurostat, 2019

³⁸ WIPO, 2018

³⁹ The World Economic Forum, 2018

⁴⁰ Statistic Times, 2018

⁴¹ United Nations, 2019

⁴² Hofstede Insights. (n.d.). Compare countries.

⁴³ European Commission, n.d.-a,

⁴⁴ Eurostat, 2018, July 18

⁴⁵ Eurostat, 2018

⁴⁶ Eurostat, 2019, February 19

⁴⁷ OECD, 2019

⁴⁸ Eurostat, 2018

This shows that the unemployment of HE graduates is the lowest in Eastern Europe. What comes to the Reboot partner countries, Greece has the highest percentage of unemployed HE graduates at 15,7%, Finland is the second at 4,9%, Belgium the third at 3,8%, and last is the UK with the best unemployment situation at 2,3%. Eurostat, however, provides slightly higher figures to Finland at 5,3%, and the UK at 2,4%⁴⁹. Despite the differences between OECD and Eurostat, the overall distribution of unemployment in Europe remains the same. The unemployment rates of the recent graduates, 20 – 34 years of age, are higher. The EU28 average is 15,1%, while the UK is at 10,3%, Belgium at 10,6%, Finland at 17,9%, and Greece at 44,8%⁵⁰.

The oversaturation of labour markets and lack of open job positions partly drive HE graduates to apply for and accept lower-qualified job positions. This can also occur when HE graduates try to find the first employment or simply due to arrangements of private life (for example arranging life with children).

Generally, there has been an increase in underemployment among HE graduates in the past 15 years. According to a survey conducted by Cedefop in 2015, the over-qualification rate of all HE graduates in Europe was 23,6%⁵¹, and 24,4% in 2017 with the most impacted countries being Greece at 44,5%, Cyprus at 40,5%, Spain 37,8% and Ireland at 34,5%⁵². Underemployment seems to be lower in the Eastern European countries coinciding with high migration numbers, which is a sign of emigration of highly skilled people. Regarding partner countries, underemployment is high in the UK even though unemployment is low, moderately high in Greece (combined with high unemployment), low in Finland (coinciding with above-average unemployment rate), and low in Belgium⁵³. This suggests that high-skilled labour markets are saturated in the UK.

The groups most at risk of unemployment and underemployment are young graduates, women who have taken parental leave, migrants including young EU migrants, and those aged 45 and above who have been made unemployed⁵⁴. According to Eurostat, HE graduate women were more likely to be underemployed compared to men⁵⁵. This can be partly explained by a higher number of women having a higher education degree than men⁵⁶.

The following European HE graduate employment profiles can be created from the data^{57,58}:

1. High unemployment and potential brain-drain, such as Greece, Spain and Italy.
2. Moderate or slightly high unemployment, for instance, Finland, France and Sweden. The nature and the reason for unemployment may vary from country to country as also the sectors it impacts the most.
3. Low unemployment with many HE graduate immigrants, causing over-supply of skilled workforce, skills mismatch and underemployment⁵⁹. For instance the UK, Ireland and Austria.
4. Low unemployment and underemployment, for instance, Belgium, France, Germany and Denmark.

⁴⁹ Eurostat, 2018

⁵⁰ Eurostat, 2019, February 19

⁵¹ Cedefop, 2015

⁵² Skills Panorama, 2018

⁵³ Cedefop, 2015

⁵⁴ European Commission, 2016

⁵⁵ Eurostat, 2018, June 08

⁵⁶ Eurostat, 2018, July 18

⁵⁷ Eurostat, 2018

⁵⁸ Cedefop, 2015

⁵⁹ Foley, B. & Brinkley, I., 2015

5. Low unemployment, potential HE graduate emigration and brain-drain. For instance, the Czech Republic, Bulgaria and Hungary, and other Eastern-European countries.

Unemployment and underemployment in the Partner Countries

Belgium

Employment and unemployment have improved in Belgium in recent years. In 2016 the unemployment rate was at 7,8%⁶⁰. During the second quarter of 2018 unemployment dropped to 6,1% and employment increased to 69%⁶¹. The development has been equal for men and women with only 0,1% difference between the two groups (women at 7,2% and men at 7,1%), while the young 15 – 24 year-olds were still the most affected by unemployment at 19,3%⁶².

Unemployment was distributed unevenly between the regions: Flanders registered an unemployment rate at 4,4 %, Wallonia at 9,8 % and Brussels-Capital Region at 15 %. Similarly, Flanders had the highest employment rate among 20–64-year-olds, 73%, followed by Wallonia at 63,2%, and Brussels-Capital Region at 60,8%.⁶³ The rest of the population was inactive, for example, students and early retired. The most disadvantaged groups included young, 15–24-year-olds, especially in the Brussels-Capital Region, elder workers⁶⁴, migrants, especially non-EU born migrants with 19% lower employment rate than native Belgians (52% vs 71,0%⁶⁵), and low-skilled people⁶⁶.

The strong regional differences can be found in the employment and unemployment rates of HE graduates as well. During the second quarter of 2018, Flanders registered an unemployment rate at 2,1%, Wallonia at 4,0% and Brussels-Capital Region at 7,9%⁶⁷. Similarly, as for unemployment in general, there had been an improvement compared to the earlier follow-up periods. Flanders had the highest employment rate among 20 – 64 years of age, 86,4%, followed by Wallonia at 84,8%, and Brussels-Capital Region at 77%⁶⁸. The employment rate between men and women was virtually the same. However, circa 5% fewer women were employed than men, women at 81,4% versus men at 86,7%⁶⁹. The employment rates of highly skilled migrants follow the same pattern of the general situation in the country, but while there is very little difference between the Belgian natives and other EU nationals (83,8% vs. 80,9%), there is a drastic drop of 16,6% in the employment rates of non-EU migrants⁷⁰. Their employment potential, however, seems to improve as work experience is gained⁷¹.

Based on the information and Table 1 on the next page, it is safe to say that in Belgium, education has a positive impact on employability as HE graduated adults' unemployment rate is half of that of groups with lower educational levels. Also, young HE graduates benefit from their higher educational background.⁷²

⁶⁰ National Bank of Belgium, 2018

⁶¹ Statbel, 2019b

⁶² Ibid.

⁶³ Statbel, 2018, March 29

⁶⁴ European Commission, 2018a

⁶⁵ Eurostat. (n.d.). Employment and unemployment (LFS).

⁶⁶ OECD, 2018b

⁶⁷ Statbel, 2018, March 29

⁶⁸ Statbel, 2019a

⁶⁹ Ibid.

⁷⁰ Eurostat. (n.d.). Employment and unemployment (LFS).

⁷¹ European Commission, 2018a

⁷² OECD, 2018a

Table 1: Comparison of employment and unemployment rates between the national average and tertiary education by region (%) during the second quarter of 2018.

	Employed			Unemployed		
	Flanders	Wallonia	Brussels	Flanders	Wallonia	Brussels
All	77,3	63,2	60,8	4,4	9,8	15
HE graduates	86,4	84,8	77,0	2,1	4,0	7,9

Source: Belgian statistical office, Statbel⁷³.

The **underemployment** percentage among the HE graduates was 5%⁷⁴. The main reason for highly skilled people in Belgium to change the job was to have a better correspondence with their qualifications⁷⁵. This could indicate real or experienced underemployment. However, it can also indicate ambition and professional development.

Finland

The overall unemployment rate in Finland in October 2018 was 7,2% which is slightly higher than the EU28 average of 6,7% but lower than that of the Euro area 8,1%⁷⁶. The employment rate in 2017 was 74,2% among the population aged 20 to 64⁷⁷. Unemployment has been decreasing during the past years among workers from all educational backgrounds and all occupational groups⁷⁸. According to Eurostat, the annual average of unemployment among HE graduates in Finland in 2017 was 5,3%⁷⁹. Since then, unemployment has been decreasing among all HE graduates: in 2018, unemployment among all HE graduates decreased to 13%, 11% among recent graduates⁸⁰, 16% at the bachelor level, 13% at the master level, and 16% at the doctoral level⁸¹. Unemployment was highest in the fields of humanistic studies, natural sciences, arts and design (master's level), and philosophy, whereas unemployment was the lowest in medicine (doctors), law and educational sciences⁸². While the HE graduate unemployment rate in Finland is higher than the OECD average (4,1%), the number of underemployed HE graduates seems to be lower than the average⁸³. This indicates that employed HE graduates are well-placed.

There are two vulnerable groups among the HE graduates in Finland:

1. **Women:** the number of women is generally higher in higher education than that of men, but so is unemployment. Women earn less than men for the same level of qualification.⁸⁴ This is partly linked

⁷³ Statbel, 2019a

⁷⁴ Statbel, 2018, April 19

⁷⁵ Ibid.

⁷⁶ Eurostat, 2018, November 30

⁷⁷ Eurostat, 2019b

⁷⁸ TEM. 2018. Economic Bulletin, December 2018

⁷⁹ Eurostat, 2018

⁸⁰ Taulu, H., 31.12.2018

⁸¹ TEM. 2018. Economic Bulletin, December 2018

⁸² Taulu, H., 31.12.2018

⁸³ European Commission, Analytical Web Note 7/2015

⁸⁴ Asplund, A. & Vanhala, P., 2016

to the educational sector, as for instance in 2017 employment improved most in the male-dominated fields (technology)⁸⁵.

2. Recently graduated: According to Statistics Finland's⁸⁶ Education Statistics, employment of recent graduates has improved by 4% in 2017 compared to previous years. On average, the employment rate of recent graduates was 86% and the unemployment rate after one year from graduation was 10%. Graduates from academic universities performed slightly better as 6% of them were unemployed, compared to the graduates from universities of applied sciences of which 7% were employed. However, one year from graduation, 95% of the graduates from universities of applied sciences were employed and only 3% were unemployed. The employment rate of doctorate degree graduates was slightly lower, as 83% of them were employed one year after graduation, while 7% were unemployed.

HE graduates' unemployment does not distribute evenly in Finland. Some sectors are more affected, and persistent unemployment exists in some sectors. For instance, many doctoral graduates suffer from persistent long-term unemployment⁸⁷. Hence it seems that the situation has a dual aspect: on the one hand there are well-placed graduates, but on the other hand, persistent unemployment exists.

Greece

The overall unemployment rate in Greece in October 2018 was 18,9%, hence surpassing the average 6,7% of EU28. According to Eurostat, the unemployment rate of higher education graduates (20 – 34 years of age for ISCED levels 5-8) was 44%, hence being lower than the overall employment rate in the country.⁸⁸ According to IOBE⁸⁹, the situation has been especially challenging for recent graduates and doctoral graduates. Greece has the highest rates of unemployment and underemployment in the EU28, as the financial crises affected the country strongly. However, during the past years, the situation has improved slightly. The biggest employing sectors are the service, education, public administration and the defence sectors⁹⁰. According to IOBE⁹¹, the sectors most affected by the situation are the health sector and the IT sector. IOBE also reports that between 2008 and 2017 approximately 400 000 young Greek HE graduates emigrated.

Besides unemployment, underemployment is another challenge that Greek HE graduates are facing. The reasons for underemployment are not limited to the lack of available high-qualified jobs or mismatch of skills needed in work life, but the industrial structures in different regions of Greece also play a role. Underemployment is the highest in Western Greece and the islands of the Aegean and Ionian Seas. In these regions, small and micro companies employ almost 70% of the labour force offering few jobs requiring high skills. As HE graduates are among the people these companies employ, they become underemployed.⁹² Underemployment and over-qualification are additionally caused by a mismatch between the skills higher education graduates have and the skills labour

⁸⁵ Statistics Finland, 2018b

⁸⁶ Statistics Finland, 2019

⁸⁷ Asplund, A. & Vanhala, P., 2016

⁸⁸ Eurostat, 2018, November 30

⁸⁹ Foundation for Economic and Industrial Research (IOBE), 2017

⁹⁰ Ibid.

⁹¹ Ibid.

⁹² Development Center for Education Policy of the General Confederation of Greek Workers (KANEP), 2018

market needs. This also hampers finding employment as HE graduates simply do not possess skills needed in labour markets.⁹³.

Unemployment in Greece is gender balanced. Vulnerable groups are instead young HE graduates. In 2017 their unemployment rate was 44,2%⁹⁴. This tells about difficulties in finding an entry-level job. In the long-term, this may result in a lack of work experience which will further complicate finding a high-skilled job position.

Paradoxically, the scientific and research potential of higher education graduates in Greece is very high and the country receives plenty of research funds from the EU⁹⁵. As this has not created employment and as the brain-drain in the country has been remarkable, the situation has a negative impact on the country's innovation and competitiveness potential.

The United Kingdom

The overall unemployment rate in the UK in October – December 2018 was 4%⁹⁶ while that of the unemployed HE graduates in 2017 was 2,4%⁹⁷ (no data available from the same period), and the unemployment rate among the recent graduates in 2017 was 89,4%⁹⁸ with rather similar percentages for both graduates and post-graduates. Only 9% of recent graduates were unemployed or doing other activities.⁹⁹ On average, in 2017, male graduates had slightly higher employment rates and hourly pay than female graduates¹⁰⁰. The highest paid sectors in 2018 were from investment banks, law firms, oil and energy companies and retailers¹⁰¹ while for undergraduates the highest paid sectors were medicine and engineering¹⁰². Although the rates are among the best of EU28, there have been challenges. For instance, Brexit has created nationwide uncertainty and hence it has influenced negatively on employment and recruitment of HE graduates¹⁰³ with, for instance, companies cutting their graduate employment by over 10%.¹⁰⁴ Despite the turmoil, the graduate labour market has remained relatively strong.¹⁰⁵ What comes to employment prospects, according to High Fliers¹⁰⁶, the sectors offering most graduate vacancies will be public sector organisations, accounting and professional service firms and engineering and industrial companies.

Underemployment is highly present in the UK. According to the OECD, in 2014, over 30% of the UK workforce felt over-qualified for their job¹⁰⁷. Foley and Brinkley¹⁰⁸ analyse that this is caused by a combination of a low unemployment rate and a large amount of HE graduate immigrants causing an over-supply of highly skilled work-force, skills mismatch, and underemployment. However, HE graduates experience skills mismatch less than the empiric data shows¹⁰⁹. When observing the data published by The UK Department for Education in the Graduate Labour Market Statistics (GLMS) 2017,

⁹³ Skills Panorama, 2016

⁹⁴ Eurostats, 2019a

⁹⁵ National Documentation Centre, 2017

⁹⁶ The Office of national statistics, 2018

⁹⁷ Eurostat, 2018

⁹⁸ Eurostat, 2019, February 19

⁹⁹ Universities UK, 2018a

¹⁰⁰ The Office for National Statistics, 2017

¹⁰¹ High Fliers, 2018

¹⁰² The Office for National Statistics, 2017

¹⁰³ HECSU, 2017

¹⁰⁴ High Fliers, 2018

¹⁰⁵ HECSU, 2017

¹⁰⁶ High Fliers, 2018

¹⁰⁷ OECD, 2014

¹⁰⁸ Foley, B, & Brinkley, I., 2015

¹⁰⁹ European Commission. Analytical Web Note 7/2015

77,8% of postgraduates held a high-skilled job, compared to 65,5% of graduates, and 22,2% of non-graduates. Observing young graduates (21 – 30 years of age) the figures are lower, as 73,9% of postgraduates were working in high-skilled employment, compared to 57,8% of graduates, and 17,8% of non-graduates.¹¹⁰ These figures suggest that higher-skilled people are occupying positions of lower-skilled people, which is a sign of underemployment. Also a survey conducted by ONS found that 49% of employed graduates were working in underemployed positions in 2017¹¹¹.

Observing **the groups at risk**, based on the findings above, people with a migrant background are at risk of underemployment. However, there are other signs of disparity too. Male graduates seem to have slightly better opportunities than female graduates due to the higher rate of employment and being more likely to have high or upper-middle skilled jobs¹¹². There is no data whether this is caused by personal choices, e.g. linked to family, or attitudes on labour markets.

Another element creating inequality is the socio-economic background of HE graduates. This, for instance, impacts the choice of the educational institution and the future job. A higher socioeconomic status more likely leads to a higher salary, whereas groups from lower socioeconomic backgrounds will generally seek employment that offers equal opportunities and job security. People with higher socioeconomic status will more likely study in prestigious universities and attend extracurricular activities and network. These are more appealing to employers. This causes social immobility that should be addressed.¹¹³ Inequality increases as employers are more likely to hire HE graduates from prestigious universities¹¹⁴. Existing connections and previous experience also dictate hiring for top positions. Hence, if a graduate lacks these connections and experience, it increases their chances for underemployment or unemployment¹¹⁵ which may have further long-term consequences. A steep increase in students' tuition fees in 2012 may further create inequality between the two socioeconomic groups as an average UK student will leave university with over £50,000 debt.¹¹⁶

Graduates' willingness to relocate after university can also affect available employment options and offer. The HECSU Autumn 2017 Journal report classified the graduates into 4 groups: the so-called "Loyals", who stay in the region they were born in, are more likely to work in the public sector (in health and education), "Returners", who return home after graduation, are the most likely to be in non-graduate employment and "Stayers"/ "Incomers", who do not return home, are the most likely to be in high salary professional jobs.¹¹⁷

1.2.3 The Main Challenges for Unemployed and Underemployed Higher Education Graduates to Find Employment

¹¹⁰ Department for Education, 2018

¹¹¹ The Office for National Statistics, 2017

¹¹² Ibid.

¹¹³ The Bridge Group, 2016

¹¹⁴ The Office for National Statistics, 2017

¹¹⁵ The Bridge Group, 2016

¹¹⁶ Coughlan, S., 2017, July 08

¹¹⁷ HECSU, 2017

The changing society and work life and economic cycles create challenges for HE graduates. The desk research identified six areas of sector-agnostic challenges common to all partner countries and on a European level.

1. A skill and experience mismatch with what employers want

Employers, especially companies, are looking for employees with non-cognitive competencies and work experience^{118,119,120}. Yet students are not regarded as ready for working life upon graduation¹²¹ and they may hence be unsuccessful when applying for a job. Employers are looking for a positive attitude and aptitude to work, resilience, soft skills, cultural awareness, communication, teamwork, leadership, problem-solving^{122,123} and management skills, which according to them appear to be more challenging to younger generations¹²⁴.

Subject-specific skills, IT – digital literacy, numeracy, and foreign language are highlighted as the most important among hard skills¹²⁵.

2. Overqualified, underemployed and underpaid

Underemployment (over-qualification) is especially present in countries with a high number of HE graduates or in the regions where the economic structure offers little opportunities for high-quality positions¹²⁶. According to different sources, underemployment is not only a problem for competence and work experience development and their psychological impact (e.g. self-esteem), but it impacts other unemployed people as well, as often HE graduates move on to low-skilled jobs in order to have employment. This reduces the availability of job positions to individuals of a lower educational degree.

In addition, HE graduates can also be underpaid. Entry level jobs are often paid less and the salary increases according to work experience and responsibilities, but there is more to the problem. For example in Greece, as reported in 2017, even 57% of HE graduates received a monthly salary of 400-800 euros. In 2011 the percentage was 24%.¹²⁷

3. The loop of unemployment, underemployment and work career trap

Higher education unemployment and underemployment are distributed unevenly among educational sectors, countries, gender and origins of HE graduates. Yet, the fragmentation of work careers has increased during the past decade^{128,129}. This may lead to short-term employment and underemployment¹³⁰, and it may create long-term unemployment as HE graduates struggle to find work. It can consequently cause poorer work experience, competencies and skills mismatch, lower salaries and unstable work careers¹³¹, making re-entering working life increasingly difficult, and it may

¹¹⁸ ManpowerGroup, n.a.

¹¹⁹ European Commission. Analytical Web Note 7/2015

¹²⁰ High Fliers, 2018

¹²¹ ManpowerGroup, n.a.

¹²² Universities UK, 2018b

¹²³ QS, 2018

¹²⁴ Lyons, M., Lavelle, K., & Smith, D., 2017

¹²⁵ Universities UK, 2018b

¹²⁶ Development Center for Education Policy of the General Confederation of Greek Workers (KANEP), 2018

¹²⁷ Foundation for Economic and Industrial Research (IOBE), 2017

¹²⁸ Asplund, A. & Vanhala, P., 2016

¹²⁹ European Commission, 2016

¹³⁰ O'Reilly, J., Eichhorst, W., Gábos, A., Hadjivassiliou, K., Lain, D., Leschke, J., ... Villa, P., 2015

¹³¹ European Commission, 2016

also cause mental issues and risk of social exclusion^{132,133}. Nationally and regionally, as HE graduates migrate for better opportunities, this may lead to brain-drain, which is harmful to the region's economy.

4. Individual related challenges

Some sectors and educational fields are more at risk of unstable work careers and unemployment than others, but also the level of HE degree may have importance¹³⁴. Hence the choice of the educational sector may impact on employment prospects.

Another issue that may influence employability is the geographic location of residence combined with low mobility¹³⁵. The current location may not offer suitable high-skilled job positions and opportunities. Unfortunately, not everybody is able to work in another geographic location for different reasons, such as family.

Migrant HE graduates struggle with two issues, inadequate language skills¹³⁶, and discrimination. The situation is worse for non-EU migrants. For example, in Belgium, their employment is 16,6% lower than that of the native Belgians¹³⁷.

Among personal reasons for underemployment and unemployment are also health issues.

5. Educational institution

The reputation and ranking of the university can play a role in employment as well. This might be a milder phenomenon in many countries, but for instance, it has been reported that in the UK employers prefer to hire graduates from more prestigious universities. In addition, extracurricular activities, such as networking, play a role in the selection.¹³⁸

6. Employment services

The recruitment and support offered to HE graduates in universities alone is neither sufficient nor directed appropriately. There also appears to be a lack of appropriate services to those already in work life or who have been made redundant.¹³⁹

In addition to common factors, in Greece meritocracy and corruption may also influence negatively obtaining a position and securing a job.

1.2.4 Training and Unemployment Services and Solutions in Europe and in the Partner Countries

In 1997, EU Member States agreed to commit to establishing a set of common objectives and targets for employment policy in order to create more and better jobs in the EU. This objective is now part of

¹³² Asplund, A. & Vanhala, P., 2016

¹³³ European Commission, 2016

¹³⁴ Asplund, A. & Vanhala, P., 2016

¹³⁵ European Commission, 2018a

¹³⁶ Ibid.

¹³⁷ Eurostat, n.d.

¹³⁸ The Bridge Group, 2016

¹³⁹ HECSU, 2017

the Europe 2020 growth policy. The European Commission provides directives¹⁴⁰ and policies while the member states set their own employment policies to be followed and implemented by respective public and private organisations. This is also the case in the Reboot partner countries.

Many EU programmes aim at eradicating unemployment in Europe. However, there are no programmes specifically aimed at unemployed and underemployed higher education graduates. However, based on the benchmarking made by the Reboot project partners, this can be covered by different initiatives and development programmes.

Belgium

The employment services and frameworks in Belgium are first planned and organised on a federal level, after which they land to the three regions (Flanders, Walloon and Brussels) and the German-speaking community. For employment, these are FOREM (the Walloon Region), Actiris (the Brussels-capital Region), VDAB (the Flemish Region), and ADG (the German Community). FOREM, VDAB and ADG are also responsible for vocational training and placement, as is also Bruxelles Formation. SYNERJOB instead, creates synergies between these different bodies for employment.¹⁴¹ Herewith FOREM (Wallonia) and VDAB (Flanders) are observed in more detail.

The French language FOREM provides services in jobs promotion, personal support, training, soft skill and discipline-based training, internships and employment¹⁴² distributed under 250 qualifying courses. These are being coordinated by FOREM and implemented through 25 Skills centres focusing on developing human capital in immaterial qualities¹⁴³.

The Dutch language VDAB, The Flemish Service for Employment and Vocational Training (Vlaamse Dienst voor Arbeidsbemiddeling en Beroepsopleiding, VDAB) provides counselling, job search assistance, intermediation services and mainly competence-based training of (un)employed workers in Flanders through its training centres. VDAB helps job seekers in registration, monitoring, training and finding employment through multiple channels, for instance, face-to-face, a call centre, website, video-chat, e-mail, apps and using high-level e-tools, including competency-based matching also using the ROME classification system¹⁴⁴.

Both organisations require an initial registration of unemployed individuals and address special care towards young people under 25 years of age, including Youth Guarantee. Despite offering vocational training, work-integration, work-mobility services, and carrying out prospective studies on future skills and competencies, neither organisation especially addresses the needs of HE graduates.

Finland

In Finland, the employment and education strategies are planned first on the governmental level, after which they land to regions. The services are used by all. The main actors providing employment services used by HE graduates are public employment and business services offered by TE offices (94% of academic job seekers), adult education institutions, labour exchange offices, career services in HE institutions and in trade unions, private companies, independent contractors or entrepreneurs, as well as regional and international development projects. Surprisingly, the most used services by unemployed HE graduates are vocational employment services.¹⁴⁵ There are services for HE

¹⁴⁰ European Commission, n.d.-b.

¹⁴¹ VDAB, n.d.-a.

¹⁴² Le FOREM, n.d.-a.

¹⁴³ Le FOREM, n.d.-b.

¹⁴⁴ VDAB, n.d.-b.

¹⁴⁵ Asplund, A. & Vanhala, P., 2016

graduates, for instance in universities and a job academic recruiting website involving career services in universities (www.aarresaari.net), but this is not enough. In fact, most services were not experienced to provide proper impact on career development and job seeking for HE graduates¹⁴⁶. Hence it is not surprising that individual networks and contacts play an important role for academic job seekers when sharing information and guidance¹⁴⁷. The most needed support services were: identifying individual aims and objectives for employment and career building, recognising, describing and developing skills, capabilities, and know-how, networking, training, and work experience in relation to own field of education¹⁴⁸.

Greece

Only recently, different actors in Greece have started to offer services that are especially addressed to the unemployment of HE graduates. They are provided by private actors (consulting and training organisations, adult training organisations and institutions), public actors (e.g. HEI, municipalities), and actors in the social economy, alone or in combination. Assistance is provided e.g. in training events, workshops or seminars.

The United Kingdom

In the UK, most higher education institutions have a formal employability strategy for students and they offer career services which focus on developing students' working life skills, but also offer other career-related services are offered.

Intangible work-related skills are developed under different activities, for instance, student ambassador schemes, free language courses, visits to workplaces, talks from employers and alumni, entrepreneurship programmes, career development and advice, including advice and guidance after graduation, placements, internships and work experience¹⁴⁹, in the classroom, during independent study, in assessments and throughout the extra-curricular activities¹⁵⁰. Career forming related services include different recruitment methods from social media, university careers services, online advertising, recruitment apps to careers fairs, campus recruitment presentations and skills training events.¹⁵¹ Hence, it can be concluded that there is a robust structure for employment services but yet there are plenty of issues to address.

Training programmes

The following Table 2, on the next page, presents training initiatives and solutions in the partner countries and in the EU.

¹⁴⁶ Puhakka, O., 2017

¹⁴⁷ Asplund, A. & Vanhala, P., 2016

¹⁴⁸ Puhakka, O., 2017

¹⁴⁹ The Bridge Group, 2016

¹⁵⁰ HECSU, 2017

¹⁵¹ High Fliers, 2018

Table 2: Benchmarked training solutions

Name of the programme	Country provider and	Target group	Description
Youth Guarantee	EU Used in different EU countries	Young unemployed under 25 years of age, recent graduates under 30 years of age, not especially for HEI	All EU member states commit to offering employment, continued education, a work-try-out, or traineeship to young unemployed and to recent graduates. The offer must be made within four months of becoming unemployed or leaving formal education. In Finland for instance, an unemployed graduate needs to register as a job seeker in an unemployment office to participate in the program. The office will draw up an employment plan with services to be offered to the person to support them in finding a job. However, young people have difficulties finding the service. More information: European Commission: The Youth Guarantee https://ec.europa.eu/social/main.jsp?catId=1079
New Skills Agenda for Europe	EU	All Europeans, not especially for HEI	The goal of the agenda is to make the right training, skills and support available to Europeans. The initiative addresses the skill shortages in the labour market and aims to help people achieve the skills needed for Work 4.0. The actions of the agenda were designed to achieve the following: to make skills more visible and comparable, to improve the quality and relevance of training and other ways of acquiring skills, and to improve the information and understanding of trends and patterns in demand for skills and jobs in order to enable people to make better career choices, find quality jobs and improve their life chances. This is an enabling policy. More information: European Commission: Employment, Social Affairs & Inclusion. New Skills Agenda for Europe https://ec.europa.eu/social/main.jsp?catId=1223
Your first EURES Job (YfEJ)	EU	Young people and employers in EU-28 countries; not especially HE graduates	The goal of this mobility scheme is to help young people between 18 and 35 years of age to find a job or apprenticeship in other EU member states and to help employers find the skills they need in their businesses. The process involves matching young job seekers with employment offer across Europe. Through the scheme, young job seekers can receive information, matching and recruitment assistance and financial support to attend interviews abroad. Costs for language training and relocation can be covered. More information: European Commission: Employment, Social Affairs & Inclusion. YfEJ.
Plan Marshall 4.0	Belgium: FOREM	Not specified	The Plan Marshall 4.0 aims to boost structural change by renovating the socio-economic fabric of the region. The plan encompasses several actions, all intended to promote a context favourable to the creation of jobs. These actions are structured around 5 axes: training, innovation and growth, mobility, energy and digitalisation.

			<p>More information: http://planmarshall.wallonie.be/sites/default/files/Plan%20Marshall%204.0_ANGLAIS.pdf</p>
Employer's Day	Belgium: FOREM	Not specified	The event aims to raise awareness among employers of the public offer of employment services.
Kasvua kaakkoon - service for companies and the job seekers	Finland: Adult education centre Kouvola	SME's in the southeast of Finland and unemployed HE graduates	<p>The aim of the service is to support the development of growth business (Finnish SMEs) by looking for opportunities to employ HE graduates for companies based on identifying the HR needs in the companies and matching the talent within the employing companies.</p> <p>Participating unemployed HE graduates are provided with a career counsellor responsible for tailoring training services for individual needs face-to-face and online. Participants interested in entrepreneurship are provided with information on entrepreneurship and business planning. The methods used include self-paced learning, coaching on entrepreneurship and group meetings. Services are provided via employment centres and training is provided by Kouvola adult education centre and Sampo vocational education institute of Saimaa.</p> <p>More information: http://www.kvlakk.fi/fi/koulutustarjonta/kasvuakaakkoon#.XE-CsfyxU0p https://www.yhteiskunta-ala.fi/edut-ja-palvelut/urapalvelut/uravalmennus/</p>
KORKO – development project of employability and mentoring services for HE graduates	Finland: Municipality of Espoo, Vantaa and Helsinki	Over 35-year-old unemployed HE graduates	<p>The Korko development project focuses on finding and joining hidden job opportunities and talents for the task at hand, especially in SMEs, and to increase the employment of HE graduates by discovering their skills and rethinking their career paths. Job searchers are provided with a membership in a job pool, free skills evaluation, sparring for viewpoint change and re-identification of skills in co-creation with a peer group and through narration. Support is provided to create networks with employing organisations. The project also provides information on the current changes and needs in work life and develops new practices and models for finding expertise for the needs of employing organisations. The project is funded by the ESF and the cities of Espoo, Helsinki and Vantaa.</p> <p>More information: https://www.korkoa.fi</p>
KOVAT-project developing an international expert for work	Finland: University of Eastern Finland, Karelia UAS, local public expert organisations, employment service providers, City of Joensuu,	International experts with higher education and for the needs of employing organisations	<p>Piloting new methods for training, counselling and facilitation of employment of international experts with a higher education background and for the needs of employing organisations. The training focuses on recognising individuals' skills and facilitating the development of language skills and professional substantial knowledge as well as job searching skills in general. Training and education will be developed on the basis of the regional needs of the employing organisations. Recognising and developing future career paths and counselling career services for HE graduates facilitates the employment of unemployed international experts whether HE students and researchers, ex-patriates or immigrants. The methods experimented include recognising individual skills and potential, updating and marketing one's know-how.</p>

	employing organisations.		The focus in developing new methods and services is in participative team-oriented guiding and training services on the basis of regional needs for employing organisations. More information: https://www.uef.fi/fi/web/aducate/kovat
TÖITÄI project	Finland: The University of Tampere, Turku University of Applied Sciences, The University of Turku and Åbo Akademi	Unemployed HE graduates	The development project focuses on personal guidance and consulting for an efficient job search for unemployed HE graduates. The participants were provided customised facilitation and training in language, communication and job search with the use of social media. The training programme includes individual mentoring, webinars, networking and recruiting events, group coaching and training in the commercialisation of skills and selling, and information in entrepreneurship. Participants were able to demonstrate their competencies for an organisation during a month-long period of work training. Support is provided by the project and the peer group. In addition, collaboration and networking with employing organisations have been facilitated. More information: http://toita.utu.fi/fi/blogi/ and http://www.uta.fi/jkk/synergos/taydennyskoulutus/hankeet/toitaosaaminenkayttoon.html
A service by Pirkanmaa region public employment offices	Finland: Pirkanmaa region public employment offices in co-operation with ELY and HPL trade union	Over 50-year-old unemployed HE graduates	In the Pirkanmaa region public employment offices have piloted new approaches for the employment of HE graduates in co-operation with the ELY and HPL trade union. The target group for piloting is over 50 years of age unemployed HE graduates. The training is provided by selected private training organisations which develop their training services on the basis of identified needs, and they get paid on the basis of success rate (leading employment or established enterprise). The key activities include entrepreneurship coaching, clarifying participants' skills and know-how, and developing individual marketing skills. Participants are being given a service-note, thus they are allowed to select a suitable service provider themselves. More information: http://toimistot.te-palvelut.fi/pirkanmaa/ajankohtaista/-/asset_publisher/Xl13ZXZasLQw/content/korkeasti-koulutetuille-apua-tyollistymiseen-uusilta-palveluntuottajilta;jsessionid=1680F12476007B00D322D6BE9635B7FD
TYÖNHAKU VETURI	Finland: Työnhaku-veturi	Academic trade union members	TYÖNHAKUVETURI (job search locomotion) is a platform for academic trade union members (e.g. in the field of technology, business) in the Uusimaa region searching for a job. The services provided include online webinars and expert lectures, Rekryboosteri group activities for the development of individual job searching skills and Walk for jobs recruiting events, recruiting fairs and other networking events connecting potential employers and unemployed academic experts and managers. Työnhakuveturi collaborates with public employment services and it is free for participants. More information: http://www.tyonhakuveturi.fi/

			Similar platforms for unemployed academics in the region of Oulu (http://www.urasampo.fi/), Pirkanmaa (https://uratehdas.fi/), and Varsinais-Suomi (http://urapurje.strikingly.com/).
Distance e-learning programme	Greece: National and Kapodistrian University of Athens	HEI graduates	200 programmes in professional and vocational training for HEI graduates including a wide array of soft skills development topics adapted to various professions/labour market sectors, connecting higher education with labour market needs. The programmes are open upon application and have tuition costs. The duration is from 3 to 6 months and there is a wide array of tuitions needed in order to participate. More information: https://elearn.elke.uoa.gr/sxetika.html (in Greek).
MA “Critical thinking and soft skills in Biomedical Sciences”	Greece: Aristotle University of Thessaloniki	Post-graduate studies	Post-graduate studies leading to MA “Critical thinking and soft skills in Biomedical Sciences” is mainly addressing graduates of Health Sciences but it is open to graduates of HEIs in general as well. This post-graduate programme is directly addressing the development of soft skills, focusing however in the biomedical sector. The course duration is 12 months and the course cost is 4000 Euros. More information: http://www.med.auth.gr/tags/kritiki-skepsi-kai-ipies-dexiotites-soft-skills-stis-vioiatrikes-epistimes-0 (in Greek)
An MSc program	Greece: The University of Thessaly – Department of Biochemistry and Biotechnology*	Young Scientists	The MSc program aims to develop the entrepreneurial and innovative skills of young scientists and to integrate academic education and business training. The MSc in Bio-entrepreneurship is the first postgraduate program in Greece composed of multi-component and transferable learning activities facilitating the development of scientific, business and entrepreneurship skills. The MSc graduates acquire all the necessary skills for a successful career in the world of enterprises and will be able to translate innovation to products and services, rendering themselves valuable human resources for the business domain. The duration of the course: 12 months. The cost of the course 3000 Euros. * University of Thessaly – Department of Biochemistry and Biotechnology in collaboration with the National Hellenic Research Foundation Institute of Biology, Pharmaceutical Chemistry and Biotechnology More information: http://bioepixirin.bio.uth.gr/en/ (in English)
Mellon Skills Accelerator	Greece: Mellon-Skills Accelerator	All underemployed including HEI graduates	The Mellon-Skills Accelerator is an innovative professional skills development and empowerment program with a focus on increasing the employability and entrepreneurial potential of the unemployed (including HEI graduates). So far, Mellon focuses on the largest region of Greece (Attica region) and is offered to beneficiaries at zero cost by the Collective Social enterprise 'knowl' for Education and Lifelong Learning. The program adopts a personalised approach, using state-of-the-art techniques and tools to strengthen each person individually, in a customised way, on the basis of their professional

		<p>profile, needs and aspirations, serving their own professional choices, transferring directly applicable skills knowledge and facilitating the matching of professional profiles with market needs and employment positions. At the same time, Mellon supports and promotes entrepreneurship as a form of self-employment and a source for job creation. Skills training is provided by experienced consultants & trainers selected on the basis of strict qualitative criteria, ensuring the provision of the high-quality learning experience and effective knowledge transmission by renowned and highly-qualified professionals and "knowledge carriers".</p> <p>Since its launch in September 2015, Mellon has boosted the employability potential of 2.775 job seekers and career up-skillers via 27 skills open seminars. Furthermore, five intensive skills acceleration cycles (offering 11.376 training hours) have been carried out in five Municipalities i.e. Acharnon, Aspropyrgos, Markopoulo, Galatsi and Kallithea with staggering results, as 50% of the attendants have found a job which corresponds to their professional goals and aspirations.</p> <p>More information: https://www.mellon-accelerator.eu/en/</p>
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1.2.4 Do the Services for Unemployed and Underemployed Higher Education Graduates Match the Learning Solutions to Work 4.0. Approaches?

Observations on the correspondence of the employment service and training/education offer addressed to HE graduates should be made at two levels, the current situation and the future orientation. The current solution is usually based on the existing policies (EU and national), and it creates foundations for future services. In light of the foreseen trends for future work, it can be predicted that the foreseen Work 4.0. competencies will be needed in future society. It is foreseen that the demographic change causing the decrease of the workforce, especially in post-industrial countries including European countries, will impact on the required competencies and how to compensate the formerly larger workforce¹⁵².

At the same time, instability, uncertainty and digitalisation will continue and are predicted to increase. This may impact the security of employment, for example as increased unemployment and unemployment periods¹⁵³. Hence, the flexibility of work careers, reinventing and understanding of own skills can be foreseen as increasingly necessary in the future.

As the automatization and offshoring of especially routine-intensive jobs, will increase, it has been prospected that so-called high-value tasks and jobs would increase in the future. These require expert thinking, creativity and complex communication more difficult to offset. These are for instance research, development, design, financing, marketing and maintenance in the service business. It has also been foreseen that contingency, abruptness and individualisation of tasks will increase.¹⁵⁴ The role of cultural competencies will increase as well, including inter-cultural competencies, visualisation, design and aesthetics.¹⁵⁵ This is a clear indicator that Work 4.0 related soft skills will be essential in the future.

The current employment service training offer

There seems to be rather few employment and employment training services addressed to unemployed and underemployed HE graduates. Most activities and services are addressed to young people and vocational education or to individuals with basic level qualifications. Furthermore, higher education institutions support employability, although mainly through recruitment activities. The existing policy structures focus on increasing the number of HE graduates but do not sufficiently address unemployed HE graduates. However, different funding programmes enable development projects which can address unemployment and underemployment of HE graduates. As the conditions for employability of individuals are created in higher education, employment-related activities provided during higher education are addressed first, followed by services provided for young and adult HE graduates.

¹⁵² Hanhijoki, I. & Katajisto, J. & Kinari, M. & Savioja, H., 2012

¹⁵³ Asplund, A. & Vanhala, P., 2016

¹⁵⁴ Kauhanen, A., 2016). Tulevaisuuden työmarkkinat.

¹⁵⁵ Hanhijoki, I. & Katajisto, J. & Kinari, M. & Savioja, H., 2012

Services provided during higher education

Universities address their students' employability in different ways, mainly through recruitment and career-related services. The existence and level of implementation of these services and strategies is country- and organisation-dependent. The means are many varying from face-to-face actions (e.g. fairs, careers services, campus recruitment presentations, and skills training events) to online activities (e.g. social media, online advertising, recruitment apps)¹⁵⁶. This develops students' job seeking skills.

Among the methods to prepare students' working life skills universities use, for instance, as reported from the UK, student ambassador schemes, free language courses, visits to workplaces, talks from employers, alumni and entrepreneurship programmes, career development and advice, including advice and guidance after graduation, placements, internships and work experience¹⁵⁷, and practical training. However, no structured or specific soft skills development activities or activities through which students could recognise the developed soft skills exist. In fact, according to the desk research, the work relevance of studies should be improved.

Hence, development of transversal skills, skills and competencies needed in work life, recognising own ability and potential, and teaching how to use them should be embedded in studies. This could take place for instance by embedding work life orientation into curriculum, involving employers in curriculum design, increasing working life relationships and practical collaboration tackling practical challenges, using work-based learning, practical training, sandwich courses combining study and work periods, individual and career counselling, alumnus partnerships, networks, and by establishing innovation hubs in campuses.^{158,159,160} Besides skills, educator and employer collaboration facilitates adapting to the changing pace of career development. These methods include meta-learning and redefining what is good and competent and unlearning from essay-type approaches only.

It appears that currently the development of Work 4.0. related soft skills is not addressed enough during higher education, and that the orthodox academic approach may not be fully able to answer to the requirements of today's and tomorrow's work life. The government in the UK even suggests that new flexible learning should include abolishing the distinction between 'academic' and 'vocational' skills and instead adopt a more holistic approach that truly reflects the working environment by re-organising skills into subject-specific skills, professional and technical skills and core transferable skills.¹⁶¹

Services provided for unemployed and underemployed young HE graduates

Career services in universities are varied, and young HE graduates still enjoy attention on employment support. There are European-wide programmes addressed to young graduates of all levels, such as, Youth Guarantee. In addition, national employment offices address young

¹⁵⁶ High Fliers, 2018

¹⁵⁷ The Bridge Group, 2016

¹⁵⁸ European Commission. Analytical Web Note 7/2015

¹⁵⁹ Puhakka, O. 2017

¹⁶⁰ OECD, 2018a

¹⁶¹ Universities UK, 2018b

graduates at all educational levels. These services, for instance, may offer opportunities to match young people with employers and even to cover part of the costs. Yet the existing solutions do not sufficiently cover the development of Work 4.0. skills for work life or recognition of these skills. Another challenge seems to be that these services are not specifically customised for young HE graduates. They also face the challenge that employment officials may not be prepared to provide service addressed to HE graduates.

Services provided for unemployed and underemployed adult HE graduates

Unemployed and underemployed HE graduates who have been in work life are rarely addressed in policies, structures and employment office services. Doctoral graduates have been receiving the most attention. For instance, HE graduates are not provided employment services that would serve their needs and hence they use services created for vocational professionals and others. This can partly explain their difficulties finding high-skilled work. Moreover, even though, employment services might be highly digitalised, there is no evidence that the officials working in employment services would be prepared to assist HE graduates. Only Finland reported about a separate academic online recruitment platform, yet also in Finnish HE graduates mainly use the same services as other unemployed with a vocational background of basic level qualifications. Similarly, most employment training is also addressed to the unemployed with a vocation or basic level qualification background. Training addressing soft skills development is even scarcer.

Only Greece and Finland reported about specific actions addressed towards unemployed adult HE graduates. Some services are also addressed to them in Belgium, but not as targeted as in the previously mentioned two countries. Despite the long duration of the financial crises and its consequences, Greece has only recently started to create solutions addressed to unemployed and underemployed HE graduates. These are mainly courses on payment, and they can address for instance skills for a specific sector, entrepreneurship or soft skills. One of the solutions, the Mellon Skill Accelerator, looks more into skills recognition and matching with a professional profile.

The training solution examples provided from Finland mainly addressed unemployed adult HE graduates (e.g. over 45 years of age). These were project-based addressing a special need in the society that may be of a certain duration, for example employing a larger group of HE graduates made redundant, and they addressed training from different points of view: developing job seeking skills, identifying own (soft) working life skills, and matching unemployed with employing organisations, but they also presented entrepreneurial skills. This was the only training which was mentioned to use soft and creative methods, for instance, co-creation, narration and peer support.

The main competencies trained were soft skills (recognition), job seeking skills and transforming previous training into new training or degree. Job seeking skills are important as many, who have been made redundant, may have not had a need to look for a job for decades after securing the first employment.

To summarise

It appears that employment services and solutions are mainly addressed to HE students and young HE graduates with the main focus being to provide the opportunity for the first job, work experience and networking, and this way to start developing their work-related skills, while the unemployed and underemployed adult HE graduates are left with little solutions. Although job seeking skills and matching with employers are provided, little attention has been paid to learning Work 4.0. skills and competencies. For instance, higher education institutions seem to be in a turning point where education may require rethinking. Especially when observing future employment trends, developing Work 4.0. skills and competencies should start in higher education and continue as a lifelong learning activity also for higher education graduates.

Table 3, below summarises the level of HE unemployment service support addressed to HE graduates and training of Work 4.0. skills and competencies at different levels: in higher education, to young HE graduates and to adult HE graduates. It shows a clear need for training Work 4.0. skills and competencies in all groups.

Table 3. Work 4.0. training and employment service offer for different target groups

	Higher education	Unemployed and underemployed young HE graduates	Unemployed and underemployed adult HE graduates
Job-seeking support for HE	High	High	Low/very low
Career counselling	High	High	Low/very low
Job-seeking skill training	High	Medium	Low/very low
Work 4.0 (soft) skills training	Low	Very low	Very low

Training delivery and training methods

The desk research findings suggest that training should enable identifying and developing own skills and abilities, be user-oriented, easy to find and easily available (information about the training, time, location...), and use easy-to-use platforms. Use of social media is not excluded. Training should be specially addressed and tailored to HE-graduate level.

For training delivery, both self-paced, individualised and group training were used and combined. Among benchmarked training methods and content were:

- Skills evaluation, recognition and re-identification of skills and potential, finding hidden talent
- Using peer group, co-creation, mentoring, sparring, coaching (individual and group)
- Workshops, webinars, talks from enterprises, experts, employers and alumni
- Support in network creation and in communication

- Demonstration competencies and marketing/selling own skills and expertise¹⁶², including online presence to promote own achievements and skills¹⁶³
- Training with a holistic approach on career development including future-orientation¹⁶⁴ and eliminate the negative impact of the socio-economic background on employability¹⁶⁵

These are in line with Puhakka's¹⁶⁶ suggestions for the support needed by HE graduates for gaining employment and job search:

- Content-related elements, such as individual guidance, mentoring and counselling, assistance to recognise, describe and develop ones' individual skills and capabilities, understanding and voicing individual aims, and to ensure adaptability and flexibility to changes in the labour market structure over the long-term.
- Technical assistance, including updating and strengthening job searching skills, employment services (e.g. hidden jobs) and gaining relevant work experience.
- Peer support and networking.
- Flexible training paths and solutions enable people to handle employment transitions. The participation of employers is also welcome.
- Identifying individual aims and objectives for employment and career building.
- Training and work experience in relation to own field of education.

¹⁶² The Bridge Group, 2016

¹⁶³ High Fliers, 2018

¹⁶⁴ HECSU, 2017

¹⁶⁵ The Bridge Group, 2016

¹⁶⁶ Puhakka, O., 2017

1.2.5 Country Profiles – Phase 1

Country profiles are created based on the country description and HE graduate unemployment and underemployment situation in each country. The profiles based on the desk research are summarised in Table 4 below and analysed on the following pages. This first phase development of country profiles will be finalised using the data from the surveys and interviews. The second phase before the conclusions will take the country analysis and reflect them against the findings from the surveys and interviews.

Table 4. Country profile data

	Belgium	Finland	Greece	UK
Economy	Stable	Stable	Stable	Stable
Society type	Post-industrial	Post-industrial	Post-industrial	Post-industrial
Income level ¹⁶⁷	High	High	Medium-high	High
Industry profile	Versatile and science-based industrial from motor vehicle assembly, to chemistry, and engineering.	Versatile and science-based industrial from forest and metal industry to clean-tech, and bioenergy.	Trade and service oriented, e.g. tourism, real estate, food education	Versatile and science-based from manufacturing to finance, biotechnology and Fintech.
Competitiveness - now ¹⁶⁸ - prospect between 2018 and 2023 ¹⁶⁹	Now: 21 st Prospect: 18 th	Now: 11 th Prospect: 15 th	Now: 57 th Prospect: 43 th	Now: 8 th Prospect: 23 rd
Innovation ¹⁷⁰	25 th	7 th	42 nd	4 th
Happiness ranking as well-being and opportunities ¹⁷¹	16 th	1 st	79 th	19 th
Languages	Important: 3 national languages	2 small main languages perceived difficult to foreign people	Not mentioned	English, used globally

¹⁶⁷ Eurostat, 2019c

¹⁶⁸ The World Economic Forum, 2018.

¹⁶⁹ Statistic Times, 2018)

¹⁷⁰ WIPO, 2018

¹⁷¹ United Nations, 2019

Education level and costs	High Free	High Free for EU, EEA, and Switzerland	High	High, prestigious universities. High tuition fees for all
Power distance – democracy ¹⁷²	High	Low	Slightly higher than average	Low
Masculine vs. feminine culture ¹⁷³	Average masculinity	Feminine	Slightly more masculine than average	Masculine
Other	Democracy	Democracy and equality	Democracy	Class society
HE unemployment	Low	Above average	High	Low
HE unemployment of recent graduates	Medium	Medium	High	High
Underemployment of HE graduates	Low medium	Low	High	High
Vulnerable groups*	Migrants, Recent graduates	Women, Recent graduates PhD (if long-term)	Recent graduates, PhD	Recent graduates, Lower socio-economic groups, women, migrants
Other	High regional differences	Well-placed graduates but also very persistent unemployment.	Highest unemployment in Europe. Brain-drain.	Better employment chances if from a higher socio-economic group

*In no country were adult unemployed and underemployed HE graduates mentioned, but in Greece and Finland this came from the training offer

¹⁷² Hofstede Insights. (n.d.). Compare countries.

¹⁷³ Ibid.

Country profile Belgium

Table 5. Country profile Belgium

Country profile Belgium	
Economy	Stable
Society type	Post-industrial
Income level	High
Industry profile	Versatile and science-based industrial from motor vehicle assembly, to chemistry, and engineering.
Competitiveness	Now: 21 st Prospect: 18 th
Innovation ¹⁷⁴	25 th
Happiness ranking as well-being and opportunities	16 th
Languages in Belgium	Important: 3 national languages
Education level and costs	High. Free
Power distance – democracy	High
Masculine vs. feminine culture	Average masculinity
Other	Democracy
HE unemployment	Low
HE unemployment of recent graduates	Medium
Underemployment of HE graduates	Low medium
Vulnerable groups	Migrants, Recent graduates
Other	High regional differences

Belgium's industrial structure is versatile and partly science-based. Hence it can be expected to support HE graduate employment and high-skilled professions in different sectors from the service sector to industry. The high level of education is expected to transfer into new innovations contributing positively to employment. The competitiveness and innovation levels of Belgium are high and increasing. However, the regional variations in employment need to be paid attention to including reinventing and redirecting work careers for underemployed and unemployed HE graduates, including seeing what new those fields of education can do, hence soft skills are essential. Another point to focus on is the vulnerable groups, e.g. young graduates and migrants.

¹⁷⁴ WIPO, 2018

Their potential should be turned into a strength. Due to the multicultural and multilingual nature, this should not be a challenge. Employers should see skills and capacity behind the language skills. More foreign workforce can be expected due to the high living standard and the central location of the country. Otherwise, the country seems to support equal opportunities. Bureaucracy may, however, be a weakness for new models of employment training of HE graduates and changing attitudes. Education may also need updating towards less traditional solutions.

Country profile Finland

Table 6. Country profile Finland

Country profile Finland	
Economy	Stable
Society type	Post-industrial
Income level	High
Industry profile	Versatile and science-based industrial from forest and metal industry to clean-tech, and bioenergy.
Competitiveness	Now: 11 th Prospect: 15 th
Innovation	7 th
Happiness ranking as well-being and opportunities	1 st
Languages in Finland	2 small main languages perceived difficult to foreign people
Education level and costs	High. Free for EU, EEA, and Switzerland
Power distance – democracy	Low
Masculine vs. feminine culture	Feminine
Other	Democracy and equality
HE unemployment	Above average
HE unemployment of recent graduates	Medium
Underemployment of HE graduates	Low
Vulnerable groups	Women, Recent graduates, PhD (if long-term)
Other	Well-placed graduates but also very persistent unemployment

Finland has forward-looking industrial sectors and higher education open for all (depending on performance), low power distance, feminine cultural dimension and high innovation and competitiveness scores can assist finding talents to develop the country and industries further. However, the country needs to be careful with the high number of unemployed HE graduates. It is essential to harness their potential to society. Recognising and demonstrating soft skills touch points with new sectors and professions and re-educating them might be tools for this. The country is innovation-driven with low hierarchy, hence a great potential is in using innovative and alternative methods, including design methods. As underemployment is not that much of an issue, it is clear that unemployment needs to be addressed. Despite being a land of equal opportunities and being ranked the happiest country in the world, when it comes to equal opportunities and other life-quality issues, Finland's attractiveness level is low. This might be partly due to the requirement of mastering languages, including the national languages, which are little known globally.

Country profile Greece

Table 7. Country profile Greece

Country profile Greece	
Economy	Stable
Society type	Post-industrial
Income level	Medium-high
Industry profile	Trade and service oriented, e.g. tourism, real estate, food education
Competitiveness	Now: 57 th Prospect: 43 th
Innovation	42 nd
Happiness ranking as well-being and opportunities	79 th
Languages in Greece	Not mentioned
Education level and costs	High
Power distance – democracy	Slightly higher than average
Masculine vs. feminine culture	Slightly more masculine than average
Other	Democracy
HE unemployment	High
HE unemployment of recent graduates	High

Underemployment of HE graduates	High
Vulnerable groups	Recent graduates, PhD
Other	Highest unemployment in Europe.

Despite the challenging past years, the overall economy of Greece is rather stable. The challenges are, however, the high unemployment and underemployment of HE graduates, brain-drain and the difficulty to turn the high academic level into jobs. Especially the last one indicates that there is a great necessity to learn Work 4.0 soft skills needed in work life. The strict division between academic and non-academic professions might also need revising, as often the skills of HE graduates are regarded as highly beneficial for SMEs, including their level of detecting and solving problems, but also harnessing the skills of HE graduates to small enterprises is important. This requires novel ways of thinking and change of the mind-set in companies as well. Increasing innovative and thinking outside the box attitudes might open new avenues for jobs. This includes harnessing HE graduate skills for the use of the service sector. Employing HE graduates in Greece and stopping brain-drain seem to be of high importance in the country at the time of this report.

Country profile the UK

Table 8. Country profile the UK

Country profile the UK	
Economy	Stable
Society type	Post-industrial
Income level	High
Industry profile	Versatile and science-based from manufacturing to finance, biotechnology and Fintech
Competitiveness	Now: 8 th Prospect: 23 rd
Innovation	4 th
Happiness ranking as well-being and opportunities	19 th
Languages in the UK	English, used globally
Education level and costs	High, prestigious universities. High tuition fees for all
Power distance – democracy	Low
Masculine vs. feminine culture	Masculine
Other	Class society

HE unemployment	Low
HE unemployment of recent graduates	High
Underemployment of HE graduates	High
Vulnerable groups	Recent graduates, Lower socio-economic groups, women, migrants
Other	Better employment chances if from a higher socio-economic group

The UK has a strong industrial and business structure to support the employment of HE graduates despite high immigration. The country enjoys high competition and innovation status. Yet the weakness is the class society, of which university structures are part of and high tuition fees. This limits talent development, detection and opportunities (note the happiness score is lower than in Belgium and Finland). There is a risk that talents go unnoticed. However, HE graduate immigrants can provide high talent whether with a foreign HE degree or a British HE degree, especially as acclaimed universities and companies are attractive to HE graduates. Migrants furthermore quickly adapt to the country due to the language which is commonly used across the world. There is a need to bring to and put into spotlight talents from more modest economic backgrounds. Practical training and soft skills demonstrations may assist in this.

2. Reboot from the Survey

The aim of the surveys was to investigate the perceptions of and attitudes towards Work 4.0 competency clusters and the soft skills they consist of and to find out which soft skills are found the most essential, the level of mastering of these skills and how they manifest in work life. The aim of the survey is hence to provide information which helps to validate, complete and potentially alter the tentative competency clusters. The second main investigation area of the survey was challenges in training and preferred training options for unemployed and underemployed HE graduates.

Three surveys were conducted with three different target groups (1) unemployed and underemployed HE graduates, (2) representatives of employing organisations, and (3) representatives of employment training organisations. The data from each target group was processed separately in order to compare the results and analyse similarities and differences between the answers, and hence to obtain a holistic view of the competency clusters and skills. The surveys were conducted in each partner country between 19 November 2018 and 23 January 2019 using an online questionnaire (Google Form). Each partner was responsible for finding the respondents nationally. The questionnaire is available in Appendices 2, 3, and 4 of this report. The research and data collection processes are described separately for each survey.

The five tentative competency clusters, subjects of the survey are:

1. **PEOPLE DIMENSION**, including user-orientation, co-operation, teamwork and networking skills, multidisciplinary and self-awareness, culture, tolerance
2. **PROBLEM SOLVING**, one of the main key requirements for Work 4.0. is detecting central problems and handling information, solving wicked problems, solution-orientation, creativity, ability to tolerate insecurity in decision making, looking solutions in past, present and future
3. **PROJECT SKILLS**, as one of the main forms of future work. This comprises resilience, tenacity, open-mindedness, taking action, multidisciplinary, ability to handle and balance content, deadlines and other project elements, and ability to act in new situations, read contexts and tolerate insecurity
4. **READINESS FOR CHANGE**, including the ability to modify personal know-how. Top experts of the future adapt to change, detect and understand change on a systemic level and their impact
5. **CURIOSITY AND INTERNATIONALITY**, curiosity is one of the major elements of innovation and creativity. It comprises passion, interest, openness to new, thinking outside the box, and willingness connect own doing with something meaningful.

2.1 Survey for Unemployed and Underemployed HE Graduates

2.1.1 Data Collection

The surveys for unemployed and underemployed HE graduates were conducted using five online questionnaires. The data was collected between 19 November 2018 and 23 January 2019. Each partner was responsible for finding the respondents nationally. The questionnaire is available in English in Appendix 2 of this report. Altogether 172 people answered the survey (Belgium 27, Finland 111, Greece 15, and UK 19). Due to challenges in obtaining answers, the surveys were open until 23 January 2019.

In Belgium, two versions of the survey were designed: one in French and one in English. As Belgium is a trilingual multinational country, the second language (English) assisted obtaining answers from different regions of Belgium and from foreign people living in Belgium. This provided a broader coverage of different employment situations in Belgium. The survey was distributed through two main channels: CONEXX-Europe's own networks, and alumni associations of different higher education institutions in Brussels, Wallonia and Flanders. Additionally, face-to-face meetings were held with representatives of Alumni Networks of the two main universities in Brussels: VUB – Vrije Universiteit Brussel and ULB – Université Libre de Bruxelles. The survey was also distributed in newsletters and networks of former students. Altogether 27 subjects answered the survey. The response to surveys was positive except among higher education institutions.

In Finland, the survey was mainly distributed via stakeholders and other potential networks such as HE alumni groups, HE recruiting and career services, training organisations, trade unions, employment offices and via social media channels (such as Facebook, LinkedIn). There was a great interest towards the survey as altogether 111 subjects answered the survey (minimum 15 answers were needed). Although the responses were obtained quickly, the survey was left open until 23 January 2019 to be closed at the same time with the other surveys.

In Greece, the questionnaire was sent directly to unemployed and underemployed HE graduates drawn from the Militos Consulting SA database in Greece. Some of the subjects had forwarded the questionnaire to their fellow graduates. Altogether 15 subjects answered the survey. The respondents were positive about giving their input.

In the UK, the survey was published on Inova's social media accounts (Facebook, LinkedIn and Twitter). It was also shared with participants taking part in other Inova training and shared with personal contacts of the Inova team. Altogether 19 subjects answered the survey. Of the three target groups, this was the easiest one to find respondents for.

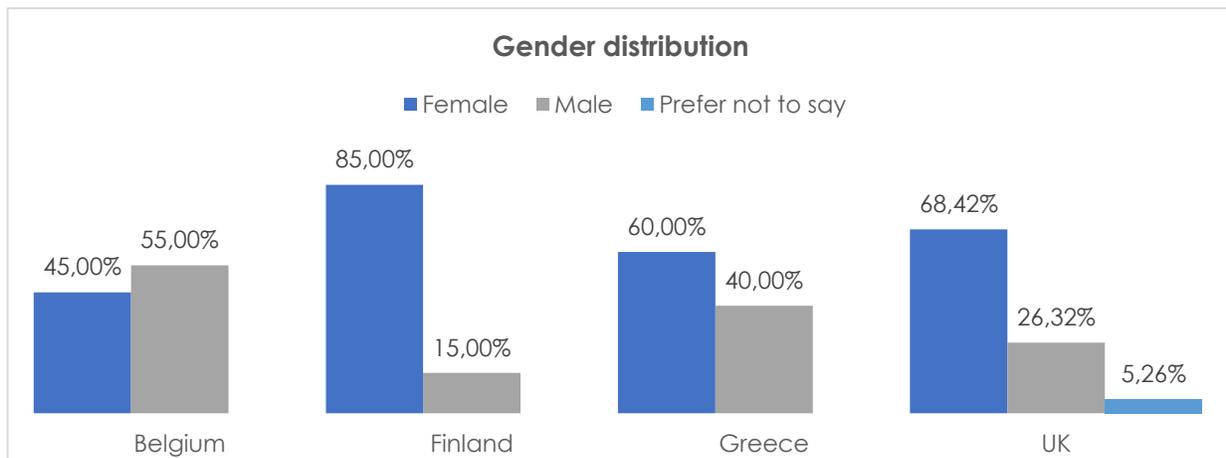
2.1.2 Results from the Survey

Profile of the respondents

Question 1: Gender

In total 172 representatives of the target group, unemployed and underemployed higher education graduates answered the survey. 27 of them were from Belgium, 111 from Finland, 15 from Greece and 19 from the UK. The average percentage of female respondents was 64,61% and that of men 34,08%, while 1,31% preferred not to identify gender. In all countries, except in Belgium, most respondents were women. The answers by gender were rather balanced in Belgium with a small majority of men (55% of men versus 45% of women). Female respondents were most presented in Finland at 85%. The results indicate that the topic reached or interested female respondents more. According to the findings of the desk research, women are more at the risk of unemployment and underemployment than men (Table 9.).

Table 9. Gender of the respondents



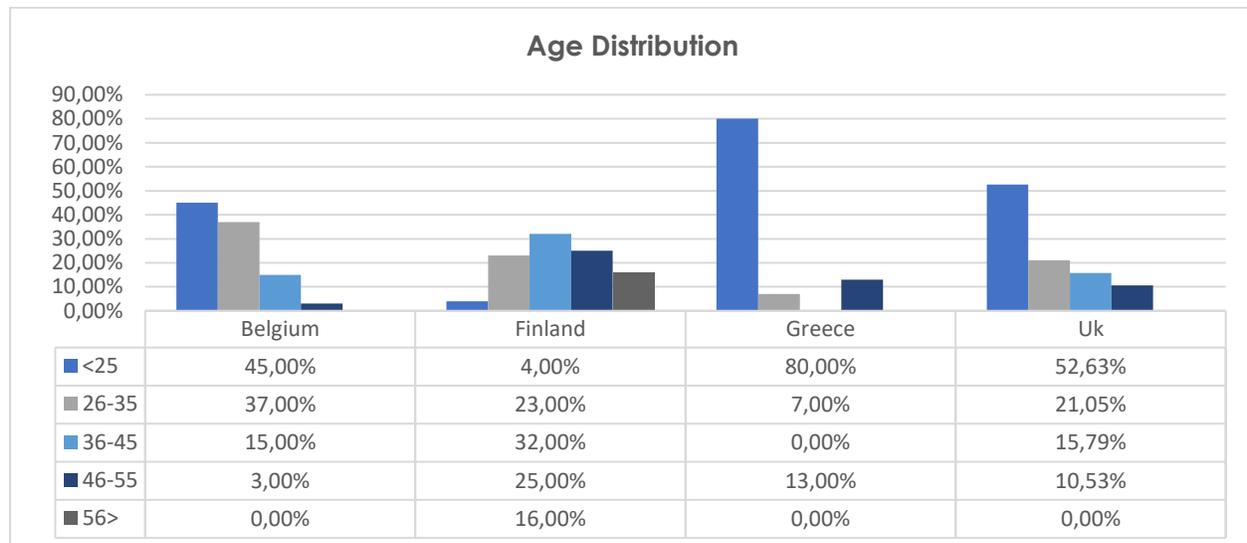
Question 2: Age distribution

Almost half of all the respondents 45,93% were under 35 years of age which corresponds to 79 answers. 22,09% (41 answers) of them were under 25 years of age, hence representing young graduates from one of the vulnerable groups. Most young respondents were from Belgium, Greece and the UK, whereas in Finland most answers were obtained from respondents between 26 – 55 years of age.

In the UK over half of the respondents were under 25 years of age, while the rest were a mix of ages. In Finland, only 4 (4%) of the respondents were under 25 years of age, but 18 (16%) of the

respondents were over 56 years of age, hence Finland was the only country with representatives of this age group. The youngest respondents were from Greece where 80% of them (12 individuals) were under 25 years of age. The more age-balanced answers from Finland (with 111 answers out of 172) balance the overall answers eliminating otherwise potential bias in the answers of the survey (Table 10.)

Table 10. Age distribution



Question 3: Level of studies

Circa half of all the respondents (90 corresponding to 52,33%) had a bachelor's degree, while 61 (35,47%) had a master's degree, five (2,91%) a doctoral degree, nine (5,23%) were currently studying for a higher education degree, and seven (4,07%) answered 'other'. Most bachelor's degree respondents came from the UK, Finland and Greece, while master's degree holders were most represented in Belgium. This could coincide with the high number of young respondents, except in Finland.

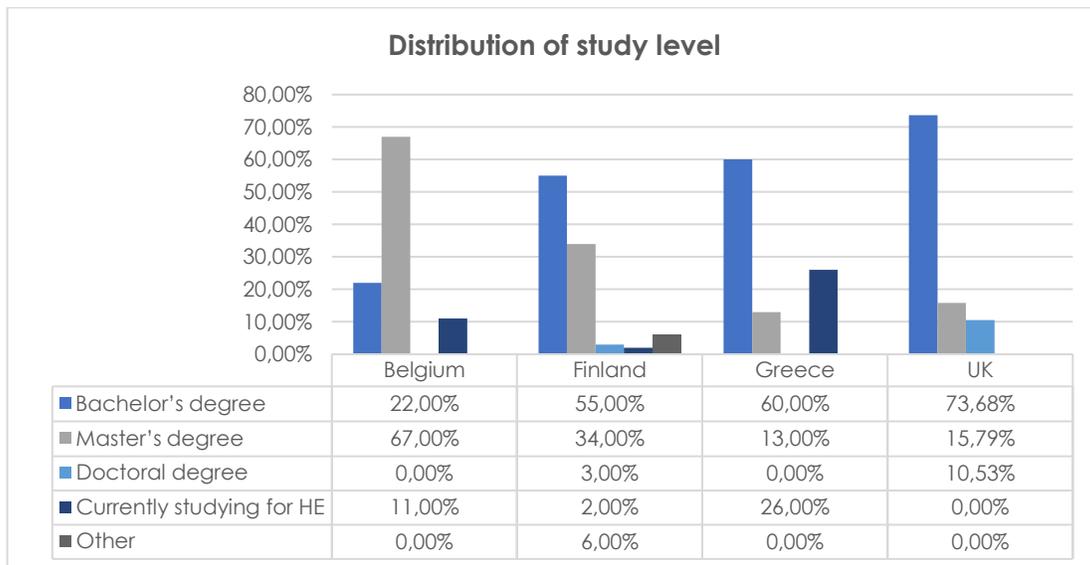
In Belgium, no respondents were currently studying for a HE degree. More than half of the people participating in the survey held a master's degree (67%), 22% a bachelor's degree and 11% (3 persons) were still in higher education. None of the respondents had a doctoral degree.

In Finland, 61 of the respondents (55%) had a bachelor's degree, while 38 (34%) had a master's degree. Three (3%) respondents had a doctoral degree and only two respondents (2%) were currently studying for a higher education degree. Seven respondents (6%) identified their study level as other.

In Greece, more than half of the respondents had a bachelor's degree (9 corresponding to 60%), while four of them (26%) were in the process of acquiring one. Only two respondents (13%) held a post-graduate title (master's degree).

In the UK, the majority of respondents (14 corresponding to 73,68%) had studied bachelor's degrees, with just a few others having a master's (3 corresponding to 15,79%) or doctoral degree (2 corresponding to 10,53%) (Table 11.)

Table 11. Distribution of the study level



Question 4: The current employment situation

When asking about the current employment, some respondents, especially from Finland identified themselves belonging to more than one group, hence the total number of answers is 178 instead of 172. Almost half of the respondents from all the partner countries were unemployed, 74 persons corresponding to 41,57%. Most of them were from Finland, Greece and the UK. 15 respondents (8,43%) were working full-time at the level of their degree, with most responses coming from Belgium, and 14 (7,87%) were working part-time at the level of their degree. Nearly a quarter (24,16%, corresponding to 43 persons) of all the respondents were underemployed, half of which (22 persons) were working full time and a half (21 persons) were working part-time. Eight (4,49%) respondents were studying or in training full-time, while nine (5,06%) were studying or in training part-time. Four respondents were on a family or a sabbatical leave. 11 respondents answered 'other' (Table 12.).

In Belgium, the responses were rather balanced between all the options. Most of the respondents, nine corresponding to 26%, were working full-time at the level of their degree. Only one respondent was working part-time at a lower level than the educational degree. No responses were given to 'family, sabbatical or other leave'.

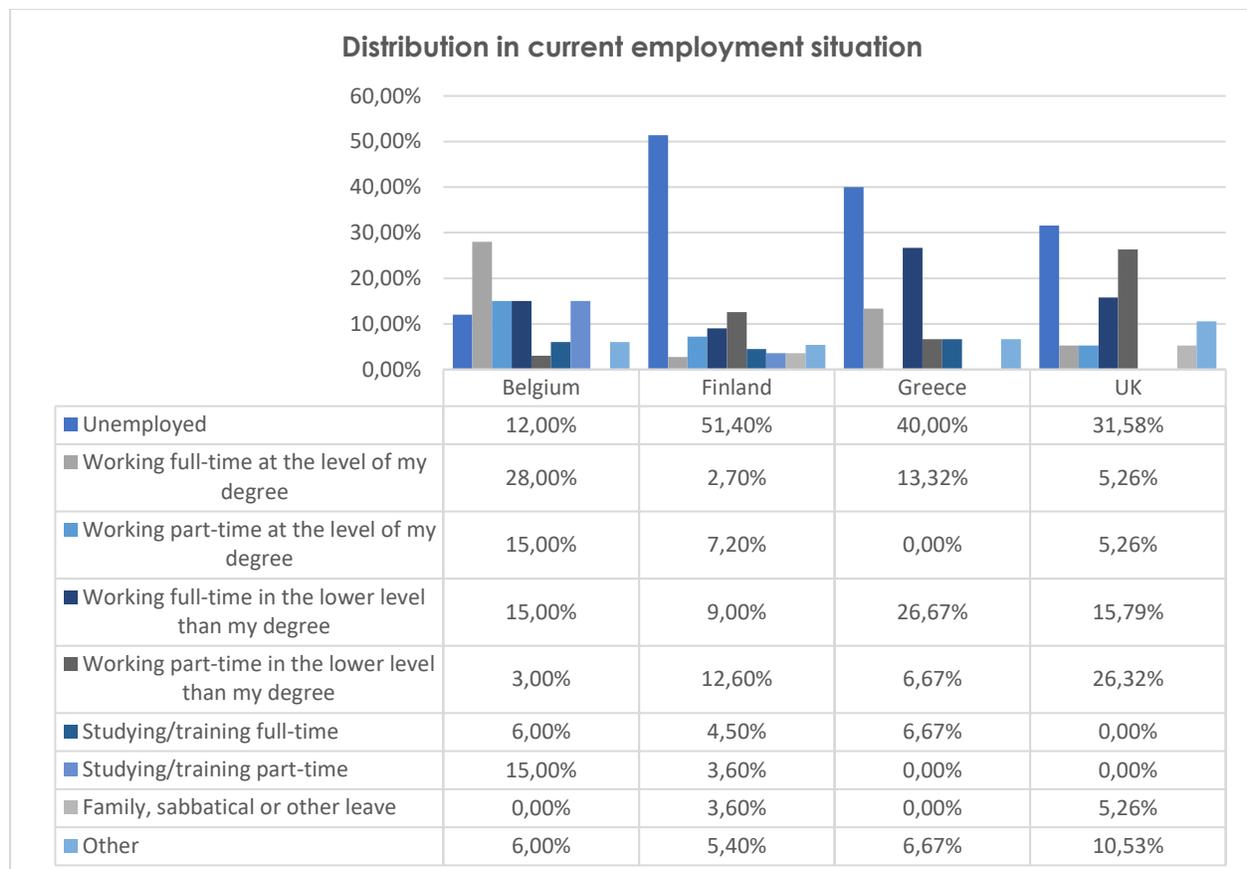
In Finland, approximately half of the respondents (57 corresponding to 51%) were currently unemployed. Only 11 respondents (10%) were working at own educational level, three of them full-time and eight of them part-time. Nearly a quarter (22% corresponding to 24 respondents)

were working at a lower level than their educational degree either full-time (10 persons) or part-time (14 persons) while nine respondents (9%) were studying/training either full-time or part-time, and four respondents (4%) were on a family, sabbatical or other leave. Six respondents answered 'other'.

In Greece, most answers came from the unemployed. Six of the respondents (40%) were unemployed. As one respondent was still studying, in total approximately half of the respondents were out of the labour market. Regarding the respondents on the labour market, only two were working full-time at the level of their degrees and five were working in jobs lower than their degree. One respondent answered 'other'.

In the UK, the results varied, but the largest percentage of respondents were unemployed (7 persons corresponding to 31,58%). Just two respondents were working at the level of their degree (10,52%), with the rest either working at a lower level than their degree (8 corresponding to 42,11%). No respondents were studying. One respondent was on a leave, and two (10,53%) answered 'other'.

Table 12. Distribution of the current employment situation



Question 5: The duration of the current unemployment period (if currently unemployed)

94 of the respondents answered the question about the duration of unemployment. As formerly, only 72 identified themselves as unemployed, this figure can be explained by respondents identifying themselves representing different categories at the same time. 41 of the respondents (43,62%) could be identified as long-term unemployed as the unemployment period had lasted 12 months or more¹⁷⁵, whereas unemployment for 53 respondents (56,38%) had lasted less than a year. 13 of them (13,83%) had been unemployed from 7 to 11 months. Only five of the respondents had been unemployed for less than a month. Belgium was the only country with no long-term unemployment amongst the respondents (Table 13.).

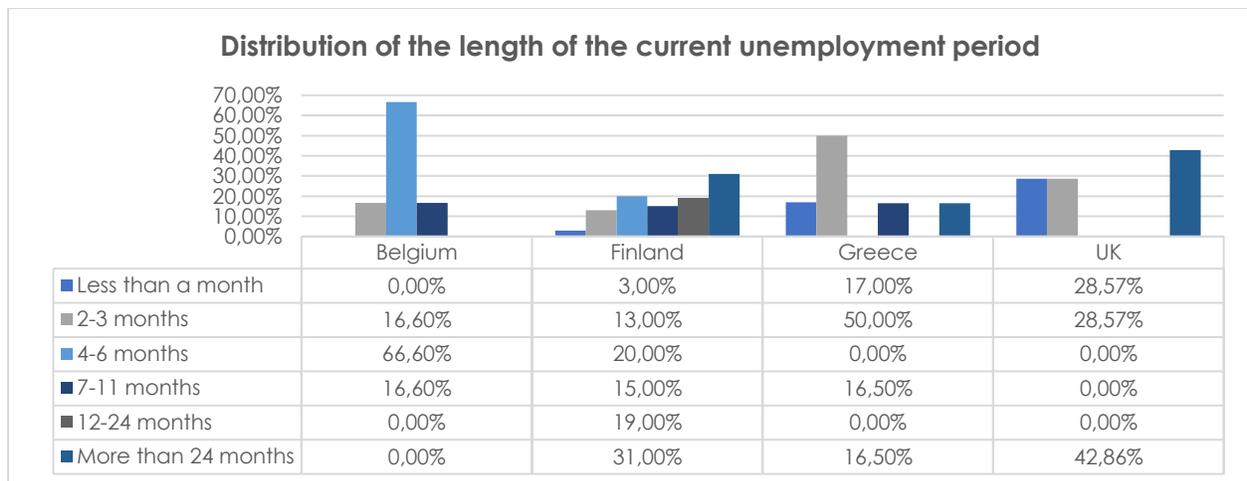
In Belgium, most of the unemployed respondents had been unemployed from 4 to 6 months (4 out of 6 persons), while one had been unemployed for less than a month and one from 7 to 11 months.

In Finland, 37 of 75 of the respondents (50%) were currently long-term unemployed, while 11 respondents (15%) had been unemployed from 7 to 11 months, and 27 respondents (36%) had been unemployed for less than 6 months. The answers from Finland reveal persistent long-term unemployment in the country.

In Greece, there was both short-term and long-term unemployment among the respondents. Three people (corresponding to 50%) had been unemployed from 2 to 3 months, while one had been unemployed for less than a month, one for 7 to 11 months, and one for more than 24 months.

In the UK, unemployment of the respondents was rather balanced either short-term (under 3 months) or long-term (more than 24 months).

Table 13. Distribution of the duration of the current unemployment period



¹⁷⁵ Definition: Eurostat. (2015). Glossary: Long-term unemployment.

Question 6: The length of the working experience in jobs that do not correspond to the level of education (if currently underemployed)

53 individuals identified themselves as underemployed. As earlier only 43 identified themselves as underemployed, this figure includes multiple answers from some respondents identifying themselves representing different categories at the same time. This seems to have been mainly taken place in Finland. Nearly half of the respondents, 25 persons, (47,17%) experienced long-term underemployment, i.e. underemployment lasting over 12 months. 18 of them (33,96%) had been underemployed for over 24 months. Underemployment from 2 months to 11 months was experienced by 7 to 10 persons for each group. Only three individuals had been underemployed for less than a month. This indicates that underemployment may become a longer-term solution for many (Table 14.).

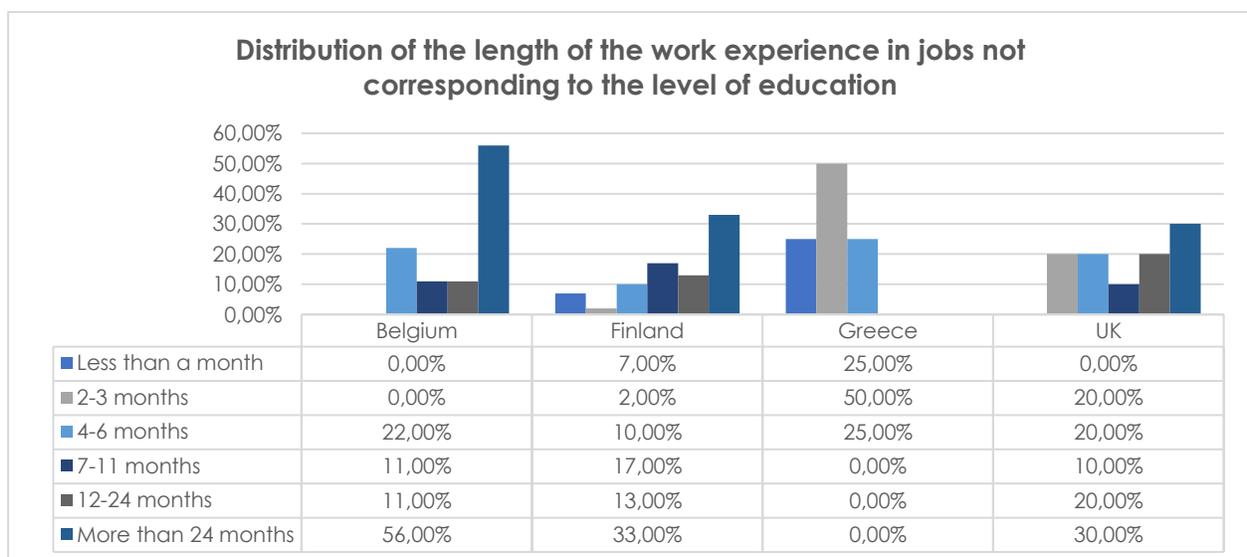
In Belgium, over half of the respondents had been underemployed for over 24 months (5 respondents out of 9), while one individual had been underemployed for 12 to 24 months, one for 7 to 11 months, and two for 4 to 6 months. No one had been underemployed for less than 4 months.

In Finland, the distribution of underemployment was rather balanced. 10 respondents (33,33%) had been underemployed for over 24 months, four respondents for 12 to 24 months (13,33%), five respondents for 7 to 11 months, and 11 respondents (36,67%) reported underemployment for less than 6 months.

In Greece, all four respondents had been underemployment for less than 6 months.

In the UK, respondents who considered themselves underemployed were evenly spread across the categories. No one had been underemployed for less than a month.

Table14. Distribution of the length of working in jobs not corresponding to the level of education



Question 7: Work-related goals

184 respondents answered the question about work-related goals. As the overall number of respondents is 172, some respondents have selected more than one option. A clear majority of respondents 132 (71,74%) wanted a full-time job at the level of their degrees. This option had the most responses in each partner country. 16 (8,70%) wanted to find at least a part-time job at their own educational level. Five wanted to find a full-time or a part-time job in any sector or at any educational level. Nine respondents (4,89%) were not interested in finding employment, and 12 respondents (6,52%) answered 'other'.

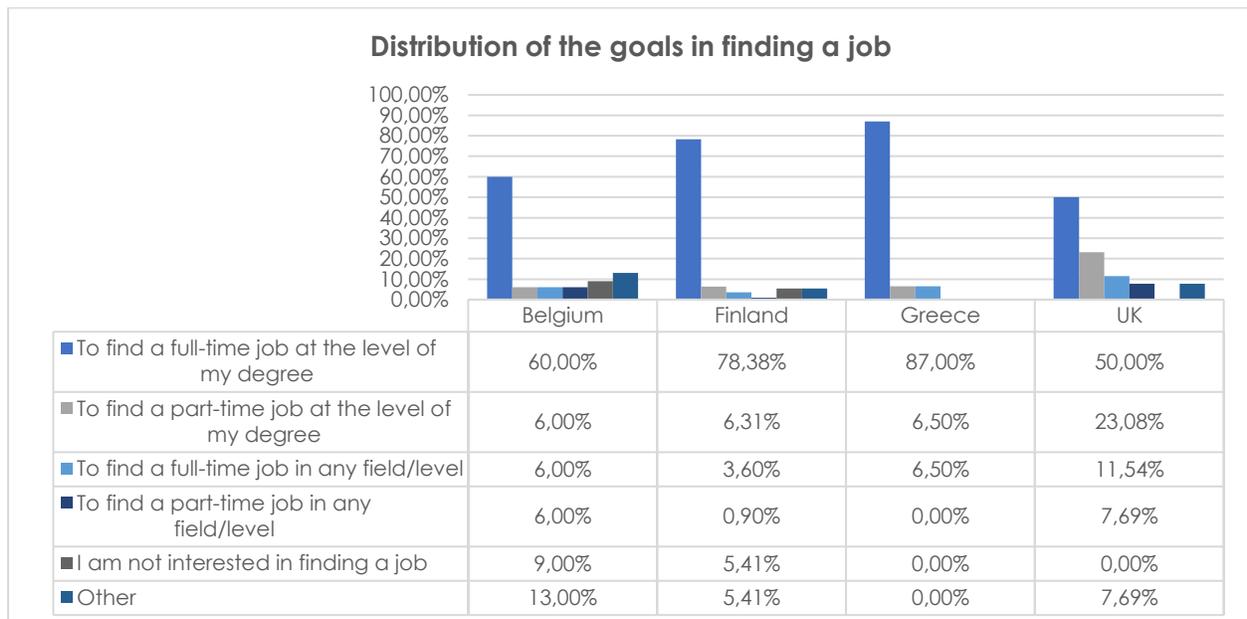
In Belgium, 60% of respondents (19 answers) were interested in finding a full-time or a part-time job (2 corresponding to 6%) at the level of their degree, while other respondents would settle for a full-time job or a part-time job in any field or level of study (2 answers corresponding to 6% in both). Three persons were not interested in finding employment and four answered 'other'.

In Finland, 87 respondents (78,38%) wanted to find a full-time job and seven (6,31%) at least a part-time job at the level of their degree. Five respondents (3,60%) were looking for a job in any field or level. Six persons (5,41%) were not interested in finding a job, and six answered 'other'.

In Greece, 13 (87%), were seeking a full-time job at the level of their degree. Only one was interested in finding a part-time job at their own level, and one a job in any field or level. Hence underemployment is out of scope for graduates as their aim is professional development.

In the UK, 13 individuals (68,42%) were interested in finding a full-time job and six (31,58%) a part-time job at the level of their degree. Five (26,32%) would accept a job from any field or level full-time or part-time. No respondent was not interested in finding a job. Two answered 'other'.

Table 15. Distribution of the goals in finding a job



Viewpoints of the respondents

Question 8: Main challenges to find a job

The main challenges to find a job were external, general conditions, and internal, person related issues, for instance, skills and competencies of a person. Identifying challenges in finding employment can also lead to understating what skills are needed in work life. The reported challenges formed a cause-effect chain where the societal situation and high competition, created a starting point, and where experience (too little or too much) and competence/skills related issues, applicants own job seeking skills and awareness of networks and other external things impacted obtaining employment. In addition, country-specific issues were related to low salary and language skills. Overall, addressing people's skills development, understanding and demonstrating skills were important.

Unemployed and underemployed HE graduates in each partner country reported **high levels of competition** as an initial challenge. This created a lack of opportunities, job positions, full-time job positions and motivating jobs. In some cases, like in Finland, the lack of job opportunities was identified in relation to a certain geographical location. A lack of job opportunities may lead to underemployment and accepting jobs with bad work conditions.

A common main challenge in all partner countries, mentioned by almost 50% of the respondents, was the **lack of work experience**. This is supported by the qualitative answers as the respondents felt that they might not have enough skills or experience leading to recruitment. It is to remember that many respondents were young graduates. Yet some respondents reported that having **too much experience** also hindered finding a job, as it had been perceived negatively.

In the qualitative answers, the respondents reported that they are expected to demonstrate their **capabilities, skills and know-how** for potential employers when applying for a job, including sector-specific special skills. Skills can be the factor that makes a job applicant stand out from the other applicants. The mismatch with education and skills needed in labour markets was also mentioned. Skills deficiency is not only direct. According to one respondent being underemployed may have a negative effect on how to estimate and evaluate one's own skills and capabilities leading to lower self-confidence and difficulties to identify or describe own skills, knowledge and ability to match these with the needs of the employing organisation. Hence also the graduates' own perception of work-related skills should be addressed. Yet the current service system does not provide enough possibilities to update and educate oneself when unemployed. In addition, a few respondents had perceived that employing organisations, particularly smaller companies, may not be able to identify what kind of skills are actually needed or the actual tasks that potential employees are expected to master.

Common challenges were also linked to job seeking. Finding a job requires good luck. One should be in the right place at the right time and know where to look for jobs. A lack of networks and connections can mean a lack of opportunities, which can hinder finding a job, whilst also being the result of not having work experience. Moreover, recruitment and job seeking also relate to such issues as CVs/cover letter writing skills.

Special features for partner countries were mentioned too:

- Low wages were one of the key challenges in Greece and the UK, mentioned by 26,32% of the respondents
- The lack of language skills is a serious problem in finding qualified employment in Belgium where it is very important to master at least French, Dutch and English
- Finland reported about age discrimination, which can be linked to having too much experience, but also about personal issues, such as family, health, life situation or employer expectations, as difficulties for finding a job.

Question 9: Essential skills needed to show to a potential employer

The respondents were asked about the essential skills to master, in their opinion. They were asked to mention the three most important skills to show to an employer. The essential skills identified by the unemployed and underemployed HE graduates in the partner countries were both soft and hard skills, which indicates that soft skills are understood to be a crucial part of work life. The identified soft skills covered all the tentative Work 4.0 skills clusters.

The soft skills mentioned were in line with Work 4.0 skills and competencies. Those most linked to the **people dimension** were communication skills, interpersonal skills including co-operation and teamwork skills and people management, networking skills, while those linked to **problem-solving** were critical thinking skills and problem-solving skills. Skills linked to **project skills** were mentioned the most. These were self-direction and ability to work autonomously including proactivity, time management skills including being punctual, organisational skills and multitasking, project management and management skills. Skills linked to **readiness for change** were development-orientation, while those linked to **curiosity and internationality** were readiness and willingness to learn new things. In addition, flexibility, efficiency, stress management skills and attitudes related to work including motivation, optimism, dedication to the role, hard-working, taking things seriously, dynamism and confidence, were mentioned. These are transversal to all Work 4.0 skills. Skills linked to curiosity, insecurity, culture, user-orientation and adapting to change were not focused.

Among the **hard skills**, three skills areas were mentioned: language skills, IT-skills and digitalisation skills including social media skills, and specific skills, knowledge and experience related to the job. Some of the respondents brought up sector-specific skills.

Question 10: The level of mastering competency clusters and skills for Work 4.0.

The respondents were asked to estimate their own level of mastering skills of Work 4.0 competency clusters and hard skills (IT, languages, substance knowledge and other) in order to understand the perception of mastering these skills, but also gaps between their mastering level compared to the importance of the skills according to the other two target groups, representatives of employment and training organisations.

The competency clusters were divided into skills. The respondents estimated their level of mastering the skills on a scale 0-5, where 0 was 'I do not know/I do not want to answer' and 5 was 'excellent'. Instead, in surveys 2 and 3 for the representatives of employing and training organisations were asked which skills are important for employees to master. Later in this report, the outcomes of the HE graduates impressions will be reflected against the perceptions of what skills are needed in work life.

In Belgium, the mastering of the soft skills was evaluated the highest. Especially user-orientation, co-operation, team-working and multidisciplinary skills, as also cultural difference awareness and tolerance, detecting central problems and handling information, ability to optimise personal know-how were evaluated high. However, hard skills were of little consideration.

In Finland, the respondents mastered soft skills slightly better than hard skills. Hard skills were mastered on an average level, with foreign languages being mastered the lowest, whereas soft skills were mastered at an average or relatively good level, with the exception of problem-solving skills, which were considered to be mastered lower than the other soft skills.

The best mastered soft skills were (starting from the highest rated): resilience, taking action and user-orientation skills as well as openness to new. These were followed by co-operation and team-working skills, multidisciplinary, curiosity and solution-orientation. Creativity, problem-solving and dealing with wicked problems, ability to tolerate insecurity, and ability to adapt to and understand change on a systemic level instead were estimated the least strong skills to master.

In Greece, the best mastered soft skills were intercultural awareness, curiosity, openness, thinking outside the box, connecting action with meaning and self-awareness skills. The least mastered skills were tolerating insecurity, resilience, tenacity, dealing with wicked problems, user-orientation skills and adapting to change. Mastery of hard skills was between average and good with IT skills been mastered the best.

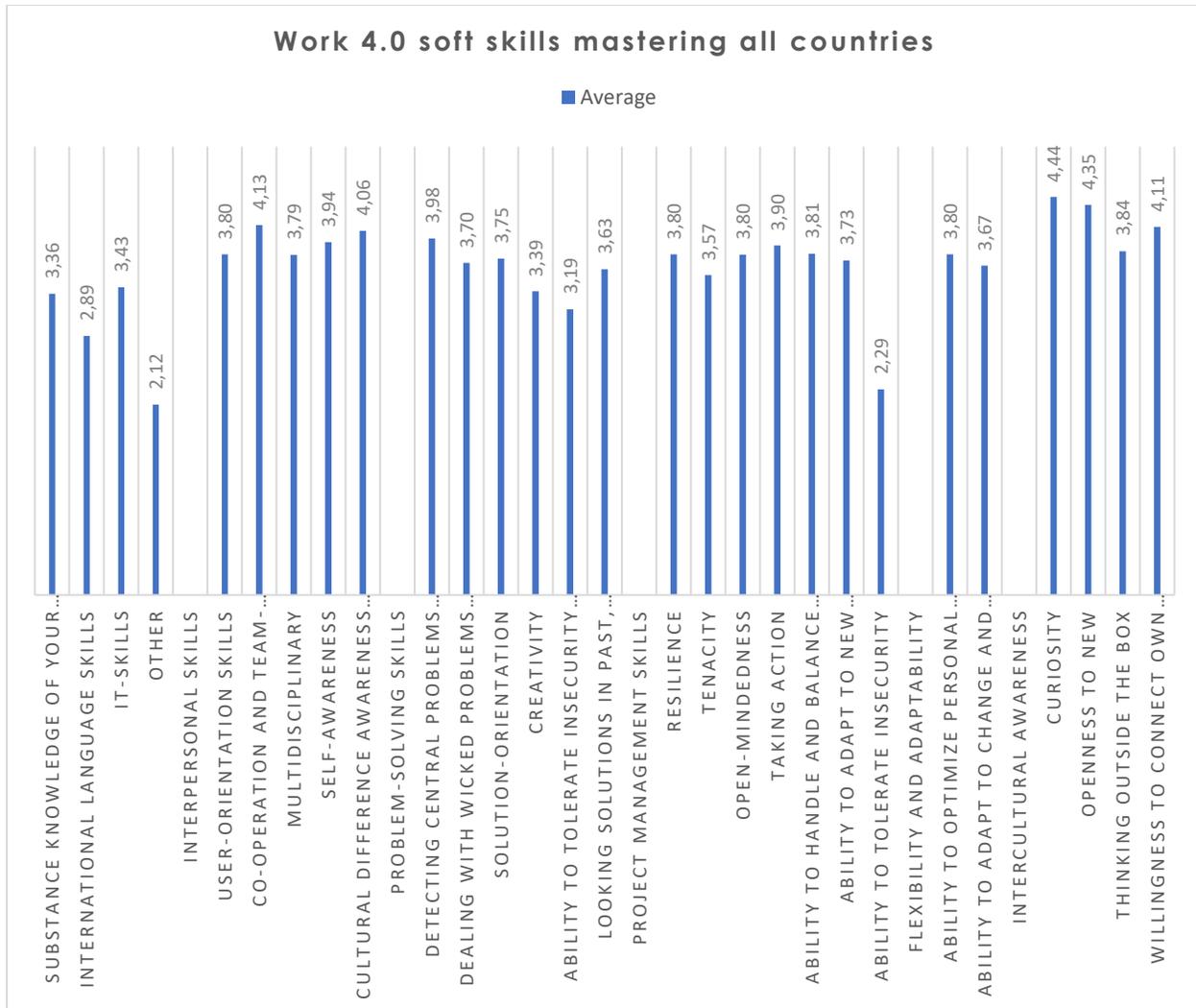
In the UK, the strongest skills were related to curiosity and a desire for knowledge, and the ability to put aside presumptions and take a fair and impartial view, whereas the weakest skills were creativity and language skills.

Table 16 on the next page shows the averages of the mastered skills in all partner countries. The best mastered soft skills according to the respondents, on a 1-5 scale, five being the highest score, were curiosity (4,44), openness to new (4,35), cooperation and teamwork (4,13), willingness to learn new (4,11) and cultural difference awareness and tolerance (4,06). These are followed by other soft skills which all received a high score.

The lowest evaluated soft skills were the ability to tolerate insecurity (2,29), ability to tolerate insecurity in decision-making (3,19) and creativity (3,39). Mastery of hard skills was estimated lower than that of soft skills. The respondents clearly feel mastering soft skills as more important. Yet they should be able to demonstrate them and use them in work life.

A complete list of soft skills is available in the questionnaire in Appendix 2 of this report.

Table 16. Level of Work 4.0 soft skills mastering distribution total of all partner countries



Question 11: Preferred training options

The preferred training options were given for both, delivery and theme. The respondents preferred the following options.

Training theme

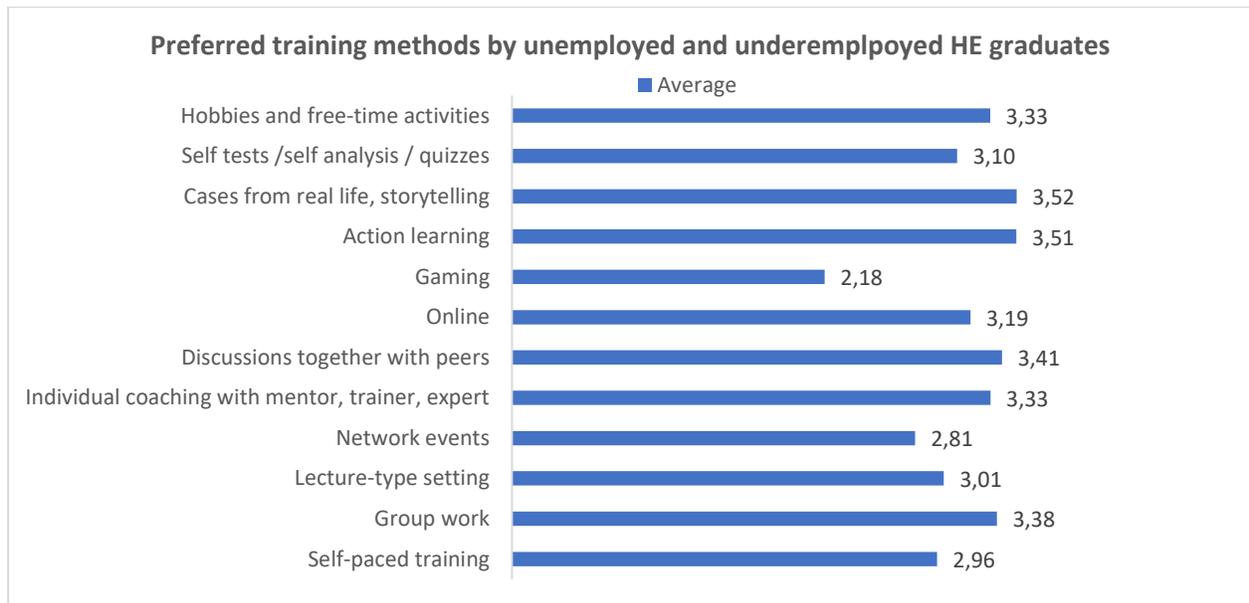
The subjects were asked about the preferred training theme in order to find out whether the preference is more substance delivery related (including soft skills application) or tools related (hard skills). As soft skills are universally needed, this assisted in identifying national inclinations as well and reflect them on the offer.

The most important theme of development for unemployed and underemployed HE graduates was professional development in own field (3,95 out of 5). Second came professional development of another field of their interest (3,28/5), followed by job application skills (3,11/5), IT-skills (2,99/5) and international language skills (2,89/5).

Preferred training methods

The preferred training methods were versatile. The most preferred training methods summarised from all partner countries' results are cases from real life, storytelling (3,52/5), action learning (3,51/5), discussion together with peers (3,41/5), group work (3,38/5) and individual coaching with mentor, trainer and experts (3,33/5) together with learning from hobbies (3,33/5). The other methods, such as networking, self-paced learning, self-test and online learning were also appreciated. The commonly least preferred methods were gaming (2,18/5), although highly like in Greece, networking events (2,81/5) and lecture-type setting (3,01/5). Acton learning was also among the least preferred training methods in the UK. The challenge is how to transfer the effect of the preferred methods into an online environment (Table 17.).

Table 17. Distribution of preferred training options by unemployed and underemployed HE graduates.



2.2 Survey for Employing Organisations

2.2.1 Data Collection

The surveys for employing organisations were conducted using five online questionnaires. The data was gathered between 19 November 2018 and 23 January 2019. Each partner was responsible for finding the respondents nationally. The questionnaire is available in Appendix 3 of this report. Altogether, 74 people answered the survey (Belgium 15, Finland 16, Greece 28, and UK 15). Due to challenges in obtaining answers, the surveys were open until 23 January 2019.

In Belgium, two versions of the survey were designed: one in French and one in English. These were sent to regional public employment offices which circulated the questionnaires via e-mail and in person (Brussels offices). They also sent the surveys to the career centres of the main universities in Belgium (Flanders, Wallonia and Brussels), and contacted, via e-mail and in person, several recruitment companies as well as associations and NGOs working in the job-seeking field in order to spread out the survey in the private sector as well. Altogether 15 subjects answered the survey.

In Finland, representatives of employing organisations were contacted by email. The invitation and the link to the questionnaire were sent directly to managers and the HR staff of private and public employing organisations, and organisations providing recruiting services. The survey was also shared with personal contacts and work-related organisations, and sent to social media sites such as LinkedIn and Facebook. Altogether, 16 persons answered the survey. The main challenge in Finland was to identify potential respondents in the organisations and to motivate people to fill the questionnaire.

In Greece, the link of the questionnaire was sent to approximately 50 targeted contacts. Altogether 28 subjects answered the survey.

In the UK, the survey received 15 respondents from organisations employing graduates in the UK. The survey was published on Inova social media accounts (Facebook, LinkedIn and Twitter), it was also shared with participants taking part in other Inova training and shared with personal contacts of the Inova team. Altogether, 15 subjects answered the survey.

2.2.2 Results from the Survey

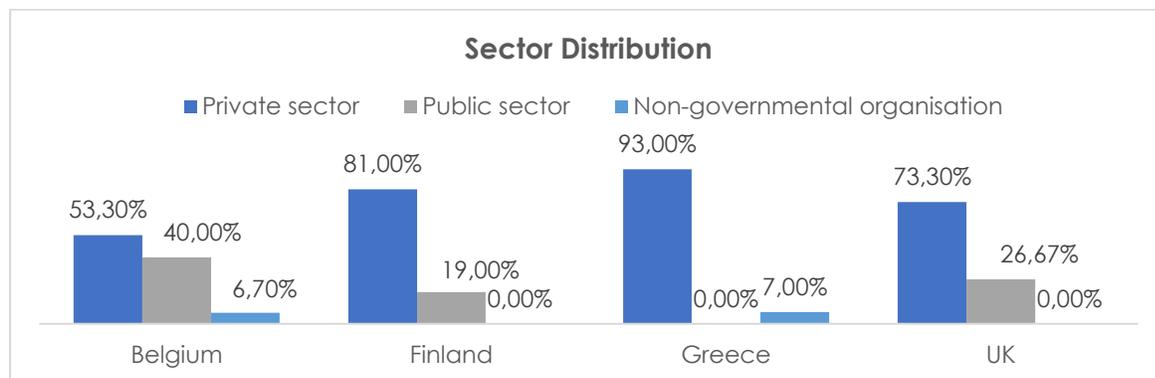
Profile of the respondents

Question 1: Sector of the organisation

In total, 74 representatives of the target group, employing organisations, answered the survey. They mainly represented the private sector, 58 respondents corresponding to 78,38%. In addition, 13 representatives of the public sector (17,57%) and 3 representatives of nongovernmental organisations (later NGO) (4,05%) answered the survey.

In Belgium, half of the respondents (8 persons, 53,30%) represented the private sector, 6 persons (40%) the public sector, and one person NGOs. In Finland, 81% of the respondents (13 persons) represented the private sector and 3 (19%) the public sector. No representatives of NGOs answered the survey. In Greece, almost all the respondents, 93% corresponding to 26 persons, represented the private sector while two represented NGOs. No representatives of public organisations answered the survey. In the UK, the majority of the respondents (11 persons, 73,33%) were from the private sector and 4 represented the public sector. No representatives of NGOs answered the survey (Table 18.).

Table 18. Sector distribution



Question 2: Field of organisation

The most represented sector among the respondents was the service sector by 29 individuals (39,19%). This was followed by information and communication technologies by 12 individuals (16,22 %) and education by 7 individuals (9,46%). Survey respondents also worked in business, administration and law (5 individuals), health and welfare (3 individuals), and arts, engineering, and social sciences, journalism and information, each with one respondent. In addition, 4 individuals marked their sector 'other'. All represented sectors which employ HE graduates.

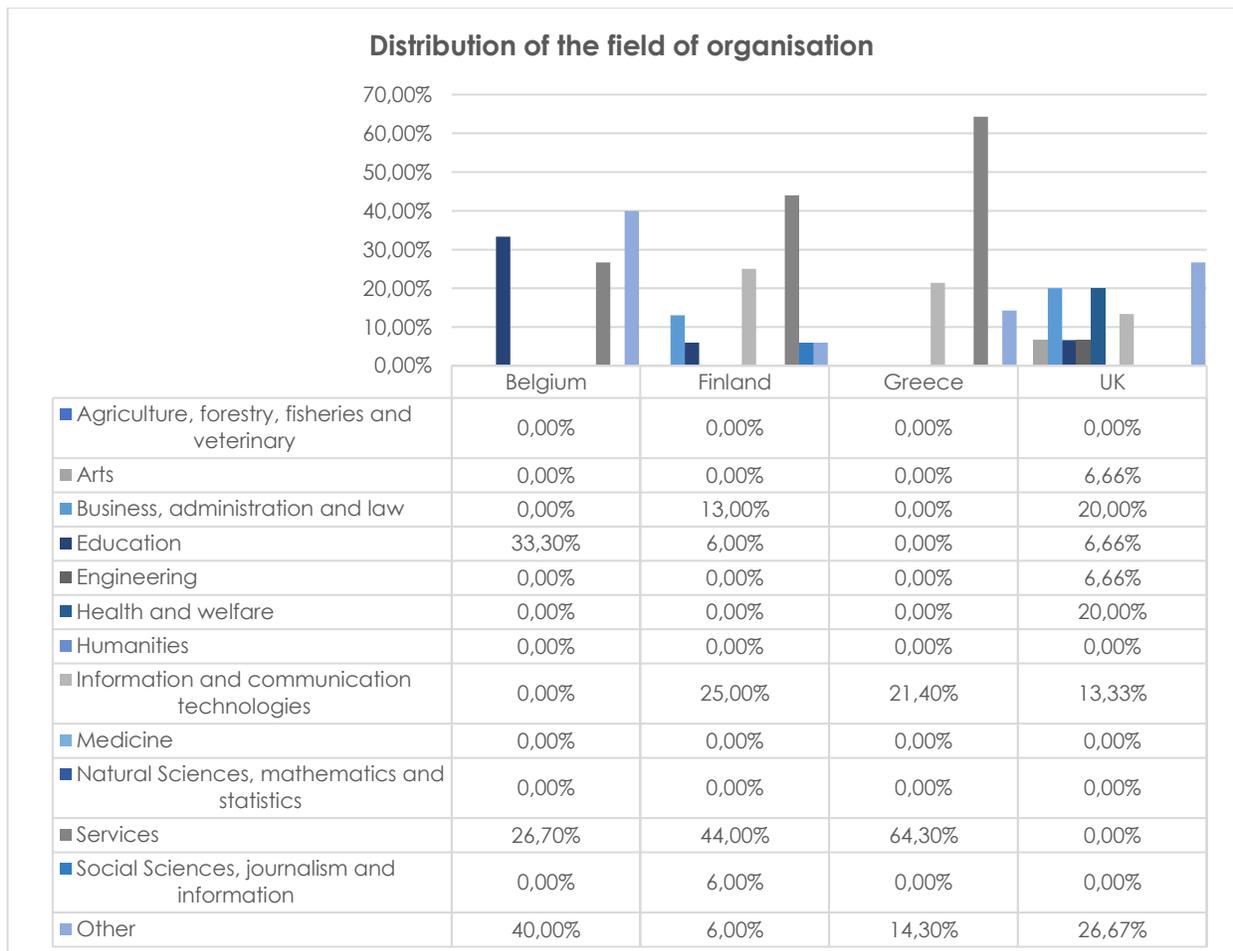
In Belgium, one-third of the respondents represented the field of education, 4 services (26,70%) and six (40%) other sectors in Belgium.

In Finland, almost half of the respondents came from the service sector (7 persons, 44%). The other sectors represented were the ICT sector (4 persons, 25%), business, administration and law (2 answers, 13%), social sciences and education, and as also 'other' each received one answer.

In Greece, 64,30% of the respondents (18 responses) came from the service sector, 6 from the ICT sector (21,40%), one from the construction sector and 3 from the field of entrepreneurship consulting.

In the UK, the respondents were from a variety of different professional fields, with the most of them coming from business, administration and law with just 3 responses (20%) and Health and welfare with 3 responses as well. 2 respondents represented the ICT sector, and there was one representative for the arts, education and engineering sectors, respectively (Table 19.).

Table 19. Distribution of the field of organisation



Question 3: Size of the organisation (number of employees)

Nearly half of the respondents answering the survey came from organisations with less than 10 employees (49 organisations corresponding to 49,33%). 17 organisations (22,67%) had between 11-50 employees, 8 (10,67%) 51-250 employees, and 13 (17,33%) over 251 employees. Hence all organisation and company sizes were represented.

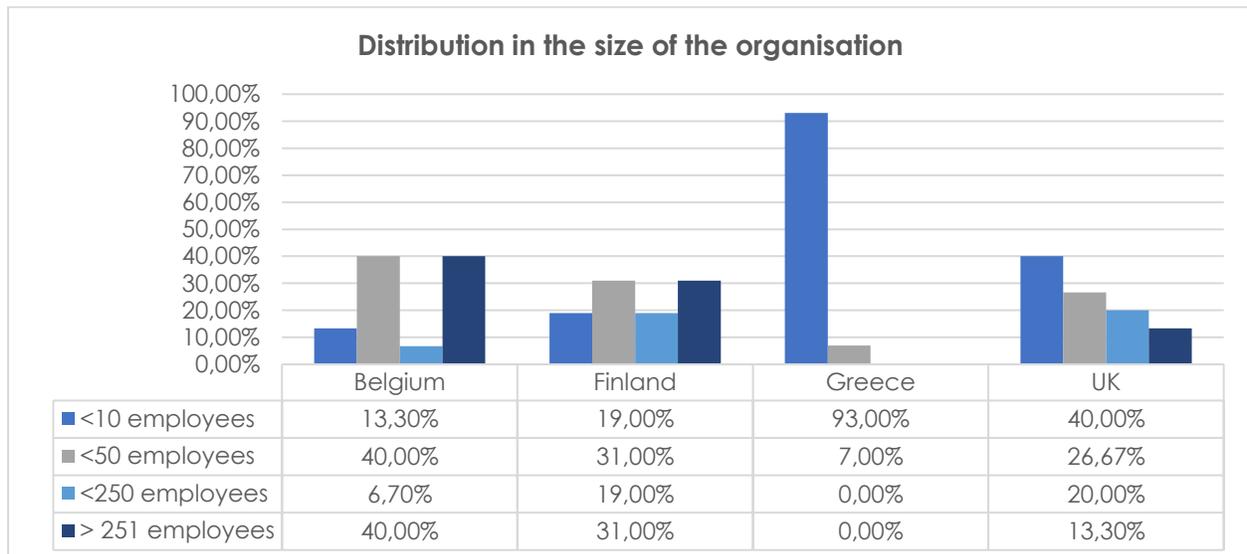
In Belgium, most of the respondents (6 persons corresponding to 40%) worked for organisations with 11 – 50 employees and organisations with over 251 employees (also 40%). Only 2 respondents came from small organisations with less than 10 employees, and 2 from medium size organisations with 51 – 250 employees.

In Finland, approximately one-third of the respondents (31% corresponding to 5 persons) came from organisations employing 11 – 50 persons or employing over 251 persons (31% as well). Three respondents came from small organisations with less than 10 employees and three came from medium size organisations with 51 – 250 employees.

In Greece, almost all responses (26 corresponding to 93%) came from organisations with less than 10 employees. This is in line with the overall statistics of company size in Greece. In addition, 2 responses came from organisations employing 11 – 50 people.

In the UK, the highest frequency of respondents work in organisations with less than 10 employees (40%), with the second highest number of respondents working in organisations with between 11 – 50 employees (26,67%), followed by three responses coming from organisations with 51 – 250 employees, and 2 responses coming from organisations with over 251 employees.

Table 20. Distribution in the size of the organisation



Question 4: Location of the organisation

In Belgium, 75% of the respondents worked for organisations based in Brussels. The others worked in Flemalle, Leuven, Liege and Namur.

In Finland, 50% of the respondents worked in organisations that are situated in Southern Finland and close to the capital city. Approximately one-third of the respondents (31%) worked in organisations that are located in the Ostrobothnia region in Western Finland, while one organisation has multiple locations across Finland.

In Greece, half of the respondents (14 out of 28) came from organisations situated either in Athens (majority) or the region of Attica which the metropolitan area of Athens is part of.

In the UK, the majority of respondents worked in organisations based in Yorkshire: 6 out of the 15 respondents were based in Sheffield, 3 listed that they were based in the UK, 2 were based in Chesterfield, 2 in Hull, 1 in Wakefield and 1 in London.

Question 5: Position of the respondent in the organisation

In Belgium, seven out of 15 respondents were project managers, three directors/managers, two consultants, one a trainer, and one was a CMO.

In Finland, the survey respondents represented a wide spectrum of positions in employing organisations. Seven of the respondents (56,25%) identified themselves as managers, three of the respondents (18,75%) identified themselves as experts, and similarly, three out of 16 respondents described their positions in relation to HR responsibilities in their organisations. One respondent was an entrepreneur, one a regular worker, and one respondent did not provide the position.

In Greece, 12 out of 28 respondents stated their position. Among them, 3 were company owners, 6 had a managerial and coordination positions, and 3 had sales positions.

In the UK, 5 of the respondents (33%) were directors, i.e. key decision-makers in the organisations, 5 respondents were working in managerial roles and the rest were a variety of roles including one business owner, one editor, one electrical technician, one project coordinator and one career adviser.

Viewpoints of the respondents

Question 6: The main challenges for unemployed HE to find a job

The challenges of unemployed and underemployed HE graduates to find employment detected by the representative of employing organisations were in line with those identified by unemployed and underemployed HE graduates. As a difference to the previous group, the employing organisations focused more on soft skills. This demonstrates the discrepancy between the competencies and skills gained in higher education and the competencies and skills needed in working life. The reported challenges include the current situation on labour markets, mismatch of skills, issues related to the level of experience, and lack of job seeking skills. Country-specific issues were related to language skills and low wages. Representatives of employing organisations underlined HE graduates' ability to showcase soft skills. The lack of job opportunities was not mentioned.

The high competition combined with a high number of graduates competing for similar job roles was mentioned in the UK (40%) and in Belgium (26,70%). Both countries have a high number of HE graduate migrants. This phenomenon may result as underemployment and accepting lower-skilled jobs due to difficulties in securing a job in own sector and at own educational level. Due to higher competition, the importance of differentiation from the other candidates' increases.

The lack of work experience was reported in the UK by two-thirds of the respondents, in Belgium by 40% of the respondents and also in Greece. The lack of work experience is especially present among young graduates.

The mismatch between acquired competencies/skills and those needed in work life was noticed by a fifth of the respondents in Belgium and nearly by a fifth in Finland as well. In the UK, almost a third of the respondents agreed with the skills mismatch but brought up the issue of the lack of desired positions in employing organisations that relate to university courses. This further indicates the existence of the gap between higher education and what work life needs. The issue with the mismatch was linked to skills, know-how and work experiences, hence Work 4.0 related skills. The lack of soft skills, for instance, flexibility, proactivity, project management skills, and poor application of skills were considered important in Belgium and in the UK. According to the respondents in Finland, the ability to adapt and professional are important skills. They also mentioned that potential employees are also expected to have strong substantial knowledge, understanding of the sector and capabilities to develop themselves. Hence, a combination of soft and hard skills is needed. One should also be able to show and demonstrate own skills.

Job seeking skills also limit opportunities when finding and securing a job. This includes skills such as writing a job application, being able to recognise and show own skills, job seeking strategy, ability to narrow focus and their attitude (motivation and unrealistic expectations).

In addition, the lack of language skills is a big challenge in Belgium (mentioned by over half of the respondents), while in Greece, a mix of structural issues and low wages creates challenges.

Question 7: The main challenges for underemployed HE graduates to reach a position corresponding professional qualification

The challenges for underemployed HE graduates to reach a position corresponding to professional qualifications were similar to the challenges found in the previous question (Question 6) about the main challenges for unemployed HE to find a job. Yet there were specific issues related to underemployment. For example, as a result of long periods of underemployment, individuals may lack the necessary networks to excel in their desired sector, and they may unintentionally restrict themselves by building their competencies in another sector, which further prevents them from pursuing a career related to their education level or field.

The main cause and challenge for underemployment is that the job markets have reached the saturation point of HE graduate job positions. Hence, there are not enough job positions that correspond to the level of the qualification. This is especially present in the UK, Belgium and Greece, less in Finland. This furthermore leads to other challenges.

Lack of experience also hinders obtaining a position corresponding to the educational level (33,30% in Belgium, 31,25% in Finland and 47,67% in the UK). This leads to the lack of knowledge of the business sector and substance, and poorer soft skills, such as proactivity, project management, patience, perseverance and self-confidence. While soft skills can be transferred between sectors, sector-specific substance skills become an issue if working on another sector. Only Belgium mentioned hard skills hindering finding a job corresponding the level of education.

Working as underemployed, especially when working on another sector, hinders creating networks with the own sector; networks that could support finding employment.

Lack of continuous training and improvement before finding the right job was also identified as a problem by the respondents in Belgium (26,7%). The underemployed could benefit from continuous training in updating skills of own sector.

In addition, poor attitude, lack of self-trust, flexibility and motivation were also mentioned. In the UK, HE graduates had difficulties finding jobs that were attractive or met the salary expectations.

Question 8: Important Work 4.0. Competency clusters and skills to master according to employing organisations

The respondents were asked to estimate the importance of mastering skills of Work 4.0 competencies and hard skills (IT, languages, substance knowledge and other) in order to understand which skills the representatives of employing organisations consider the most essential in work life. The competency clusters were divided into skills. The respondents estimated the importance of the skills in work life on scale 0-5, where 0 was I do not know/I do not want to answer and 5 was excellent. The outcomes are compared to the results of the surveys 1 and 3 later in this report.

According to the responses of employing organisations all skills, whether hard skills or soft skills, are important to master, as they integrate in everyday work tasks and support each other. Soft skills were highly appreciated among the representatives of the employing organisations.

In terms of hard skills, language skills were of high importance in Belgium, whereas they were the least important skills in the UK rating only 1,53 out of 5. Language skills were scored slightly lower than other hard skills also in Greece, where the ICT skills were rated the highest. In Finland, the highest importance was on the substance skills (94% scoring 4 to 5), but also IT-skills (63%) and language skills (44%) were highly valued by the responding organisations.

In Belgium, the most appreciated soft skills in working life were self-awareness, cultural difference awareness and tolerance. These were followed by skills for detecting central problems, handling information, solution-orientation, ability to tolerate insecurity in decision-making, resilience, taking action, ability to optimise personal know-how and openness to new things in general.

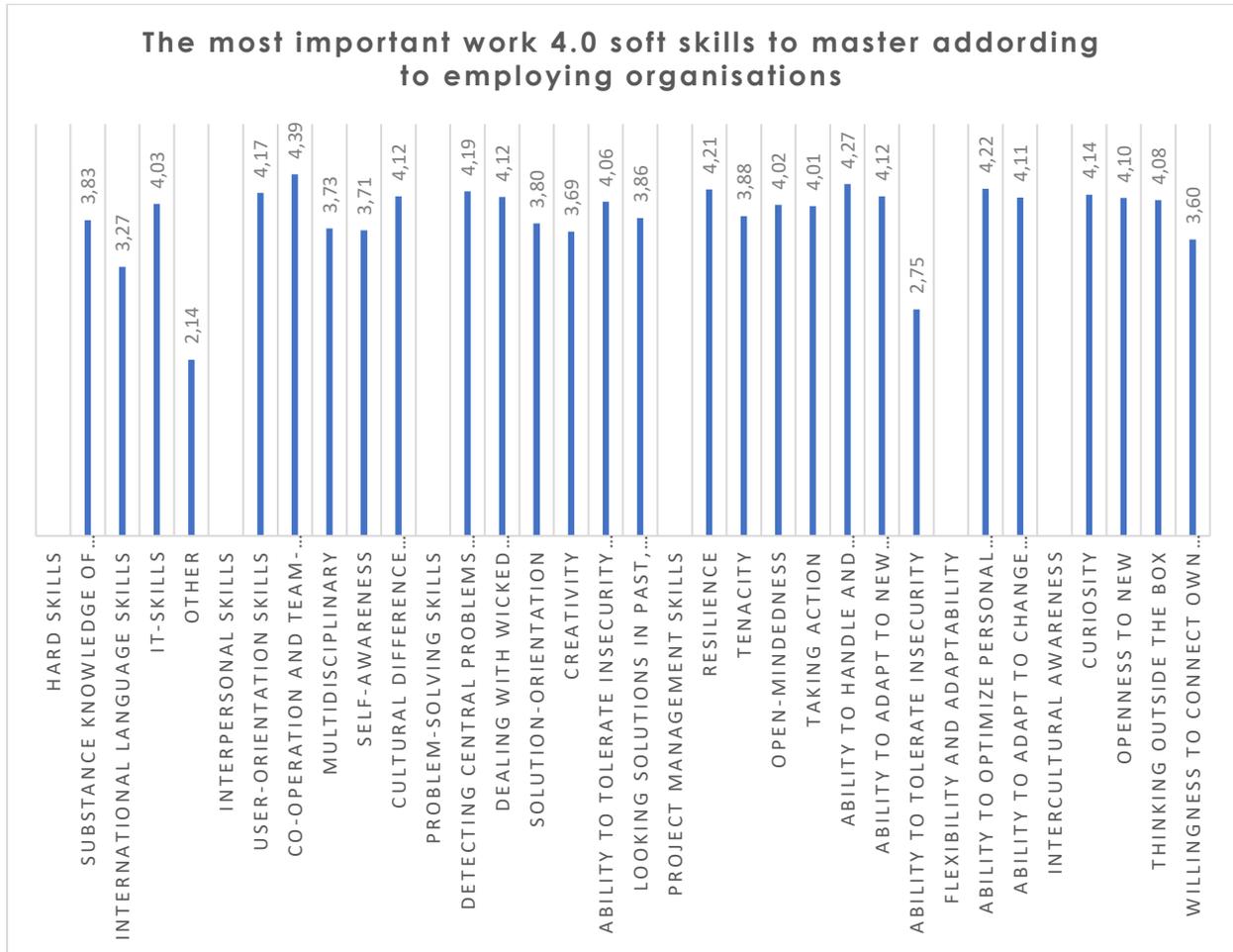
In Finland, the most important soft skills were related to problem-solving and information organisation skills, detecting central problems and handling information (88%), dealing with wicked problems in everyday life situations, ability to tolerate insecurity in decision-making (94%), and the ability to optimise personal know-how (94%). Paradoxically the least important skill considered on average is the solution orientation. The second important skills were project management skills in order to produce results, and resilience (86%), but also the ability adapt to change (81%), hence skills adapting to delivery and implementation. In fact, taking action (75%) and curiosity (75%) were rated third by the representatives of the employment organisations. All this requires co-operation and teamwork skills, which were also highly appreciated.

In Greece, the highest scored soft skills were the ability to optimise personal know-how and the ability to handle and balance content, deadlines and other project elements, and to prioritise them if needed, i.e. to harness own know-how and competencies for delivery and implementation. The second highest rated soft skills were resilience and tenacity, which are the skills that were respectively reported the least mastered skills by HE graduates. The third most important skills were user-orientation skills, detecting central problems and handling information and open-mindedness. The skills that received the lowest rates were self-awareness and the ability to tolerate insecurity, which is interesting as these are strongly linked to the delivery of the highest rated skills and willingness to connect own doing with something meaningful.

In the UK, the most important skills were cooperation and teamwork (rated 4,73/5) and cultural awareness and tolerance (rated 4,53/5), while tenacity was the lowest rated soft skill (3,53/5).

Table 21 shows the average of the importance of skills to master. Almost all the soft and hard skills were evaluated highly, especially soft skills. 16 out of 24 soft skills were evaluated at least 4 out of 5 on a 1-5 scale, five being the highest score. There is clearly high appreciation towards soft skills. Five highest valued soft skills were co-operation and team-working skills (4,39), ability to handle and balance content, deadlines and other project elements, and prioritising project elements if needed (4,27), ability to optimise personal know-how (4,22), resilience (4,21) and detecting central problems and handling information (4,19). These were shortly followed by curiosity at 4,14. The lowest evaluated soft skills instead were the ability to tolerate insecurity (2,75), willingness to connect own doing with something meaningful (3,60), and creativity (3,69). Mastery of hard skills was estimated lower than that of soft skills. Yet HE graduates should be able to demonstrate soft skills and use them in work life. The ability to optimise personal know-how can assist in this. A complete list of soft skills is available in the questionnaire in Appendix 3 of this report.

Table 21. Distribution of important Work 4.0. Competency clusters and skills to master according to employment organisations



Question 9: Preferred training options

The preferred training options were given in training content and methods. Instead of one option, the subjects selected multiple options. Hence, the results are provided in percentages.

Training theme

The subjects were asked about the preferred training theme in order to find out whether the preference is on substance delivery related themes (including soft skills application) than tools related themes (hard skills). As soft skills are universally needed, this assisted identifying national inclinations as well and to reflect on the offer.

The most important theme to develop for unemployed and underemployed HE graduates by training organisations was professional development in own field (60,15%). Second came job application skills (55,80%), followed by professional development of another field of their interest (31,74%), IT-skills (26,94%), international language skills (23,91%), and other (not specified) (3,13%).

Training method

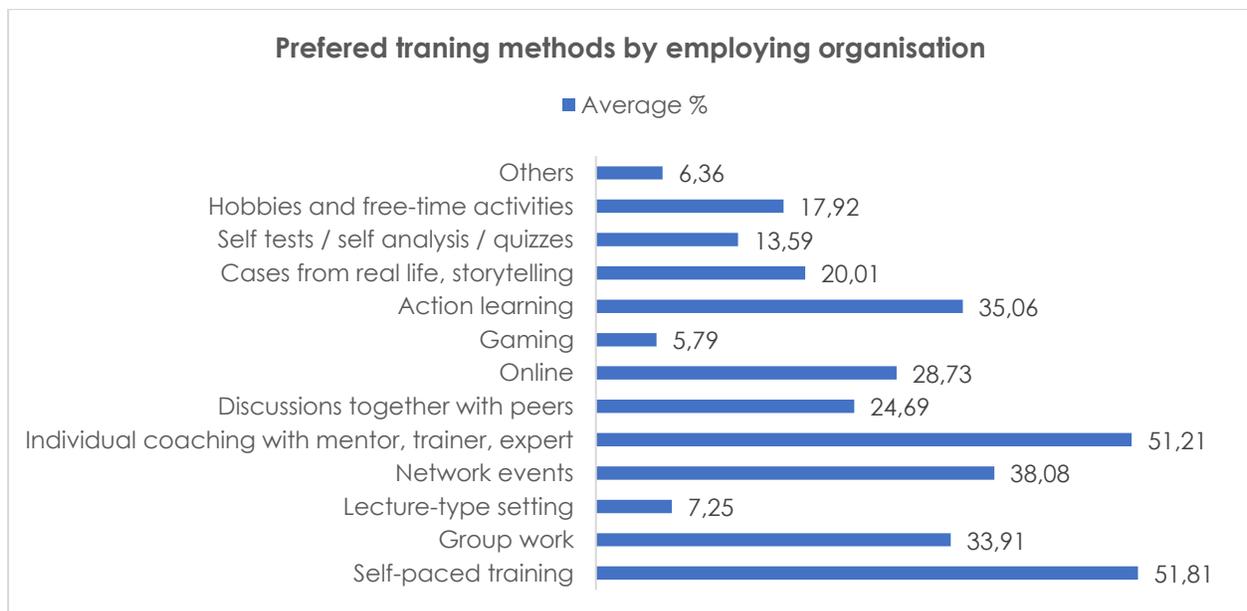
Versatile training delivery was preferred. Such could form of group work, networking events, self-paced learning (e.g. online), individual coaching with a mentor, trainer or an expert, cases from real life, storytelling (yet one of least liked in Finland) and action learning. Self-tests were mentioned in Greece while gamification and self-tests were the least liked options in Finland.

The commonly most preferred training options were self-paced training (51,81%), individual coaching with a mentor, trainer or expert (51,21%), networking events (38,08%), action learning (35,06%), and group work (33,91%). The form of self-paced learning was not defined, however, online learning received a good score as well. The least preferred training methods were gamification (5,79%), lecture-type setting (7,25%) and self-tests/ self-analysis/ quizzes (13,59%). Cases from real life, storytelling and hobbies and free-time activities received a lower score unlike among unemployed and underemployed HE graduates (Table 22. on the next page).

The open questions provided webinars, videos, professional articles and blogs on the Internet as good sources for work-related information. The open answers also revealed that in Finland some employing organisations underlined the importance of proactive learning if underemployed or unemployed HE graduates do not have sufficient expertise for work life.

In the selection of the training method, the platform usability and availability issues, as well as how to deliver the preferred options should be taken into consideration.

Table 22. Preferred training methods by the representatives of employing organisations



2.3 Reboot from the Survey for Training and Education Organisations

2.3.1 Data Collection

The surveys for training organisations were conducted using five online questionnaires. The data was gathered between 19 November 2018 and 23 January 2019. Each partner was responsible for finding the respondents nationally. The questionnaire is available in English in Appendix 4 of this report. Altogether 72 people answered the survey (Belgium 16, Finland 23, Greece 18, and UK 15). Due to challenges in obtaining answers, the surveys were open until 23 January 2019.

In Belgium, two versions of the survey were prepared: one in French and the other in English in order to have a linguistic and regional coverage in the country and provide a possibility for non-French speakers to answer the survey. The surveys were circulated via email and in person (Brussels offices) among public and private organisations. In addition, a meeting was organised with the people from Bruxelles Formation (<http://www.bruxellesformation.be>), a public organisation in charge of the training in Brussels, who among all, provided information about training organisations in Brussels, Flanders and Wallonia. Altogether 16 subjects answered the survey.

In Finland, training organisations were contacted mainly by email. The invitation and the link to the questionnaire were sent directly to the personnel responsible for training in the fields of higher, vocational and adult education. Also, trade unions, public employment organisations providing training and private training organisations were identified and contacted. The link to the survey was also shared with personal contacts and on social media sites such as LinkedIn and Facebook. Altogether 23 subjects answered the survey.

In Greece, the survey was sent to circa 20 organisations in the network of Militos. Altogether 18 subjects answered the survey.

In the UK, the survey was published on Inova social media accounts (Facebook, LinkedIn and Twitter), and participants taking part in other Inova training, as also with personal contacts of the Inova team. Altogether 15 people from organisations that train graduates in the UK answered the survey.

2.3.2 Results from the Survey

Profile of the respondents

Question 1: Sector

In total, 72 representatives of the target group, representatives of training and education providing organisations, answered the survey. Nearly half of them represented the private sector, 35 respondents corresponding 48,61%, 25 (34,72%) represented the public sector, and 12 (16,67%) represented nongovernmental organisations (later NGO).

In Belgium, the exact half (8 out of 16) of the respondents were from the public sector, while the other half was divided between private (5 persons) and nongovernmental (3 persons) sectors.

In Finland, 57% of the respondents (13 persons), represented public organisations, while 39% (9 persons) represented private organisations and one person represented NGOs.

In Greece, 17 out of 18 respondents represented private organisations (94,40%), while only one person represented NGOs.

In the UK, nearly half of the respondents (7/15 corresponding to 46,67%) worked in nongovernmental organisations, with the rest being evenly divided between public and private organisations with 4 respondents in each.

Question 2: Location of the organisation

In Belgium, 62,50% of the respondents worked for organisations based in Brussels, while 12,5% of them worked in Charleroi (Wallonia). The rest of them worked in Flanders: Aalst (6,5%), Genk (6,5%), Heverlee (6,5%), Leuven (6,5%).

In Finland, the organisations participating in the survey were spread across the country. 39% of them were situated in the middle of Finland including the Häme region, while 35% of them were located in Southern Finland in the capital region. 13% of organisations were situated in Western Finland including Ostrobothnia, and 13 % of them were located in Eastern Finland.

In Greece, half of the respondents stated their organisations' location. All organisations, except one, were situated in Athens.

In the UK, 11 of the 15 respondents were from Sheffield, UK. In addition to that, respondents came from Merseyside UK and the UK generally.

Viewpoints of the respondents

Question 3: Services provided for unemployed HE graduates

Services for unemployed HE graduates were provided in all partner countries. These were related to job seeking, and professional and skills development, with an emphasis on support and advice to gain employment. Training or recognition of soft skills was not specially mentioned. Finland had the most individualistic approaches in service provision and it also addressed other groups than young graduates as well. However, it is not clear whether this is due to specially established projects aiming to increase employment among HE graduates at a specific time or for other reasons. Overall, it appears that employment services exist, but as can be concluded based on the desk research, HE graduates may have difficulties finding the services. Another challenge is the potential lack of capacity of the employment officers to address unemployed HE graduates.

In Belgium, HE graduates were offered support, qualifying training and job coaching.

In Finland, the most common services provided for unemployed HE graduates were labour market training for the unemployed (43%), open education, updating and adult education, vocational education and degree education (22%), individual coaching, mentoring, and career and recruiting services (17%). Other services include networking events, seminars, lectures and workshops or development projects for unemployed or immigrants. Services were provided for a broader set of age groups than just for young graduates.

In Greece, 8 out of 18 respondents provided details about their services. The services covered professional development skills, job seeking services, and related seminars.

In the UK, the most frequently mentioned services were support/advice to gain employment, and general career advice. Beyond this, results were wide-ranging, including offering work experience through graduate internships, casual work and volunteering opportunities. Other services included offering CV advice and providing access to resources such as computers and social group activities to help boost employability skills and confidence.

Question 4: Services provided for underemployed HE graduates

In all the partner countries, the services provided for underemployed HE graduates were relatively similar to the services provided to unemployed HE graduates, hence including training in job search and in professional and skills development, with an emphasis on support and advice to find employment. The range of the provided services and training is wide, however, it is not clear how subjects find these services or do the services match their needs. Neither training in soft skills, career flexibility nor career change were mentioned. While these services are very similar to the services provided to unemployed HE graduates, they should be implemented differently to underemployed HE graduates. For instance, transferring the soft skills learnt in underemployed job positions into HE graduate job positions.

In Belgium, underemployed HE graduates were offered support, qualifying training and job coaching.

In Finland, the services provided for underemployment HE graduates were similar to the services provided for unemployed HE graduates. However, they were most often provided under open, vocational and degree education or as specialised training for updating skills and knowledge (50%), and only after that under labour market training (15%), and as individual coaching and mentoring, career and recruiting services (15%). Networking events were also organised.

In Greece, the services provided for underemployed HE graduates were the same as for unemployed HE graduates: support in professional skills development, job seeking services and seminars.

In the UK, the respondents listed the same services for underemployed graduates as they did for unemployed graduates. The most frequently mentioned services were support/advice to gain employment and general career advice. Beyond this, the results were wide-ranging, including offering work experience through graduate internships, casual work and volunteering opportunities. Other services included offering CV advice and providing access to resources such as computers and social group activities to help boost employability skills and confidence.

Question 5: The main challenges for unemployed HE graduates in finding a job

The main challenges for underemployed HE graduates in finding a job according to the representatives of training and education organisations were similar to those mentioned by the earlier target groups. High competition and high supply of HE graduates were the starting point.

The main challenge, especially in Belgium, Greece and the UK, was the lack of work experience and the lack of knowledge about labour markets.

A mismatch of skills obtained from education and those needed in work life, and the lack of soft skills, were regarded as the second most important challenge, especially in Belgium, Finland and Greece. This was combined with a poor capability to recognise, commercialise, describe and sell one's own skills to potential employees.

The challenges related to job search were many including the lack of networks, difficult application processes and not knowing where to look for suitable jobs. Age discrimination was identified in Finland among the challenges, unlike by the employing organisations.

Issues linked to attitude were also recognised as common challenges including the lack of confidence, lack of vision or too narrow focus when searching for a job, lack of willingness to learn, lack of open-mindedness and lack of social skills.

In addition, the lack of language skills was the main challenge in Belgium, and low remuneration combined with high expectations from the side of HE graduates was mentioned as a challenge in Greece.

Question 6: Main challenges for underemployed HE graduates reaching a position corresponding to their professional qualification

According to the representatives of training and education organisations, the main challenges for the underemployed to reach a position corresponding to their professional qualification were similar to the challenges unemployed HE graduates face for obtaining a job position, for example, saturated labour markets which cause underemployment and the skills gap between higher education and working life.

For the underemployed, the labour market and job seeking issues create a major challenge in all the partner countries (hence leading to underemployment). Besides the high level of competition and oversaturation of labour markets, HE graduates may not have enough knowledge about the labour markets. They may also lack contacts and networks that could assist in finding employment. In addition, as reported in Finland, the current underemployed position may limit the flexibility and time available for graduates to find positions that correspond to their degrees.

One of the main challenges was linked to a lack of work experience. A lack of work experience indicates a lack of essential soft skills but also the lack of substance skills that are required in working life. Applicants cannot rely solely on education as it does not provide sufficient information about the person's potential to employers. Employing organisations may have preconceptions if the previous work experience is not comparable to what is currently required. Hence, HE graduates need the ability to demonstrate their skills and competencies. This will be increasingly important in the future due to fragmented careers and the need to recreate work careers multiple times. The skills challenge is further alarming as underemployment may create a gradual disengagement of HE graduates from academic subjects.

Lack of self-confidence, motivation, perseverance, persistence, open-mindedness and willingness to learn may impede obtaining a high-skilled job. Facing difficulties in obtaining a job may cause low self-esteem.

In addition, the lack of language skills was mentioned in Belgium and in Finland, whereas financial pressure (low remuneration versus high expectations) was mentioned in Greece, and financial pressure to find employment was observed in the UK.

Question 7: Important Work 4.0. Competency clusters and skills to master according to training and education organisations

The respondents were asked to estimate the importance of mastering skills of Work 4.0 competency clusters and hard skills (IT, languages, substance knowledge and other) in order to understand which skills the representatives of training and education organisations consider the most essential in work life. The competency clusters were divided into skills. The respondents estimated the importance of the skills in working life on scale 0-5, where 0 was 'I do not know/I do not want to answer' and 5 was 'excellent'. The outcomes are compared to the results of the surveys 1 and 3 later in this report.

According to the responses of education and training organisations all skills, whether hard skills or soft skills, were important to master, as they integrate in everyday work tasks and support each other. However, on average, soft skills were evaluated higher.

In terms of hard skills, language skills were important in Belgium and in Finland, while they were the least important in the UK. ICT skills were evaluated important in Belgium, Greece and Finland. In addition, substance knowledge was regarded as highly important in Finland.

In Belgium, soft skills were given a very high consideration by the respondents. They highlighted especially user-orientation skills, co-operation and team-working skills, cultural difference awareness and tolerance, detecting central problems and handling information, solution-orientation, taking action, ability to optimise personal know-how, ability to adapt to change and to understand the change on a systemic level, their impact, and curiosity.

In Finland, according to the respondents the most important soft skills to master were the ability to handle and balance content, deadlines and other project elements and prioritise them if needed, user-orientation skills, taking action, co-operation and teamwork skills, and dealing with wicked problems in everyday working life. These were shortly followed by detecting central problems and handling information, and curiosity, all addressing daily task management in work life.

In Greece, according to training organisations, the most valued skills in work life were (from high to low): tenacity, open-mindedness, ability to adapt to changes, and team-working skills. The lowest ranked skills were multidisciplinary, self-awareness, creativity, tolerance, and willingness to connect action with something meaningful.

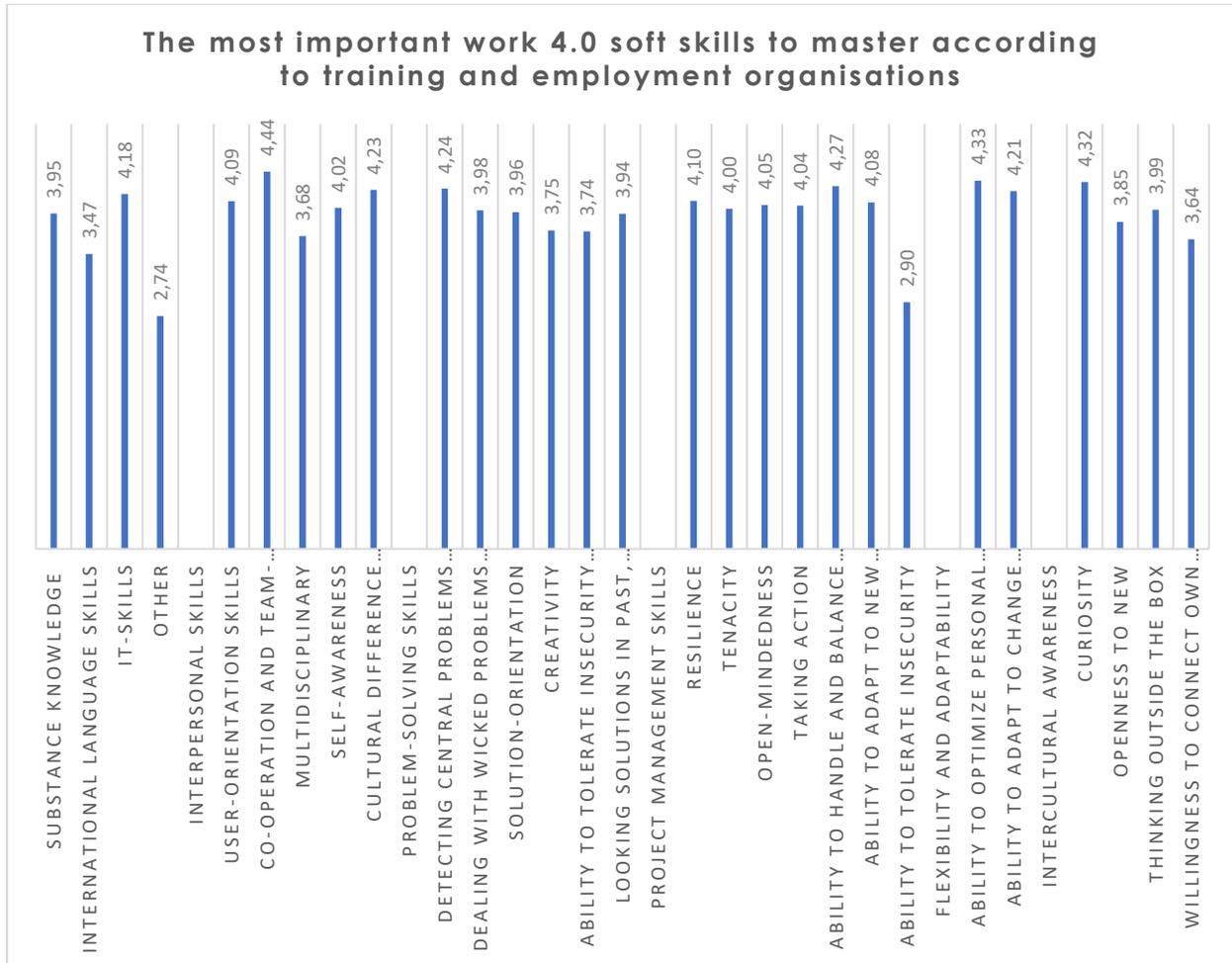
In the UK, according to the respondents, the most important skills for employees to master were cultural awareness/tolerance, and the ability to cooperate and work well in a team. The least important skills for employees, according to respondents, were language skills and the ability to take a multidisciplinary approach in the workplace.

Table 23 on the next page shows the averages of the importance of the skills to master as a combination of the results from all partner countries. Almost all the soft and hard skills were evaluated highly. Soft skills were evaluated higher than hard skills. Five of the highest valued soft skills were the ability to optimise personal know-how (4,33), curiosity (4,32), ability to handle and balance content, deadlines and other project elements, and the ability to prioritise them if needed (4,27), detecting central problems and handling information (4,24) and cultural difference awareness and tolerance (4,23).

The lowest evaluated soft skills instead were the ability to tolerate insecurity (2,9), willingness to connect own doing with something meaningful (3,64) and multidisciplinary (3,68).

A complete list of soft skills is available in the questionnaire in Appendix 4 of this report.

Table 23. Distribution of important Work 4.0. Competency clusters and skills to master according to training organisations



Question 8: Preferred training /education options

The preferred training options are herewith divided into training content and training methods. The answers from all countries are combined. Instead of one option, the subjects selected multiple options in the survey. Hence, the results are provided in percentages.

Training theme

The subjects were asked about the preferred training theme in order to find out whether the preference is more substance delivery related (including soft skills application) or tools related (hard skills). As soft skills are universally needed, this assisted identifying national inclinations as well.

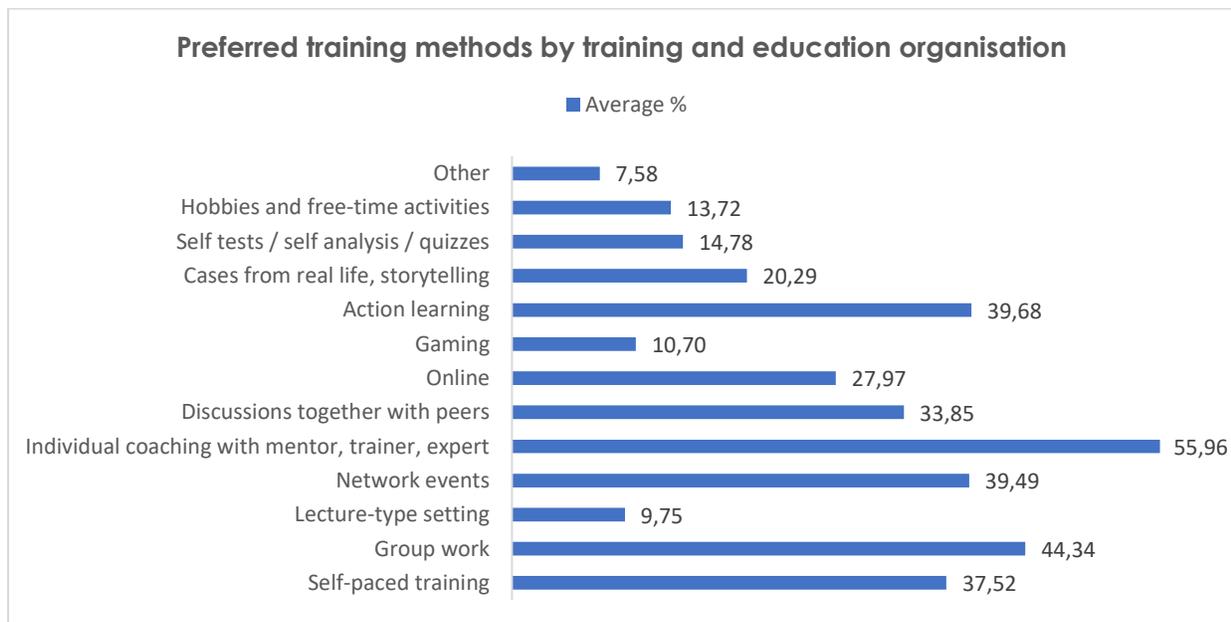
The most important theme for unemployed and underemployed HE graduates to develop according to the representatives of employing organisations was professional development in

own field (72,92%). Second came job application skills (55,79%), followed by professional development of another field of their interest (44,56%), IT-skills (43,11%), international language skills (31,72%), and other (not specified) (12,47%).

Preferred training methods

The most preferred training methods according to the representatives of training and employment organisations were individual coaching with a mentor, trainer or an expert (55,96%), group work (44,34%), action learning (39,68%), and network events. The least preferred training methods were lecture-type setting (9,75%), gamification (10,70%), hobbies and free-time activities (13,72%), and self-tests/ self-analysis/ quizzes. Self-tests were appreciated in Greece while they were the least preferred option in Finland together with self-analysis and quizzes. The qualitative answers suggested that the training offer should be addressed to the context and needs of a job seeker.

Table 24. Preferred training methods by the representatives of training and education organisations



3. Reboot from the Interviews

The aim of the interviews was to investigate the perceptions of and attitudes towards Work 4.0 competency clusters and the soft skills they consist of and to determine which soft skills are found the most essential, the level of mastery of these skills and how they manifest in work life. The aim of the interviews is hence to provide information which helps to validate, complete and potentially alter the tentative competency clusters. The second main investigation area of the interviews was challenges in training and preferred training options for unemployed and underemployed HE graduates.

The interviews were conducted with three different target groups (1) unemployed and underemployed HE graduates, (2) representatives of employing and employment training organisations, and (3) representatives of stakeholders including such as policy makers, developers, regional authorities, researchers, HE staff and students, chambers of commerce, business representatives, networks, and general public. Three interview questionnaires were created for this purpose, each target group was created its own template. The data from each target group was processed separately in order to analyse similarities and differences between the answers, and hence to obtain a holistic view of the manifestation of the competency clusters.

The interviews were conducted in each partner country between 27 November 2018 and 16 February 2019, with an additional interview conducted in March 2019 mainly face-to-face or over the phone. A few interviews were conducted online and by email. Each partner was responsible for finding the respondents nationally. The questionnaires are available in Appendices 5, 6 and 7 of this report. The research and data collection process is described separately for each survey.

The five tentative competency clusters, subjects of the interview phase are:

1. **PEOPLE DIMENSION**, including user-orientation, co-operation, teamwork and networking skills, multidisciplinary and self-awareness, culture, tolerance
2. **PROBLEM SOLVING**, one of the main key requirements for Work 4.0. in detecting central problems and handling information, solving wicked problems, solution-orientation, creativity, ability to tolerate insecurity in decision making, looking solutions in past, present and future
3. **PROJECT SKILLS**, as one of the main forms of future work. This comprises resilience, tenacity, open-mindedness, taking action, multidisciplinary, ability to handle and balance content, deadlines and other project elements, and ability to act in new situations, read contexts and tolerate insecurity
4. **READINESS FOR CHANGE**, including the ability to modify personal know-how. Top experts of the future adapt to change, detect and understand change on a systemic level and its impact
5. **CURIOSITY AND INTERNATIONALITY**, curiosity is one of the major elements of innovation and creativity. It comprises passion, interest, openness to new, thinking outside the box, and willingness connect own doing with something meaningful.

3.1 Interviews for Unemployed and Underemployed HE Graduates

3.1.1 Data Collection

The interviews were conducted between 27 November 2018 and 16 February 2019 using an interview template addressed to the target group and provided in English, Finnish, French and Greek. The interviews were conducted face-to-face or over the phone. The questionnaire is available in English in Appendix 5 of this report. The aim was to reach a minimum of 3 – 5 subjects per country, a minimum of 12 in total. Each partner was responsible for finding the respondents nationally. Altogether, 13 unemployed and underemployed HE graduates were interviewed (Belgium 3, Finland 4, Greece 3, and UK 3). Six of the interviewees were unemployed and seven underemployed at the time of the interviews. 12 of the interviewees were female and one was male. At least five of them had an EU-migrant background.

In Belgium, three interviews were conducted. At the time of the interviews, two of the interviewees were officially unemployed, although one was working part-time, and one underemployed was working part-working as an intern. All interviewees had a bachelor's degree in the field of humanities, and two of them also had a master's degree. All interviewees had gained some work experience through multiple internships. The interviews reflected a situation of uncertainty. All interviewees were female and migrants from other EU countries being Dutch, Italian and German.

In Finland, four interviews were conducted. Three of the interviewees were unemployed and one was underemployed at the time of the interviews. One had a master's degree while the other three had bachelor's degrees in different educational fields, IT-business administration and economy law, travel and accommodation sector, in the jurisdiction and international business, and in a creative sector. Some had undergone additional training. The work experience and history of the interviewees were heterogenic. All interviewees were female and Finnish.

In Greece, three interviews were conducted. Two of the interviewees were officially underemployed while one was unemployed at the time of the interviews. One of the graduates had a bachelor's degree and two had master's degrees. Two of the interviewees had graduated in a business-related field while the third had a degree in humanities. The unemployed one had some previous work experience as a trainee. All interviewees were female.

In the UK, three interviews were conducted. All three interviewees were underemployed at the time of the interviews. They had bachelor's degrees and two had master's degrees on top of this. Their educational sectors are law, sport and exercise science, languages and management of the information and cultural mediation and event management. Two of the interviewees were currently underemployed, however, one had chosen this by leaving the employment to pursue a different career. It is interesting to note that the two interviewees who received additional qualifications related to their fields were still dissatisfied with their current employment, indicating that this is not a guarantee to better employment. Two of the interviewees were female and one was male. At least one had an EU-migrant background.

3.1.2 Results from the Interviews with Unemployed and Underemployed HE Graduates

Challenges for unemployed and underemployed HE graduates to find a job

The challenges to finding employment were versatile and mainly in line with the earlier findings from the surveys and the desk research. The difficulties to find employment started from saturated labour markets, lack of work experience and, but also skills mismatch was an issue. The interviewees mentioned additional elements that weaken HE graduates' position on labour markets: short-term contracts in certain sectors and the expectations to work in bad conditions for passion towards the sector. When it comes to networks, the interviewees furthermore mentioned the difficulty of networking in a new location.

Challenges were linked to **job markets** as a high competition of few job opportunities among the high supply of HE graduates. Interviewees reported about challenges to get noticed from the large mass of applicants leading to being invited to job interviews. This is especially difficult to generalists. At the same time, hidden jobs and other job options are difficult to find and announced jobs may be filled internally. Jobs may also be behind work communities and personal networks. These are challenging to find especially if one is new in the field or in the region. **The nature of the sector** influences on employability too. In some sectors, for instance, the supply of potential employees is very high. In other sectors, one is almost expected to be driven by ideology and passion, willing to sacrifice working conditions for the role. Some sectors are characterised by short-term contracts and projects. There are also sectors which are rather stable in terms of employment.

Challenges were linked to **skills** as a skills mismatch, level of **work experience** as too much and too little experience, and employees' **expectations** of applicants being well-connected with the people in the field. According to the respondents, there is a need for sector-specific skills and specialisation. Some felt that employers are looking for verified track records in terms of skills and practical knowledge in tasks related to a job position. In addition, language skills are of great importance and necessity in Belgium.

Greece reported challenges in finding an acceptable combination of workload, net salary and acceptable work conditions.

Due to the challenges on labour markets, some respondents were considering either continuing studies in master's level or to set up a strategy to gain work experience fitting in some other field than the current professional competence. Entrepreneurship options were not mentioned.

The most important hard and soft skills needed in work life

Hard and soft skills were equally important for unemployed and underemployed HE graduates. According to one interviewee, soft skills create good 'frames' for the delivery of the work, while hard skills were substance skills and practical tools, for instance, IT-skills. Soft skills were more appreciated in Belgium and in Greece, where one interviewee underlined the importance of soft

skills in recruiting situations rather than that of degrees or other tangible elements. Instead, in Finland and in the UK, the interviewees had an impression that employers were only interested in substance skills and practical work experience.

While hard skills were considered rather as tools, soft skills were rather considered as a frame, thinking, methods and experience. Learning with time and experience was strongly linked with developing and mastering soft skills, hence they may contain elements linked to tacit knowledge. In fact, one interviewee mentioned having used own long-term experience to evidence the existence and mastering of soft-skills in interviews.

The interviewees found the following soft skills important in different partner countries:

- Belgium: social skills, effectiveness, organisation skills, time management and self-awareness.
- Finland: teamwork skills, attentiveness, flexibility, positive attitude, good customer service attitude, ability to work in a group, good ethical and moral values, able to work under pressure, sense of justice, but also problem-solving skills, solution orientation, and capability to meet deadlines, or ideation, service design, team facilitation and motivation building, managing and leading development processes, understanding and applying (creative) methods and tools for development of business and processes.
- Greece: interpersonal skills, co-operation skills and team working and adaptability as the most essential soft skills, followed by taking action, solution orientation, problem-solving skills, curiosity, flexibility, cultural difference awareness and tolerance.
- UK: problem-solving, the ability to act independently, communication, how to operate and how to communicate effectively and when to ask help, confidence, resilience, negotiation, presentation skills, communication and empathy, 'people skills', motivation and self-efficacy.

Only flexibility and, problem-solving skills were found in Finland and in Greece. One interviewee from the UK noted that leadership, which is often required by employers, seems to be less relevant than other soft-skills, but often features on job descriptions as the desired quality.

All five themes (people dimension, problem-solving, project skills, readiness for change, and curiosity and internationality) of the tentative Work 4.0 competency clusters were present in the suggestions from unemployed and underemployed HE graduates. People and project skills were the most represented skills in the answers. Other suggested skills were a sense of justice and different creative and design methods.

Preferred training options and challenges participating in training

Most interviewees were rather familiar with the training options provided in their region, and approximately half of them had participated in training. However, accessing training was experienced as both easy (accessible) and difficult. The subjects had difficulties finding suitable training.

Challenges to access and participate training were mainly related to:

- a) Practical issues: accessibility, schedules – lack of time, funds, lack of knowledge of available opportunities and training, and lack of direction
- b) Content: training did not address the needs of HE graduates, hence it was not considered valuable. In the UK free training opportunities were sometimes insufficient, while paid opportunities were a better option.

Preferred training options were divided into content and delivery methods. These were:

Content:

1. Hard skills: language skills, IT-skills, practical things
2. Job searching skills: recruitment, providing basic skills for application processes and CV clinics, motivation and activation
3. Work delivery: work-related coaching, training sessions on work practices, practical training in skills on tasks in the field and organisational needs, mentoring on practical career position and task environment to build know-how and how to build on capabilities.

Delivery: a combination of e-learning and face-to-face meetings, seminars, workshops and learning in teams and through senses, and mentoring, coaching, training sessions in work practices, but also work-related practical training and hands-on experiences.

Soft skills development in higher education institutions

Soft skills development in higher education was not available for all educational sectors. Soft skills training was more present in practically oriented studies. Soft skills were learnt, for instance through group or teamwork, establishing companies and projects, group assignments and project work facilitating the development of problem-solving, cooperation skills and team-working skills. Different forms of soft skills training enabled respondents to see how different people worked and to learn more about themselves. In some cases, however, the practical training neither provided the desired help and helped in career aims or supported in gaining experience. A course of 'professional development' in the UK serves as an example of work life oriented studies. During the course, students have to gain a month's work experience. This is expected to enable them to gain crucial work experience to help in job applications. During the course, they are encouraged to think about their employability post-university.

Ideas for developing the current situation

The ideas to develop the current situation addressed actions and solutions taking place in higher education and after graduation, during work years. Post-graduation development ideas were mainly provided from Finland.

During higher education studies:

- Narrow the gap between theory and practice, and add more practical knowledge and training
- Increase the relevance of courses
- Add mandatory courses in soft skills in all faculties
- Involve stakeholders in lesson and curriculum development
- Increase the number of practical internships and opportunities to explore different jobs/companies
- Clarify differences in education and subjects to prevent students from making mistakes when selecting the field of study for the future career
- Tell about opportunities beyond the related degree

After higher education studies in work life:

- Companies to provide opportunities and skills improvement training for the younger generations
- Employers assist with documenting the experiences and skills gained in work
- Employers provide flexible opportunities to work and longer work contracts

After higher education studies related to employment training:

- Enable networking, idea sharing and contact finding through events and discussion forums
- More co-operation between different professionals
- More possibilities to increase substance competencies in practice
- Support to work experience for all long-term unemployed
- Additional training in case of a sector change

Job seeking:

- New solutions to apply for jobs and longer commitment by both employers and employees
- A change of attitude towards those HE graduates who have studied in another country
- Get rid of age racism
- Training how to make skills, capabilities and practical experience more visual/tangible.

3.2 Interviews for Employing and Employment Training Organisations

3.2.1 Data Collection

The interviews with employing and employment training organisations were conducted between 27 November 2018 and 16 February 2019 using an interview template addressed to the target group and provided in English, Finnish, French and Greek. The interviews were conducted face-to-face or over the phone. The questionnaire is available in Appendix 6 of this report. The aim was to reach a minimum of 3 – 5 subjects per country, 12 in total. Altogether 13 representatives of employing and employment training organisations were interviewed (Belgium 3, Finland 4, Greece 3, and UK 3). Six of the interviewees were female and seven were male. Six of the interviewees represented employing organisations and seven employment training organisations.

In Belgium, three interviews were conducted. All three interviewees were important stakeholders working in the public sector, with different organisations and roles. At the time of the interviews, two of them represented employing organisations and one represented an employment training organisation. One interviewee was female and two were male.

In Finland, four interviews were conducted. Three interviewees represented employment training organisations, one being a trainer educating entrepreneurs, future entrepreneurs and self-employment for business planning, one training migrants in integration services, hence having a perspective from the viewpoint of international HE graduates as well, and at the time of the interviews one was working in a work life development project focusing on increasing employment among unemployed adult HE graduates. The fourth interviewee represented an HR company, HR consulting services and recruiting specialists for financial accounting, performing also other tasks related to employer branding and HR guidance. All interviewees were female.

In Greece, three interviews were conducted. All three interviewees were professional consulting experts and trainers in employing or training organisations and departments or free-lancers in the private sector. All interviewees were male.

In the UK, three interviews were conducted. All the interviews had experience supporting or hiring graduates. Two of the interviewees were trainers and project coordinators, and one was working in business development and human resources management. Two interviewees were female and one was a male.

3.2.2 Results from the Interviews with the Representatives of Employing and Employment Training Organisations

Challenges for unemployed and underemployed HE graduates to find a job

According to the representatives of employing and employment training organisations, the challenges of obtaining a job were versatile and they were mainly in line with the earlier findings. There was no distinction between unemployed and underemployed HE graduates. The challenges started from high competition moving on to lack of skills and having too little or too much work experience. Understanding and expressing own skills and potential is important for graduates of all ages.

High competition in labour markets is the first challenge. There are simply not enough available job positions for everyone. Some sectors are more affected by the situation than others. This escalates when at the time of graduation many graduates enter job-markets at the same time. Due to high competition, HE graduates might accept odd and lower-skilled jobs. The risk is that employers continue avoiding these individuals, and their skills and experiences do not develop. One interviewee stated that underemployment still provides an opportunity to gain work experience and skills, and could hence help in finding employment.

Education – labour market skills and competence mismatch. The current education, in many parts, does not provide competencies for labour markets. Graduates should understand that labour market conditions and needs are different from the academic environment and that academic experience should not be applied as such. Work life needs soft skills but many HE graduates are not prepared in these. They should be able to demonstrate soft skills also during the hiring process. Yet, there is an inability to find and understand one's own capabilities and express them to employers in practical work-related tasks.

Work experience related challenges. Lack of practical experience also expressed as a lack of soft skills (see above) and substance skills, and a general understanding of how work life and labour markets work and what employers want. On the other hand, HE graduates with long work experience may have difficulties obtaining a job due to negative attitudes towards long careers and previous work organisations.

Training and education should provide on-the-job training, practical training and career assistance to fill the gap of skills and experience deficiency and to help in career orientation.

Challenges in finding a job may also be linked to **attitude** and **emotional issues**. Difficulties in finding a job is an emotional issue for all graduates. Regarding adult HE graduates, after a long career in a certain position, it might be difficult to adapt to the new situation mentally and skills-wise and to recognise what is around. Motivation, patience and believing in oneself are needed. Normal social skills and work attitude are needed from everyone. Greece also reported of a challenge of unrealistic goals in finding an ideal job.

In Belgium, knowledge of both local languages, French and Dutch, is essential.

The most essential hard and soft skills needed in work life

The representatives of employing and employment training organisations regarded both soft and hard skills important, with an emphasis on soft skills. The most important hard skills according to them were digital – IT skills and data analytics, and languages skills in Belgium and Finland.

The interviewees found the following soft skills important in different partner countries:

- Belgium: Interpersonal skills, intercultural awareness, self-awareness, solution-orientation, cooperation skills and team working, cultural difference awareness and tolerance, ability to handle and balance content, deadlines and other project elements and to prioritise them if needed and resilience.
- Finland: Basic skills in listening and implementing knowledge and theory in practical contexts, networking skills, openness to new ideas, interpersonal skills, presentation and communication skills, cultural skills, systems thinking skills and systems understanding, flexibility, development skills and innovation skills, proactive approach, prioritising, capabilities to develop one's job, futures career expectations and plans instead of adapting, flexibility, fitting one-self to the working environment and culture, business viewpoint, customer-orientation and marketing/sales skills implementing information in practice.
- Greece: Interpersonal skills, self-awareness (leading to positive thinking), project management skills (including market research, connection-building, self-branding, dealing with personal vulnerabilities, becoming flexible etc.), problem-solving, open-mindedness, being adaptive and thinking out of the box.
- UK: Communication skills (as the most needed skill) should be demonstrated during the hiring process and reflect in the past experience and the skills portfolio (e.g. presenting verbally at meetings, writing reports, networking, etc.). Graduates need to present themselves more positively, promote their skills-sets and explain their career project and professional objectives.

Despite the qualitative nature of the interviews and hence free wording for skill, all five themes of the tentative Work 4.0 competency clusters (people dimension, problem-solving, project skills, readiness for change, and curiosity and internationality) were present in the skills suggestions from the representatives of employing and employment training organisations. Among the commonly mentioned skills were interpersonal skills, self-awareness, cultural skills, networking, presentation, and communication skills. The suggestions included more job mastering skills than the suggestions from the previous target group, such as capabilities to develop one's job.

The interviewees highlighted the importance of demonstrating the skills in practice and during the hiring process, for instance with portfolios. It was pointed out in Finland, that it is important to have skills also in 1) recognising and identifying potential working opportunities or organisational needs in working life and employment processes and, 2) understanding and recognising one's own dreams, desires, interests and personality driving career creation, and finding, recognising and evidencing one's own strengths in relation to potential work opportunities. These contribute to how to manifest and customise own skills to different target groups.

Ways to explore or measure soft skills in recruiting situations

Exploring and manifesting soft skills in recruiting and at work is important. Methods and tools for doing this have been poorly used and discussed, and hence many do not know about them or do not consider them relevant. Instead, most solutions have been used to measure hard skills and sector-specific skills. Despite this, according to the interviewees, the following methods could be used for exploring and measuring soft skills:

- 1) Demonstration with examples (e.g. portfolio), references and extra-curricular activities
- 2) Demonstrating and exploring soft skills in action, for example using role play, showcases, workshops and ateliers where candidates can be seen at work. This could be complemented by an on-site post-evaluation by employees giving indications of whether the candidates have the required soft skills for the job or not, of an assessment form and a discussion with the candidates to identify the strengths and weaknesses of their soft skills.
- 3) Evidencing, e.g. through networks, recommendations from previous employers, peer reviews and feedback, internship, and by providing feedback of individual roles and skills in practice.
- 4) Through attitude, enthusiasm, behaviours, inspiration and intuition detected during discussions in meetings and interviews.
- 5) Using a psychometric questionnaire tool.

Preferred training options and challenges participating in training

The preferred training options suggested by the representatives of employing and employment training organisations are divided into challenges, training content and delivery methods.

Challenges in training were many:

- The existing training corresponds poorly to the needs of HE graduates and labour markets
- Universities may not provide skills that are needed in work life, nor train how to implement theoretical knowledge in practice. Moreover, there may not be funding, structures or personnel with the right skills for this.
- The existing training options are mainly built on hard skills, not on soft skill.
- The existing training of soft skills lacks practical advice and real examples.
- The existing training overlaps and there is little sign of commonly accepted approaches
- Higher education should include internships and possibilities for professional experiences.

The preferred training options were divided into content and delivery methods. These were:

The content was divided between the soft skills, hard skills and job seeking skills herewith listed:

- Soft skills: problem-solving and mapping challenges and opportunities, defining and focusing development issues, self-branding, presentation and communication skills,

- Hard skills: data management, information analysis skills,
- Job seeking: including training on the hiring process (e.g. mock interviews, task exercises) and CV and job application writing

In addition, getting more practical experience during their degree studies and training that enables to update competencies are needed.

The recommended delivery method were:

- Customised training in relation to personal needs, (e.g. modularity, and potential and challenge recognition)
- Individual training in relation to examples and reflection on current and future work life
- Participatory training, for example learning groups where stories and experiences can be shared
- Seminars, networking events
- Language training and tools which are useful for a person in an expert position.

Ideas for developing the employability of unemployed or underemployed HE graduates

Each country agreed that the development of soft skills and work life orientation should be a lifelong activity and already present in higher education. The transfer from education to work life should be facilitated as well. Training should also help HE students and graduates to understand career paths and how to avoid underemployment and career mismatches.

During higher education studies

- The HE curriculum should include more practical experience and work life skills development, and help graduates build their portfolio skills whilst studying
- Orientation studies would help students to understand the nature of the studies and have a more realistic idea of work and jobs in relation to their field
- Internships with a complete onboarding programme to improve their technical and soft skills while learning the theoretical part at their school
- Visits to different types of companies in the field of their studies
- Career guidance and job coaching

Ideas for training development in general

- Developing job seeking skills of all graduates, including adult graduates who have been absent from labour markets, to have up-to-date CV writing, job searching and Interview skills, using, for instance, mock interviews, strategic job search tools and personal branding
- Preferred training methods: group coaching and one-to-one career coaching leading to personalised training paths, self-organised learning, and co-creation of content and practices
- Training in recognising and showing soft skills and hard skills through examples
- Opportunities should be provided for immigrants, with some flexibility with language skills.

3.3 Interviews with Stakeholders

3.3.1 Data Collection

The interviews with the stakeholders were predominately conducted between 27 November 2018 and 16 February 2019 except one in March 2019 using an interview templated addressed to the target group and provided in English, Finnish, French and Greek. The interviews were conducted face-to-face, over the phone except two online using email. The questionnaire is available in English in Appendix 7 of this report. The aim was to reach a minimum of 3 – 5 subjects per country, 12 in total. Altogether 13 representatives of employing and employment training organisations were interviewed (Belgium 3, Finland 4, Greece 3, and UK 3). Each partner was responsible for finding the respondents nationally. The interviewed representatives of the stakeholder were found among policymakers, developers, regional authorities, researchers, HE staff and students, chambers of commerce, business representatives, networks and the general public. Ten of the interviewees were female and three were male.

In Belgium, three interviews were conducted. All three interviewees represented a different viewpoint and background. One was an art student, one a policy officer of the European Parliament and one a PhD researcher. All interviewees were female.

In Finland, four interviews were conducted. All interviewees represented different viewpoints to employment: one was an employment manager in a municipality, one was a research manager in a work life research centre, one an education policy expert/specialist in a JHL trade union for healthcare and social sector, and one a career mentor. All interviewees were female.

In Greece, 3 interviews were conducted. The interviewees represented different fields and viewpoints as one being a freelance expert, one a president of a social enterprise and a professor, and one a doctor in the undergraduate and postgraduate course of study for entrepreneurship and tourism. One interviewee was female and two were male.

In the UK, three interviews were conducted. All of the interviewees were senior members of staff. Two of the interviewees were directors of organisations in the private sector and one interviewee was a project manager working for a university. Two interviewees were female and one was a male.

3.3.2 Results from the Interviews with Stakeholders

Challenges for unemployed and underemployed HE graduates to find a job

The challenges mentioned by the stakeholders were much in line with the previously mentioned challenges. The main challenges and the reasons behind the situation with unemployment were the same as earlier starting from high competition and lack of skills and experiences. However, new aspects were presented as well, such as transitions from higher education to work life and from temporary to permanent jobs. Underemployment was found to potentially damage career development of HE graduates, although underemployed HE graduates were found to be in a better position than fully unemployed HE graduates as they at least were actively developing soft skills and gaining work experience. Most stakeholders focused on issues especially related to young graduates while unemployed and underemployed adult HE graduates were left with much lesser attention. This seems to be a general trend.

Society – high competition, sectoral issues, and the lack of free vacancies was one of the core challenges. The increased competition on labour markets had led to more precarious work conditions and to underemployment and over-qualification, hence damaging career development. Part-time work is one solution, but as it occupies a person's time, it might be harder for one to find a full-time job. The level of competition and available vacancies is sector-sensitive and depends on the geographic location as well.

Transitions are among the biggest challenges, as stated in Belgium. These are the transitions from higher education to work life and transitions from temporary precarious work to long-term contracts but with satisfactory working conditions.

Skills related issues – on the one hand, there is a mismatch between the skills HE provides and what is needed in work life. On the other hand, there is a general lack of soft skills. The challenge is also how to recognise and demonstrate these skills when applying for a job and how to differentiate from other applicants. Demonstrating skills could help employers' difficulties to understand a job seeker's skills in practice and to evaluate them in relation to the job opportunity.

Job seeking related issues – the lack of work experience leads to a lack of networks and contacts as well. This may lead to further difficulties in finding a job. The fully unemployed are in a more disadvantaged position than the underemployed, as the underemployed at least build connections and soft skills in their current jobs and thus have higher chances of finding other positions, while unemployed graduates are fully out of the labour markets. Some work experience could be built during HE studies, but in countries where practical training is not financially supported, graduates who cannot afford unpaid internships might get stuck in minimum wage jobs. Unemployed adult HE graduates with a work history have developed experience and skills, but they may not recognise them and they might not consider soft skills as important skills. They, like the young HE graduates, lack skills in searching for employment.

Personal factors from health, previous work experiences, life situation, attitude and motivation may also create challenges. For instance in the UK, according to one interviewee, the biggest challenge was the lack of motivation. According to another interviewee, graduates' attitude

towards work can also be poor as they might act as being entitled for good job positions. Two different profiles of job seeking HE graduates were found in Greece, the well-educated, ambitious people, who try hard to find a job, but also those who passively wait for the employment situation to improve. The proactive attitude was also expected from the underemployed to find a job for their qualifications. However as the earlier research data shows, they might have limited opportunities to look for a job due to the current engagement.

The most essential hard and soft skills needed in work life

The stakeholders found both hard and soft skills to be important. In addition, life skills were mentioned in the UK (part of the soft skills spectrum), and metacognitive skills were mentioned in Finland as they may be a linking element between hard and soft skills. Stakeholders acknowledged that soft skills are essential, but they could not define to what extent HE graduates are in possession of them. The most important hard skills in the UK, Belgium and Finland were sector-related skills, language skills or IT skills, social media skills, and data analysis.

The interviewees found the following soft skills important in different partner countries:

- Belgium: Teamwork and adaptability (as an ability to adapt to new context and situations) as the most important skills, followed by interpersonal skills, flexibility, resilience, ability to adapt to change and to understand change on systematic level and their impact, multitasking and ability to handle and balance content, deadlines and other project elements, and to prioritise them.
- Finland: Social skills and emotional intelligence, presentation, communication and interaction skills, networking skills, teamwork skills, problem solving, project skills, own branding and marketing, recognising and describing one's own capabilities/skills on practical level, critical thinking skills, multidisciplinary skills, skills to focus on multiple working areas, understanding, appreciating and exploiting differences between people, resilience, tolerance to stress, optimism, knowing and developing own limits, ability to find and point out the relevant in information and to apply it, self-awareness and ability to manage oneself.
- Greece: An ability to adapt to change, openness to new things, overcoming the fear of change, an ability to think outside the box, communication skills, problem-solving, critical thinking, time management, and team building.
- UK: Conversation and communication, independent working and the ability to make decisions followed by confidence, enthusiasm, active listening and more general 'life skills' and 'transferable skills' obtained through experience.

Among the commonly mentioned skill were resilience, ability to adapt to change, and teamwork, project, critical thinking, time or deadline management, and communication skills.

All five themes (people dimension, problem-solving, project skills, readiness for change, and curiosity and internationality) of the tentative Work 4.0 competency clusters were present in the suggestions from the stakeholders. Listening as an important skill to master, skills development

through experience, tolerance to stress, and own branding and marketing were mentioned as additional skills to Work 4.0 competencies.

Preferred training providers and challenges in participating training

Stakeholders observed training on three levels: challenges, content and delivery.

Challenges

Again, universities' inability to provide HE students and graduates skills needed in working life was mentioned among the challenges. Universities focus on building knowledge, but how it would be applied in practice and the metacognitive use of it in work life are missing. According to the Finnish stakeholders, this is more an issue of academic universities than of universities of applied sciences, as the latter ones are more work-life oriented. Students cannot be expected to master work-related skills if they have not been sensitised to them and taught them. According to the experts in Belgium, this is also an issue at the European level as currently, no sustainable vision of how to prepare students for working life exists.

This leads to the other challenge which is the lack of career and job-related courses, advice and training in universities. Universities may provide job seeking assistance, e.g. for CV presentation, and opportunities for practical training, but the elements that make the difference are missing.

No challenges were mentioned for adult unemployed HE graduates who have been in work life. This might also be due to the issue that young HE graduates tend to gain the most attention. Nevertheless, adult HE graduates should be addressed too, especially when looking at the future trends in employment, otherwise, the holistic view of development is missing.

Content

The preferred options for content were:

- Competencies needed in work life
- Defining own competencies, clarifying own intent and motivation, and developing the ability to demonstrate own skills and competencies
- Soft-skills such as resilience, confidence and attitude
- Sector-specific substance skills
- Technical job seeking skills, such as CV writing, contacting hidden jobs, systematic way to work
- Improving educators' skills for delivering work life oriented training.

Delivery

- Individual and group delivery from a generic level to a personal level
- Individual coaching and mentoring, support and tailoring for and based on specific needs
- Networking, training and practical project work, practical exercises e.g. in companies and online

Ideas for developing employment of unemployed or underemployed HE graduates

Based on the interviews, a more holistic approach addressing HE graduates employability potential development should be applied already during higher education and last throughout the work years. Most ideas were taking place during higher education but generic suggestion and ideas were presented as well.

During higher education

- Higher education should be modernised and adapt to changes in society
- A balance between theoretical knowledge, practical orientation and development of skills that are relevant to the labour markets is needed
- Interdisciplinary specialised programs, practical training and incorporating work experience into HE studies should be increased
- Students should be given more freedom to choose and structure their studies according to their career aspirations and prepared to take responsibility for their own career
- Career guidance should include more facilitation and coaching for work life, job searching and opportunity mapping. Examples of opportunities should be provided through case studies
- Collaboration between HE institutions and potential employers should be increased
- Alternative methods to train soft skills could be embedded, e.g. volunteering

During working years and higher education

- Seeing the person and his/her life and capabilities as a whole
- The unemployed should be encouraged to attempt to consider and try new and different fields
- More emphasis on improving social skills and in identifying different occupational roles
- Investing in educators: more qualified and motivated educators
- Investing in mentors to facilitate the implementation of new solutions and customised approaches

4. The Competency Cluster Workshop

A workshop on Work 4.0 cluster drivers was organised as part of the research activities in order to further define the Work 4.0 non-cognitive clusters. The workshop was organised on the 1st of March 2019 as a face-to-face and online activity. The workshop was organised in Sheffield, UK, where the stakeholders from the UK participated in the event face-to-face. The participants from Belgium, Finland and Greece took part in the event online. The online workshop was organised using the AdobeConnectPro meeting platform. The aim of the workshop was to obtain stakeholders' view of the tentative competency clusters in order to validate them further. The stakeholder's comments were used for further development and finalising the competency clusters.

The workshop started at 14:00 GMT, 15:00 CET and 16:00 Eastern European time, lasting 1,5 hours. Altogether 13 stakeholders participated in the competency cluster workshop: 5 from the UK, 1 from Belgium, 2 from Greece and 5 from Finland. Two of them were unemployed or underemployed HE graduates, four education and training providers, five employing or employing related organisations, and two other stakeholders. 11 of the participants were female and two were male.

The results and the drivers created plenty of discussions which assisted in discovering new areas of challenges, new needs and potential new target groups. The drivers were not challenged, but new elements were added. The other main findings of the event were:

- Bureaucracy can hinder employability of HE graduates. For instance, designers have plenty of problems as employment officials are not able to help them finding work. Hence there is a clear need to address employment organisations too.
- The university does not prepare students properly for labour markets except for sharing sector-specific knowledge. Yet, even some additional hard skills/knowledge linked to own sector is missing from education or it is poorly addressed, for instance, IPR rights in the design.
- Universities should prepare graduates better for employment and complex systems at work. For instance, there could be a course on working methods. There should be more matchmaking between industries and students and more cooperation between industry sectors in order to increase sustainability at work. In addition, universities should advise students on what would be beneficial to do during studies in order to find employment after university, for instance, work in the sector during studies.
- Skills at/for work: there seems to be a discrepancy in what employers want: on the one hand they want employees with experience, but on the other hand they want employees with less experience due to lower costs. Yet, they do not necessarily want to employ young graduates due to a potential lack of skills needed in the job position and work life.
- Graduates might simply lack job seeking skills.

- Extra-curricular activities can increase an individual's employability potential. For example, soft skills and other capacities can be detected from hobbies.
- It is essential to remember that new generations have simultaneous expertise in multiple things, for example, a doctor can also be a YouTuber. These versatile skills and hence the potential of job applicants often escapes from employers. The younger generations are more natural T-shaped thinkers (i.e. can possess skills in own issues but also some from other sectors). There is a need to understand this professional flexibility, by both employers and HE graduates.
- Training materials suggestions: videos of training and what is needed at work, who can help to find work, training encouraging self-reflection.

Overall, the workshop participants found that there is a big discrepancy between the old and the new systems. A structural change might be taking place. The old system appears to be e.g. more narrowly and sector-oriented, while the new system appears to be more flexible with blurry skills-competence boundaries and transferrable skills. This phenomenon is occurring simultaneously at many levels starting from authorities, assisting organisations, educational system and reaching also employers, employees and job seekers. The participants of the event deduced that the job culture is currently in a turning point which is still unclear to many. The workshop participants also asked if the Reboot training material could be offered to universities as well.

5. Country Profiles – Phase 2

The phase two of country profiles updates the country profiles of phase 1 by adding the findings from the surveys and interview into the analysis and reflecting on possible national adaptations of the Reboot training.

All partner countries represent stable western and post-industrial societies with high educational quality and good levels in innovation, competitiveness, income and quality of life. Yet, the countries are different culturally and by other factors. Looking at the results from the survey and interviews, a strong correlation in the answers between the different groups of respondents from the partner countries could be observed as the responses were nearly unanimous. Hence the differences between the countries do not seem to influence the need for soft skills, their application and delivery, or the main challenges HE graduates face. Most training preferred options were also similar. It can be concluded that the skills needed and the issues to tackle are Pan-European. This supports creating Pan-European training material.

Possible national and personal variations can be detected in the areas of culture, equality, unemployment and employment numbers, groups at risk, immigration, industries, hard skills and economic structure, but also on a personal level. These are the differentiating factors that might influence which skills to highlight, why, whom to and how to manifest them. The basic training material is suggested to be the same, but a possibility to select which parts to emphasise could serve to tackle the individual, sector, regional and national challenges.

Each partner country has been created a few suggestions for focus, which are provided below. These are based on phase 1 country profiles in Chapter 1.2.5. and the findings from the surveys and interviews.

Belgium

Training soft skills equally in all industrial sectors, including the service sector, could bring flexibility into innovation potential and competitiveness of the country. However, this work and embedding alternative and novel ways to higher education and employment training, including practical training for all, should be added. Practical training alone is not enough.

Providing training to all age groups of HE graduates could address the challenge of different regional unemployment and unemployment of migrants, besides unemployment of young graduates. This training should include soft skills recognition and transfer to other sectors. This could increase career flexibility among adult HE graduates and balance regional differences in unemployment. Learning soft skills application in Belgium could positively contribute to the integration of migrants into Belgian society.

Some soft skills are needed for societal issues, for instance, intercultural skills due to the high number of migrants residing in Belgium. Yet, language skills remain essential skills. Willingly, soft skills could be used for developing language skills too.

Finland

The unemployment of HE graduates in Finland is high while the underemployment is low. All the reasons behind unemployment are not clear. However, soft skills recognition and demonstration are recommended as they could help unemployed adults to find another employment and create sectoral flexibility. The productisation of own know-how and competencies could especially help generalists. The service aspect in this highly hard industry country could be addressed more after all also hard industries need service aspects.

The country uses alternative, soft and creative methods to solve different issues. This should be increased for the benefit of HE graduates as well. Soft skills could also be used for opening people's minds what comes to attitudes towards own experiences and competencies too.

Greece

Combining academic skills and soft skills could increase the innovation potential, create more jobs and elevate the competitiveness of SMEs too. This could increase understanding of the benefit of academic skills for SMEs too and hence lower underemployment as HE graduates would be able to use their education in SMEs. Another sector of focus is the service sector. It is important in Greece but also full of potential for graduates and for harnessing soft skills for development. Using creativity, solving wicked problems, alternative approaches and changing attitudes from a meritocracy and a higher power distance toward more open and equal society would be of assistance in this task.

Furthermore, practical training and demonstration of skills are recommended. Showcases of soft skills could be developed during practical training.

The United Kingdom

Skills recognition and demonstration appear to be of great importance in the UK. These could help to tackle the inequality brought by the class society and identifying soft skills developed during an underemployed job in order to bring those to the own sector and level. For instance, networks can be expressed visually. Showcasing soft skills and competencies can bring out other competencies that employers desire. Practical training, more creative methods and more targeted employment services for HE students an graduate are also recommended.

6. Summary of the Key Findings and Conclusions

The aim of the research was to validate the tentative Work 4.0. competency clusters containing soft skills, investigate which cluster skills are regarded the most important in work life and how these are perceived and understood by different target groups. The research also investigated challenges in training and preferred training options for unemployed and underemployed HE graduates. The goal was to obtain elemental information for structuring the Reboot training programme, self-testing and handbooks with a Pan-European perspective with potential cultural and national inclinations in training.

This part of the report summarises the findings of the desk research, surveys, interviews and the competency cluster workshop. It is followed by drivers, i.e. key development points, derived from the outcomes, for the curriculum development. The data from different target groups, unemployed and underemployed HE graduates, employment training offering organisations, and representatives of work life, i.e. employment organisations, was analysed clustered by each target group after which the target groups were compared with each other in order to detect the similarities and differences, provided herewith. The analysis follows a logical cause-effect path. There was a strong correlation between the answers of all target groups, the workshop and the desk research. However, most findings focused on the challenges of young HE graduates while unemployed and underemployed adult HE graduates were given less attention. This seems to be an overall challenge what comes to HE graduate unemployment and underemployment, and it can be foreseen to increase of importance in the future.

Unemployment and underemployment of HE graduates in Europe

The state of unemployment and underemployment of HE graduates is versatile in Europe varying nationally and geographically and by educational and industrial sectors, gender, age, life situation and the time of graduation. Higher education graduates have better chances of finding employment than other graduates. In 2017 the employment rate of all higher education graduates in the EU28 was 4,2%, while that of the recent graduates, between 20 – 34 years of age, was three times more. Unemployment is the highest in Greece, Italy and Spain, and the lowest in Eastern Europe, UK and Luxemburg. Underemployment has been increasing in the EU during the past 15 years reaching 24,4% in 2017. It is the lowest in Eastern Europe and the highest in Greece and in West-European countries which are subjects of high HE graduate immigration. The groups most at risk of unemployment and underemployment are young graduates, women due to lower salaries, higher underemployment, more vulnerable professional sectors, and parenting related issues, migrants, especially non-EU migrants, and over 45-years old laid off graduates. What comes to the Reboot partner countries, the UK represents a country with low unemployment but high underemployment, Greece a country with high unemployment and underemployment, Belgium a country with low unemployment but relative underemployment, and Finland a country with high and persistent unemployment but low underemployment.

Challenges unemployed and underemployed HE graduates face finding employment

The subjects were highly unanimous about the challenges unemployed and underemployed HE graduates face in finding employment. The employability potential of HE graduates should be addressed on a lifelong level in the EU. Currently, there is no vision or policy on how to prepare students for work life. The challenge areas were sector-agnostic.

The first challenge is the **highly saturated labour markets and the oversupply of HE graduates, hence high competition and lack of opportunities**. Having to secure a job, HE graduates may have to migrate, hence causing brain drain nationally or regionally, or they may end up occupying the lower-skilled job positions of other employees, consequently causing unemployment among other workers. They may also end up accepting jobs with bad and precarious work conditions. Similarly, some sectors are characterised by short-term employment contracts and the expectation of passion-driven working despite the conditions. This situation may not only damage career and skills development and job search, but also the balance between work and personal life, and create psychological challenges and lower self-esteem. In addition, unemployed adult HE graduates may face age discrimination. Underemployed, however, seem to be in a better position than unemployed as they are able to network, gain work experience and develop soft skills in their current positions. Despite this, underemployment may create gradual disengagement from the academic field. Other challenges in obtaining a job position were the difficulties to get noticed and being invited for a job interview, lack of language skills, especially in Belgium, and low wages in Greece and in the UK.

High competition, instability, uncertainty and digitalisation are expected to increase in the future, impacting negatively the employment security and causing more unemployment and fragmented employment. Hence flexibility to work careers, understanding of own skills and reinventing own career are foreseen necessary in the future. Understanding, identifying and showcasing own potential, skills and capabilities are important for graduates of all ages.

Work experience creates two kinds of challenges, the lack of experience, which especially touches young graduates, or having too much experience, which is a challenge for unemployed adult HE graduates. The desk research indicates that employers prefer not to employ young graduates due to the lack of experience and understanding how work life and labour markets. The interviews and the surveys confirmed this finding. Regarding adult HE graduates, having too much experience was perceived negatively. This was explained, for instance, by the risk of learnt stiff work roles and being too expensive.

The third main challenge area was the **skills mismatch** between what higher education provides and what employers want. According to the desk research, employers, are looking for employees with **non-cognitive competencies, soft skills**, and work experience. This was confirmed by the surveys and interviews. There is **a lack of skills, especially soft skills**, among HE graduates. This is combined with a poor capability to recognise, commercialise, describe and sell one's own skills to potential employees. Hence recognising, understanding, showcasing, productisation and customising own skills is essential especially as it has been prospected that in the future one will have to reinvent and reorganise own career more often. This is especially important in more generalist sectors. Soft skills will become increasingly important in the future. They are transferable between sectors and they facilitate job position and career change. However, strong subject-

specific skills should not be forgotten. Hence, a combination of soft and hard skills is needed. Regarding hard skills, language skills are important for migrants and in countries and regions where multiple languages are spoken or the native language/languages are small. Hence, language skills were among the most important skills in Belgium.

Transitions from higher education to work life and from temporary precarious work to long-term contracts with satisfactory working conditions is another area to address. Soft skills can facilitate transitions.

Job seeking skills were identified as a challenge in all partner countries and by all target groups. Finding a job requires 'good luck' and knowing where to look for as job position might also be hidden or behind work communities and personal networks. This is especially challenging when entering labour markets for the first time or after relocating to a new region. Unemployed adult HE graduates instead may have long careers behind in one organisation only and therefore their job seeking skills might be badly outdated. Holistic development of job seeking skills is needed from CV and job application writing, strength recognition, networks and contacts, to use of new tools in job search, such as social media. It was mentioned that the underemployed are in a better position than the unemployed as they have a possibility to develop work-related soft skills in their current positions and occupations.

Personal factors from health, previous work experiences, life situation, living location, to attitude and motivation may also create challenges, such as a poor attitude combined with high expectations, a lack of vision when searching for a job, lack of open-mindedness and a willingness to learn, lack of social skills, and lack of self-confidence, perseverance, persistence. After a long career, unemployed adult HE graduates may have difficulties adapting to the new situation mentally and skills-wise. Motivation, patience, believing in oneself are needed. Normal social skills and work attitude are beneficial for everyone.

Educational institutions due to their reputation may also hinder obtaining a job or the desired work position. For example, employers in the UK prefer to hire graduates from more prestigious universities, and extracurricular activities play a role in the selection.

In addition to the common elements, Greece pointed out how meritocracy and corruption may also influence securing a job in a negative manner.

Poor employment services and training for HE graduates. There are few employment services and little training addressed especially to unemployed and underemployed HE graduates. What comes to employment services, unemployed and underemployed HE graduates have to use the same services as individuals with a vocational background or with basic qualifications. This does not serve the special needs of HE graduates. In addition, officers in employment organisations may not understand the sector, training needs, skills or the educational background of HE graduates, or their challenges in finding employment. In especially poor positions are unemployed adult HE graduates who are offered very few services or training opportunities. Most employment services are addressed to young graduates including young HE graduates.

What comes to the training content, employment seeking, work life orientation and soft skills development, training offer was insufficient and useless for HE graduates. These aspects should be included in into training, and training should start during higher education and continue as a

lifelong training activity throughout the working career time. It should be addressed to the special needs of HE graduates. However, soft skills development in higher education was not available for all as it depended on the educational sector and institution. It was present in practically oriented studies. HE students are provided training and job seeking services, although it was reported that this is not sufficient and the services are not directed appropriately. However, adult HE graduates must settle for services offered for all unemployed or underemployed. HE graduates have the possibility to participate in continuous training, which is often sector-specific. Despite this, it was also reported that not enough continuous training was available. Overall, little attention has been paid to learning solutions for Work 4.0. competencies. Only Greece and Finland reported about specific training actions addressed for unemployed adult HE graduates. In Greece, training solutions looked into skills recognition and matching with professional profiles. However training was mainly on payment. Finland was the only country with free training solutions offered for unemployed adult HE graduates. These were project-based and holistic addressing soft skills, job seeking issues and transforming previous training into new training or degree. They also used creative methods, for instance, co-creation, narration and peer support. Yet this training was marginal as well.

Practical issues created challenges for participating in training. These were accessibility, lack of funds, time and direction, and unfamiliarity with training options. Hence, the training should be versatile, user-friendly and accessible (time and location). It should cover soft skills, substance knowledge, hard skills, and job seeking skills, and train how to combine these.

Work 4.0 Competence validation and skills needed in work life

Subjects were asked about the skills needed in work life. All subjects agreed that both soft skills and hard skills were important, with more emphasis on soft skills by all except unemployed and underemployed HE graduates. This might be a sign of discrepancies in understanding the importance of skills needed in work life; HE graduates may not regard soft skills to be important enough. It was important that the two sets of skills, soft and hard skills, would be combined and used together as they integrate naturally in work life. Soft skills create “frames” and methods for delivering the work and substance knowledge, while substance skills are raw knowledge to be implemented, and hard skills are tools that assist the implementation. Metacognitive skills are needed to connect hard and soft skills. According to some subjects, time and experience were strongly linked to developing soft skills. Hence tacit knowledge plays part in the development of soft skills. This is in line with the employers' requirement for work experience.

The most essential hard skills to master were subject and sector-specific skills, and IT skills/digital literacy/digitalisation including social media. Languages were important in multilingual countries, in Belgium and in Finland. Numeracy skills were regarded important in the literature.

The most essential soft skills and Work 4.0 competency cluster validation. Subjects were asked about Work 4.0 soft skills through the survey with predefined options representing Work 4.0 competency clusters, and in the qualitative interviews. Hence, a high score on soft skills in the survey supported by the interviews helped to validate the Work 4.0 competency clusters. There were no noticeable differences between the target groups.

So skills were evaluated high in the surveys. They were evaluated higher by the representatives of employing organisations than by the representatives of training and education organisations. Table 25 shows the five highest rated soft skills by these two groups. The ability to handle and balance content, deadlines and other project elements, and prioritise them if needed, and detecting central problems and handling information were in the top five skills for both groups.

Table 25. The highest rated soft skills by the representatives of employing and education – training organisations

	Employing organisations	Training and education organisations
1	Cooperation and team-working skills	Ability to optimise personal know-how
2	Ability to handle and balance content, deadlines and other project elements, and prioritise them if needed	Curiosity
3	Ability to optimise personal know-how	Ability to handle and balance content, deadlines and other project elements, and prioritise them if needed
4	Resilience	Detecting central problems and handling information
5	Detecting central problems and handling information	Cultural difference awareness and tolerance

The lowest evaluated soft skills were the ability to tolerate insecurity (being the lowest) and willingness to connect own doing with something meaningful (the second lowest) by both groups. In addition, representatives of work life rated creativity low and training-education representative rated multidisciplinary low.

Competence validation. Soft skills from the interviews were mainly in line with the skills comprising the tentative competency clusters. All five Work 4.0 competency clusters were covered in the interviews and scored high in the surveys, hence validating them for Reboot curriculum development.

The interviewees used free terminology covering all predefined soft skills of Work 4.0 competency clusters. Yet especially flexibility, problem-solving skills and problem-solving orientation, teamwork skills, resilience, project skills, ability to adapt to change, critical thinking skills, time or deadline management skills, and communication skills were commonly mentioned.

The interviews provided interesting other elements that could potentially be added to the clusters: sense of justice, different creative and design methods, listening, tolerance to stress, self-branding and marketing, and understanding and recognising one's own dreams and interests related to career building.

Skills unemployed and underemployed HE graduates currently master. HE graduates were asked which soft and hard skills they master and how well they master these. According to their perception, the best mastered skills were curiosity, openness to new, cooperation and teamwork,

willingness to learn new, cultural differences and awareness, and tolerance. Only curiosity, cooperation and teamwork were the same that the representatives of employing, training and education organisations evaluated among the most important skills. HE graduates rated themselves mastering other soft skills well too. This indicates that soft skills are mastered, but their importance and application may not be fully understood or appreciated.

The lowest mastered soft skills were the ability to tolerate insecurity in general and in decision-making and creativity. Creativity was scored low by the other two target groups. Mastering hard skills was estimated lower than soft skills. This can explain the importance HE graduates assign to hard skills in job seeking. Yet, this again indicates discrepancy between the perceptions of job seekers and what employers want and regard important.

Preferred training options

Training should be user-oriented, easy to find and easily available, and use easy-to-use platforms. It should be specially addressed and tailored to HE graduate level.

Preferred training content should be holistic and balanced. Ideally, all three, soft skills, hard skills (IT, language, substance skills) and job seeking skills, should be addressed in training. The content should focus on bridging the gaps between the skills needed in and for work life and the academic substance including the use of metacognitive skills and future orientation. Defining own competencies, clarifying own intent and motivation, and developing the ability to demonstrate own skills and competencies are also needed. Getting more practical experience during HE degree studies and after graduation would help to gain and update competencies. In addition, educators' skills for delivering work life oriented training should be improved.

Preferred training themes were asked in order to find out whether the training preference is more substance delivery related (including soft skills application) or tools related (hard skills). As soft skills are universally needed, this assisted identifying national inclinations as well. The most important training themes were rated similarly between the representatives of training, education and employing organisations, while the preferences of HE graduates differ some from the other answers. Professional development in own field was preferred by all (Table 26.).

Table 26. Preferred training themes

	Unemployed underemployed graduates and HE	Training and education organisations	Employing organisations
1	professional development in own field	professional development in own field	professional development in own field
2	professional development of another field of their interest	job application skills	job application skills
3	job application skills	professional development of another field of their interest	professional development of another field of their interest

4	IT-skills	IT-skills	IT-skills
5	international language skills	international language skills	international language skills

The preferred training methods were versatile including individual and group approaches, self-paced and online learning, action learning, group work, network events, seminars, workshops, Individual and group coaching with a mentor, trainer, expert, discussion with peers, cases from real life, storytelling, co-creation, learning through senses, work-related practical training, but also talks from enterprises, experts, employers and alumni, and self-promotion. Unemployed and underemployed HE graduates also mentioned self-tests and learning from hobbies. In addition, individual training in relation to examples and reflection on current and future work life, flexible training paths and solutions, and Identifying individual aims and objectives for employment and career building were mentioned among preferred training solutions.

What comes to existing practices, soft skills were learnt, for instance through work experience, group assignments or teamwork, establishing companies and projects, and project work facilitating the development of problem-solving, cooperation skills and team-working skills. This additionally helped students to see how different people worked and learn more about oneself.

The commonly least preferred training methods were gaming (except in Greece) and lecture-type setting. Also networking events, self-tests/ self-analysis/ quizzes, cases from real life, storytelling, and learning from hobbies and free-time activities all received a lower score once.

Training should be a combination of e-learning and face-to-face learning, and it should be customised to personal needs of the subjects. Hence, for example, modularity, potential and challenge recognition could be used.

Other ideas for developing employability of unemployed and underemployed HE graduates were in line with the previous findings. In addition, the following ideas were suggested:

Ideas for development during higher education included for instance,

- Mandatory courses of soft skills and inter-disciplinary specialised programs
- Include stakeholders in lesson and curriculum development
- HE curriculum should help graduates build their portfolio skills whilst studying
- Help students understand the nature of their studies and future work prospects in their sector, and give students more freedom to choose and structure their studies according to their career aspirations. Provide career and job search guidance with examples.

Ideas for training development in general:

- Support to work experience for long-term unemployed, more possibilities to increase substance competencies in practice, and additional training in case of a sector change
- Training in recognising and showing soft skills through examples
- Seeing the person and his/her life and capabilities as a whole including more positive attitudes towards HE graduates who have studied abroad, elder job seekers and immigrants

- Assistance in identifying different occupational roles and trying new and different sectors
- Enable co-operation between different professionals to increase employability, and enable networking, contact finding and idea sharing through events and discussion forums
- Employers assist with documenting the experiences and skills gained at work.
- Investing in knowledge, skills and quality of trainers and educators.

Ways to explore or measure soft skills in recruiting situations revealed information for portfolio and training course development. The interviews with employing, training and education organisations provided five solutions for exploring and measuring soft skills:

1. Demonstration and illustration with examples (e.g. portfolio), references and extra-curricular activities and situations
2. Demonstrating and exploring soft skills in action, for example using role play, showcases, workshops and ateliers where candidates can be seen at work. This could be complemented by an on-site post-evaluation by employees giving indications of whether the candidates have the required soft skills for the job or not, or an assessment form and a discussion with the candidates to identify strengths and weaknesses of their soft skills.
3. Evidencing, e.g. through networks, recommendations from previous employers, peer reviews and feedback, internship, and by providing feedback of individual roles and skills in practice.
4. Through attitude, enthusiasm, behaviours, inspiration and intuition detected during discussions in meetings and interviews.
5. Using a psychometric questionnaire tool.

The Pan-European aspect with national inclinations

There was a strong correlation between the respondent groups from all countries despite the differences in the country profiles. Due to the strong correlation between the countries in skills, challenges, skills needs and training delivery, can be concluded that the findings cover the Pan-European aspect, and the basic training can be the same using the same skills dimensions.

The main differences detected regarded hard skills, for example languages, and national issues, for instance, challenges caused by a class society structure in the UK, high unemployment and connecting work life orientation stronger with the academy in Greece, unemployment in Finland, and the regional differences in Belgium. Soft skills can assist in overcoming these challenges, and certain training areas can be emphasised nationally, but national and regional initiatives and programmes are also needed.

7. Drivers for a Training course, Self-test and Handbook Development

This section presents a set of development drivers, i.e. key definition points, to be used in the development of curriculum and training programme, self-testing, handbooks for users and piloting. There are general drivers and drivers directly influencing the Reboot training course and materials. The detected challenges HE graduates face and the drivers are sector agnostic. The key development drivers have been derived from the detected challenges.

Drivers from the society

Higher education seems to be in a turning point as the competence needed by work life differ considerably from the competencies HE institutions provide for students, and hence education needs to be rethought making it more work-life oriented and adapting to changes in the society. Abolishing the distinction between 'academic' and 'vocational' skills was also suggested.

- ✓ Employability of HE graduates should be addressed on a holistic, strategic and systematic level as a lifelong learning activity with a common European policy.
- ✓ Career and employment services and training should be increased and customised for the needs of HE graduates including training of employment officers and career advisors.

Target group related drivers

There are three target groups, underemployed, unemployed young and adult HE graduates, while young HE graduates have been given most attention in employability enhancing solutions.

- ✓ Besides young HE graduates, also adult and underemployed HE graduates should be addressed in employability and soft skills training and services. Training should be started during higher education.

Education framing drivers

Education should be balanced and holistic, including a balanced development of soft skills, hard skills and job seeking skills. Soft skills (how, methods) and hard skills (what, tools, substance) integrate naturally in work life. Soft skills create "frames" for delivering the work also define how hard skills and substance knowledge are implemented in practice (for example in decision-making). Metacognitive skills are needed as they connect hard and soft skills.

- ✓ The connection between soft and hard skills, how these integrate in work life in practice and how soft skills facilitate delivering the content and hard skills should be shown
- ✓ Metacognitive skills should be recognised and supported for bridging the gap between hard and soft skills, and used for management of HE graduates' career paths and learning strategies
- ✓ Learning work-related skills also includes unlearning from essay-type learning only, and redefining what is competent.

Career and skills management related drivers

Recognising and showcasing own talent, skills and competencies is important due to high competition and other challenges. Skills and career management will become increasingly important due to foreseen career fragmentation, and one may have to often rethink, reinvent and reorganise the own. Adult and young HE graduates face prejudice in terms of the level of their work experience (too much, too little or inflexible experience) and mastering soft skills. The more generalist the sector is, the more important it is to showcase skills and competencies and how to use them. In addition, project nature work in some sectors, transferring from underemployment to employment, sector transfers and relocating to another geographic area may create additional challenges.

- ✓ Recognising, understanding, showcasing – demonstrating – visualising, productisation, updating and customising own skills is essential. This should go beyond soft skills including personal know-how, networking, and interests that might be from another sector, for instance, video making abilities. Skills and competencies can be drawn from common sense too.
- ✓ Productisation of own skills should take place through an understandable path. For instance, a creative product development process can be used for this. **Finding own strengths and vision, identify and demonstrate the skills required in practice**, identifying and defining own career path, developing a strategy for **marketing and commercialising one's own potential through differentiation and storytelling**, identifying the needs of potential employers and matching own capacities and skills to this are important. The personal mix of skills and competencies can be customised according to the employer, and when differentiating from other job seekers, or justifying a higher salary due to a longer experience, and it may assist narrowing the gap between graduates from prestigious universities versus graduates from normal universities.
- ✓ Soft skills are not only needed for delivering work (what work life needs) but also for job seeking and career development (what I need to organise my work life). Hence it is suggested that soft skills training covers job search too.
- ✓ Fragmentation of future careers, reinventing oneself, and future-oriented soft skills: systems thinking, problem-solving, adaptability to change, creativity are needed to reinvent oneself and to see opportunities, envision, and manage own career paths and create career opportunities.
- ✓ Soft skills may assist in increasing open-mindedness in job search and career reflection and help to tackle different psychological issues (e.g. low self-esteem). Attitude, motivation, commitment and self-confidence are related to experiences on previous and current employment opportunities and success in career building. Hence encouraging to change the viewpoint towards new ways of working, taking responsibility for one's own career and positivity are important. Adversities should be turned into strengths.

Soft skills related drivers

- ✓ All target groups, unemployed young and adult HE graduates and underemployed HE graduates, need the same soft skills for work life. However, how these manifest, are delivered, applied and

used (focus point) varies by the target group. Differences are created by general work experience, work experience in own sector, and the state of job-seeking.

- ✓ The forming of soft skills takes place through experience and practice combined with skills recognition. Intangible and tacit soft skills should also be made tangible. Creating touch points of soft skills recognition can help to identify and concretise soft skills. Practical examples, narrations from representatives of work life and alumni about different work situations, where soft skills have been used, how and why can increase understanding about them and their application. Situations can be created e.g. as scenarios where soft skills are combined with hard skills. Examples of using and mastering soft skills can be taken from one's own life. This does not only make the person understand how soft skills are mastered but it can be empowering as well.
- ✓ Other suggested soft skills to add to the tentative competency clusters are a sense of justice, different creative and design methods, listening, tolerance to stress, self-branding and marketing, and understanding and recognising one's own dreams and interests related to career building. It should be reflected whether these topics should be added into training or not.

Ways to demonstrate soft skills

- ✓ Demonstration and illustration with examples (e.g. portfolio), references and extra-curricular activities and situations
- ✓ Demonstrating and exploring soft skills in action, for example using role play, showcases, workshops and ateliers where candidates can be seen at work. This could be complemented by an on-site post-evaluation by employees, or an assessment form and a discussion
- ✓ Evidencing, e.g. through networks, recommendations from previous employers, peer reviews and feedback, internship, and by providing feedback of individual roles and skills in practice
- ✓ Through attitude, enthusiasm, behaviours, inspiration and intuition detected during discussions in meetings and interviews
- ✓ Using a psychometric questionnaire tool.

Drivers for training in general

- ✓ Training should be versatile, user-oriented and user-friendly, clear in communication, easy to find and easy to use. Training should be addressed and tailored especially to HE graduates as the competence and skills level is very different from the others.
- ✓ Training should be made visible and standardised
- ✓ Trainers need assisting material
- ✓ Employability training should be addressed to HE students as well

Drivers for training – training delivery

- ✓ Individualisation and tailoring in relation to the specific needs of HE graduates; recognising the differences in terms of age, motivation, personal characteristics, education, work experience, and level of skills among unemployed and underemployed HE graduates
- ✓ Individualised training content in terms of professional development, and practice-oriented and on-the-job training, group work and individual coaching are highlighted
- ✓ A mix of self-paced learning and online learning provide flexibility. For example modularity, potential and challenge recognition could be used
- ✓ Collaboration and communication with others in real-life support soft skills recognition, and provide peer support and a chance to learn from others
- ✓ The preferred training methods include individual and group approaches, self-paced and online learning, action learning, group work, network events, seminars, workshops, Individual and group coaching with a mentor, trainer, expert, discussion with peers, cases from real life, storytelling, co-creation, learning through senses, work-related practical training, talks from enterprises, experts, employers and alumni, and self-promotion. In addition, individual training in relation to examples and reflection on current and future working life, flexible training paths and solutions, and Identifying individual aims and objectives for employment and career building were mentioned. In addition, reference was also made to self-tests and learning from hobbies
- ✓ The least preferred training methods: gaming (except in Greece) and lecture-type setting. Also networking events, self-tests/ self-analysis/ quizzes, cases from real life, storytelling, and learning from hobbies and free-time activities all received a lower score once.

Drivers for training – training content – practice-related issues

- ✓ Training combining both theoretical and practical knowledge and work-life orientation
- ✓ More practice-oriented training, project work related to work tasks in practice, and simulated practical opportunities for development and evidencing soft skills
- ✓ Sharing practical knowledge of employing sectors, jobs and opportunities, and learning from experts in the field
- ✓ Identifying and mapping the training ecosystem including all relevant stakeholders and their roles and expertise for collaboration

Drivers for training – training content themes

- ✓ Soft skills for work delivery and soft skills for job seeking training
- ✓ Learning combining both theoretical and practical knowledge and work-life orientation
- ✓ Structures supporting the career building and life-long learning requires systemic viewpoint and involving collaboration of multiple stakeholders instead of single training/service offerings
- ✓ Portfolio development from tasks, skills measurement and other, during training

Figure 1 demonstrates the need and delivery of the soft skills for underemployed, young and adult HE graduates. The needed skills are the same for all the three groups and hence the skills should

be learnt, but their use application may vary according to the situation and previous work experience.

Figure 1. Presentation of soft skill need and delivery

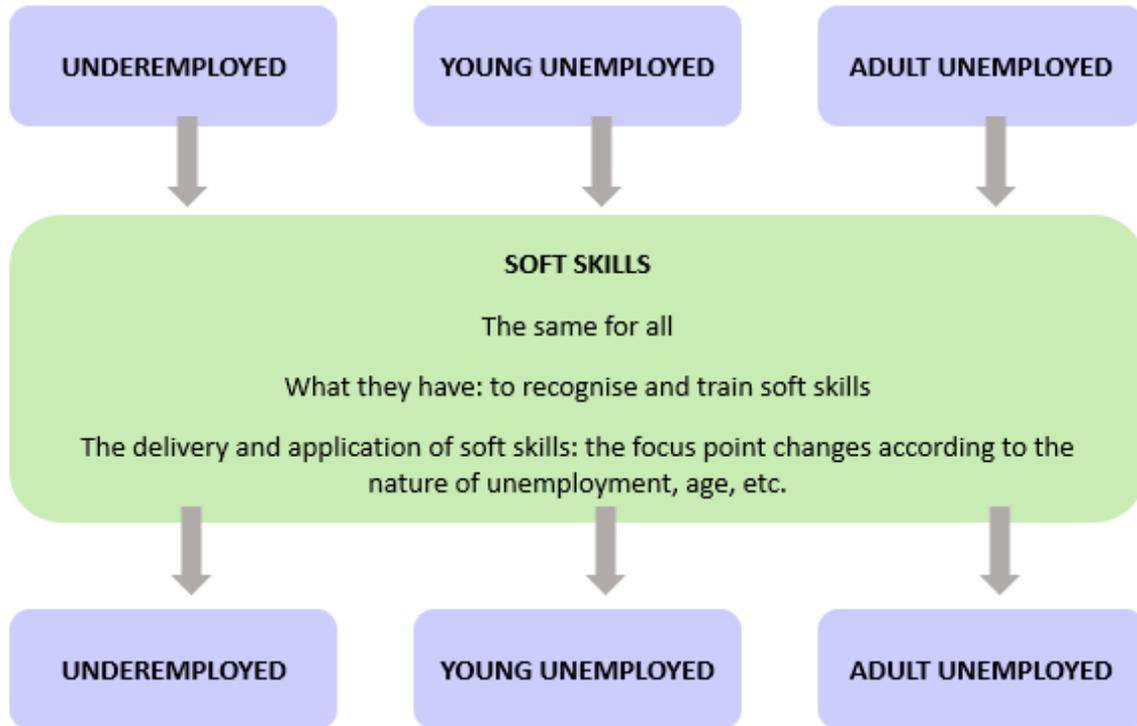
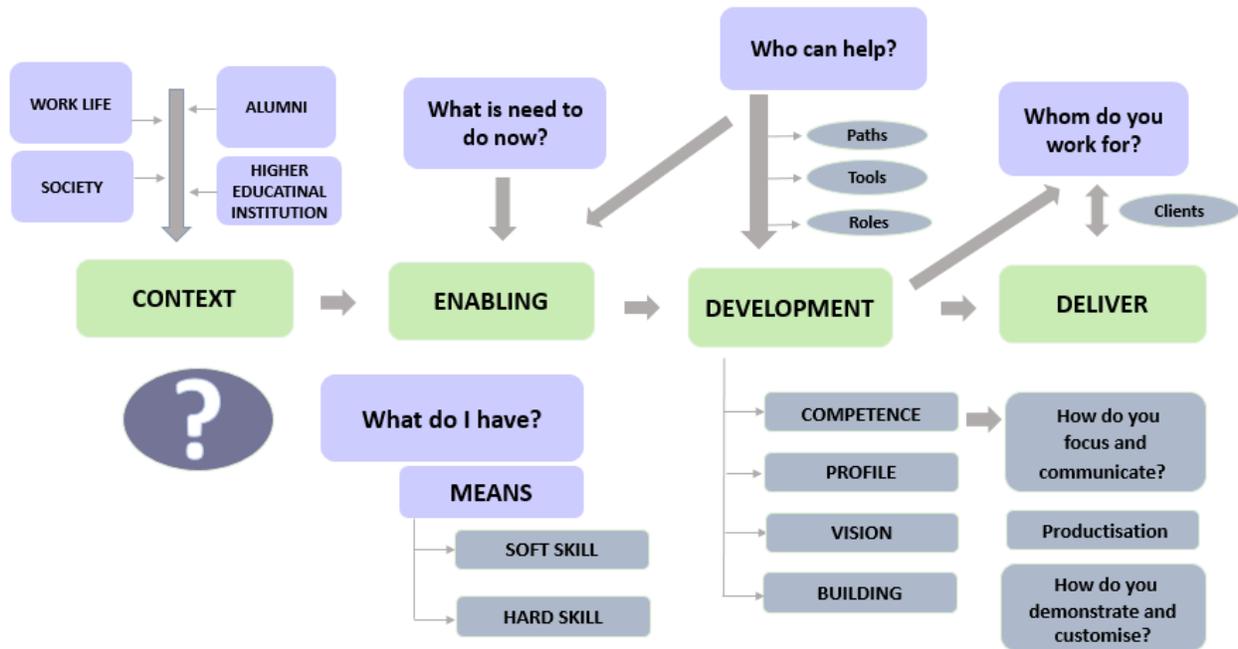


Figure 2 below provides an example of a productisation process of soft skills and competencies within the ecosystem of labour markets. It aims to look at the skills productisation from a broader

point of view including who can help during the process, what influences on skills and how to customise own skills and competencies.

A product development process can also be applied to the delivery of the 5 competency clusters and their skills. This would hence connect skills into a real-life process and practise, and eliminate potential overlapping of skills within competencies.

Figure 2. Productisation of soft skills and competences using a product development process



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Appendices

Appendix 1: Topics and questions for the Desk Research

Reboot

DESK RESEARCH

The topics and questions for the Desk Research

The desk research is performed in English. Each partner will collect data from their own country. In addition, VAMK, besides the country information, will perform a generic investigation on the European level. **Note!** In case there is no (current) information available in the country for a specific question or it is provided in a different form, partners can provide information according to the country’s situation.

Information will be collected for instance from publications, reports, statistical documents, literature, experiences/best practices/case studies of skills, competence and entrepreneurship education for HEI and in general, projects related to the topic and learning solutions. The partners are asked to provide references and potentially links to the material used.

PART 1: BACKGROUND INFORMATION

1.	<p>Country profile</p> <ul style="list-style-type: none"> - Describe your country in terms of income level, industries and attractiveness - The current situation of unemployed and underemployed HE graduates <ul style="list-style-type: none"> o statistics o recent changes and reasons for change o differences based on field, region, gender, origin, etc. o other unique aspects in your country - The main challenges for unemployed and underemployed HE graduates to find a job - Other interesting and current trends related to job search

PART 2: CURRENT SERVICES

2.	<p>Services for unemployed and underemployed HE graduates</p> <ul style="list-style-type: none"> - The main actors/services providers for unemployed and underemployed HE graduates - The existing employment and continuous education offer for the target group (benchmark and analyse max. 3-5 most relevant ones) <ul style="list-style-type: none"> o methods o practical solutions <ul style="list-style-type: none"> ▪ duration, barriers to participate in training, viewpoints of training offers - Do the services for unemployed and underemployed HE graduates match the learning solutions to Work 4.0 training approaches

3.	<p>Other country-specific findings, key points and most relevant gaps in the service offer</p> <ul style="list-style-type: none"> - What improvements should be done in order to offer services that meet the needs of the target group <ul style="list-style-type: none"> o in HE institutions (what HE institutions could do differently) o in employment and continuous education offer

PART 3: CONCLUSIONS

4.	<p>Conclusions</p>

REFERENCES

	<p>Include here references linking to the sources used to develop the training module, using the following referencing model:</p> <p>E.g. Natsheh, A. A., Gbadegeshin, S. A., Rimpiläinen, A., Imamovic-Tokalic, I. & Zambrano, A. (2015). Identifying the Challenges in Commercializing High Technology: A Case Study of Quantum Key Distribution Technology. Technology Innovation Management Review, January, 26-36.</p>
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Appendix 2: Survey for unemployed and underemployed HE graduates

Reboot IO1: Questionnaire 1

Target group: Unemployed and Underemployed HE Graduates

Version 29.10.2018

Welcome!

The aim of this questionnaire is to investigate what kind of skills, attitudes, preferred training challenges and options unemployed and underemployed higher education graduates have. The outcomes of the questionnaire will be used for developing a unique employment training for unemployed and underemployed higher education graduates. Your answers are highly appreciated.

Completing the questionnaire takes approximately 5–10 minutes.

The questionnaire is part of the project “Reboot - Re-rooting and Re-skilling Unemployed and Underemployed Higher Education Graduates for Work 4.0”, which is a collaborative project between four countries (Belgium, Finland, Greece and the UK), funded by the European Union under the ERASMUS+ programme. The project aims to develop a training model to support unemployed and underemployed HE graduates in developing their soft skills that are essential in today’s rapidly changing working environment.

If you want to stay updated about the project’s activities and seize the opportunity to take part in our various activities, such as free training sessions or workshops, that are to start in 2019, then do not forget to include your email address in the contact information box.

All information will be treated strictly confidentially and no personal information will be disclosed or be otherwise used except for research purposes.

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Thank you for your time!

All the best,

The Reboot project consortium

PART A. BACKGROUND INFORMATION

1. Gender

- Female
- Male

2. Age group

- <25
- 26-35
- 36-45
- 46-55
- 56 and over

3. Level of studies

- Bachelor's degree
- Master's degree
- Doctoral degree
- I am currently studying for a higher education degree
- Other, please specify

4. Current situation

- Unemployed
- Working full-time at the level of my degree
- Working part-time at the level of my degree
- Working full-time at a lower level than my degree
- Working part-time at a lower level than my degree
- Studying/training full-time
- Studying/training part-time
- Family, sabbatical or other leave
- Other, please specify

5. If you are unemployed, how long has your current unemployment period lasted?

- Less than 1 month
- 2-3 months
- 4-6 months
- 7-11 months
- 12-24 months
- More 24 months

6. If you are currently underemployed, how long have you worked in jobs that is/are not corresponding to your level of education?

- a. Less than 1 month
- b. 2-3 months
- c. 4-6 months
- d. 7-11 months
- e. 12-24 months

f. More 24 months

7. My work related goal

- To find a full-time job at the level of my degree
- To find a part-time job at the level of my degree
- To find a full-time job in any field/level
- To find a part-time job in any field/level
- I am not interested in finding a job
- Other

8. According to your own views and observations, which are the three main challenges for you to find a job?

OPEN

9. In your opinion, which are the most essential skills that you need to show your potential employer in order to get the job? Please mention 3-5 most relevant ones.

OPEN

PART B: COMPETENCY CLUSTERS FOR WORK 4.0

10. Please estimate your level of mastering the following skills in scale 0-5

(5 excellent – 4 good – 3 average – 2 below average – 1 low – 0 I don't know/want to answer)

HARD SKILLS

Hard skills are specific, teachable abilities that can be defined and measured, such as typing, writing, math, reading and the ability to use software programs. They include the expertise necessary for an individual to successfully do the job.

- Substance knowledge of your own field
- International language skills
- IT-skills
- Other, please specify

INTERPERSONAL SKILLS

- User-orientation skills
 - *I understand the user point of view in solutions that I make and have the ability to translate results in a way that anyone can understand them and make things usable.*
- Co-operation and teamworking.
 - *I have excellent co-operation and teamworking skills.*
- Multidisciplinary
 - *I am able to combine several fields of study or academic interests, translate and apply them in work.*

- Self-awareness
 - *I have the capacity to recognize my own feelings, behaviours, and characteristics - to understand my cognitive, physical and emotional self.*
- Cultural difference awareness and tolerance
 - *I am able to work with people who represent different culture than that of my own, also having sympathy or indulgence for beliefs or practices differing from or conflicting with my own.*

PROBLEM-SOLVING SKILLS IN WORK

- Detecting central problems and handling information
 - *I am able to distinguish the essential information from the massive load of information.*
- Dealing with wicked problems in everyday working life
 - *I am able to deal with wicked problems in everyday working life.) *A wicked problem is an issue or concern that is difficult to explain and inherently impossible to solve. The solutions are open-ended without wrong or right solutions because they are not asking for a solution actually.*
- Solution-orientation
 - *I begin by exploring what is the real problem, which will allow me to explore a solution that might not have been immediately obvious.*
- Creativity
 - *I have the ability to perceive the world in new ways, to find hidden patterns, to make connections between seemingly unrelated phenomena, and to generate solutions.*
- Ability to tolerate insecurity in decision-making
 - *I am able to tolerate insecurity in decision-making.*
- Looking solutions in past, present and future
 - *I am able to see the continuum of things, benchmark what has been done earlier, forecast and make solutions.*

PROJECT MANAGEMENT SKILLS

- Resilience
 - *I have an excellent capacity to recover quickly from difficulties; toughness.*
- Tenacity
 - *I have an excellent mental and/or moral strength to resist opposition, danger, or hardship.*
- Open-mindedness
 - *I am able to move beyond or temporarily sets aside my own presumptions in order to give a fair and impartial hearing to the intellectual opposition*
- Taking action
 - *I will act in order to get a particular result.*

- Ability to handle and balance content, deadlines and other project elements, and to prioritize them if needed.
 - *I have the ability to handle and balance content, deadlines and other project elements, and to prioritize them if needed.*
- Ability to adapt to new contexts and situations.
 - *I see easily the overall picture and see how things are linked with each other, get down to business and act.*
- Ability to tolerate insecurity.
 - *I am able to tolerate insecurity.*

FLEXIBILITY AND ADAPTABILITY

- Ability to optimize personal know-how
 - *I understand my strengths and weaknesses and I am able to see how to develop my personal know-how.*
- Ability to adapt to change and to understand change on a systemic level and their impact.
 - *I am able to adapt to change and to understand change on a systemic level and their impact.*

INTERCULTURAL AWARENESS

- Curiosity
 - *I have a strong desire to know or learn something.*
- Openness to new
 - *I enjoy trying new things.*
- Thinking outside the box
 - *I am able to think differently, unconventionally, or from a new perspective – thinking outside the box.*
- Willingness to connect own doing with something meaningful.
 - *I am extremely willing to connect my own doing with something meaningful.*

PART C: PREFERRED TRAINING CHALLENGES AND OPTIONS

11. What kind of training options are you interested in?

Please rate in scale 0-5 the level of your interest with respect to the following training options.
5=very high – 4=high – 3=medium – 2=low – 1=very low – 0=I don't know/want to say

Based on the theme

- professional development in your own field
- professional development of another field of your interest
- job application, CV and portfolio development
- International language skills

- IT-skills
- Other, please specify

By the following methods

- Self-paced training
- Group work
- Lecture-type setting
- Networking events
- Individual coaching with a mentor, trainer, expert
- Discussions together with peers
- Online
- Gaming
- Action learning
- Cases from real life, storytelling
- Self-tests/self-analysis/ quizzes
- Hobbies and free-time activities
- Other, please specify

12. Other comments related to the topic

OPEN

- We are interested in having some face-to-face interviews with the target group. If you are interested in sharing your views in deeper, please write your contact information below.
 - I am interested
 - I am not interested

- Reboot-project organizes various activities during the project time span (2018-2020), such as workshops and training. We are inviting our target groups to brainstorm and develop ideas. This enables us to develop the project output but also gives you first-hand information on current issues in the field. If you are interested in contributing your time and effort, please let us know.
 - I am interested, please keep me updated.
 - I am not interested

- My contact information:

Thank you!

Appendix 3: Survey for employing organisations

Reboot IO1: Questionnaire_2

Target group: Employing organisations

Version 29.10.2018

Welcome!

The aim of this questionnaire is to investigate what kind of skills, attitudes, preferred training challenges and options employing organizations and training organizations emphasize, and compare the results with unemployed and underemployed higher education graduates. The outcomes of the questionnaire will be used for developing a unique employment training for unemployed and underemployed higher education graduates. Your answers are highly appreciated.

Completing the questionnaire takes approximately 10–15minutes.

The questionnaire is part of the project “Reboot - Re-rooting and Re-skilling Unemployed and Underemployed Higher Education Graduates for Work 4.0”, which is a collaborative project between four countries (Belgium, Finland, Greece and the UK), funded by the European Union under the ERASMUS+ programme. The project aims to develop a training model to support unemployed and underemployed HE graduates in developing their soft skills that are essential in today’s rapidly changing working environment.

If you want to stay updated about the project’s activities and seize the opportunity to take part in our various activities, such as free training sessions or workshops, that are to start in 2019, then do not forget to include your email address in the contact information box.

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Thank you for your time!

All the best,

The Reboot project consortium

PART A. BACKGROUND INFORMATION

13. Sector

- Private sector
- Public sector
- Non-governmental organization

14. Field of the organisation

- Agriculture, forestry, fisheries and veterinary
- Arts
- Business, administration and law
- Education
- Engineering, manufacturing and construction
- Health and welfare
- Humanities
- Information and Communication Technologies
- Medicine
- Natural sciences, mathematics and statistics
- Services
- Social sciences, journalism and information
- Other

15. Size of the organization (number of employees)

- a. <10
- b. <50
- c. <250

16. Location of the organization

OPEN

17. Position of the person who submits the questionnaire

OPEN

18. According to your views and observations, which are the three main challenges for unemployed HE graduates to find a job?

OPEN

19. According to your views and observations, which are the three main challenges for underemployed HE graduates to reach the position that corresponds to their professional qualification?

OPEN

PART B: COMPETENCY CLUSTERS FOR WORK 4.0

20. Please estimate how important it is for an employee to master the following skills in your organization. Please estimate in scale 0-5

5=very high – 4=high – 3=medium – 2=low – 1=very low – 0=I don't know/want to say

HARD SKILLS

Hard skills are specific, teachable abilities that can be defined and measured, such as typing, writing, math, reading and the ability to use software programs. They include the expertise necessary for an individual to successfully do the job.

- Substance knowledge
- International language skills
- IT-skills
- Other, please specify

INTERPERSONAL SKILLS

- User-orientation skills
 - *The employee has the ability to translate results in a way that anyone can understand them and make things usable.*
- Co-operation and teamworking skills.
 - *The employee has excellent co-operation and teamworking skills.*
- Multidisciplinary
 - *The employee is able to combine several fields of study or academic interests, translate and apply them in work.*
- Self-awareness
 - *The employee has the capacity to recognize his/her own feelings, behaviours, and characteristics - to understand his/her cognitive, physical and emotional self.*
- Cultural difference awareness and tolerance
 - *The employee is able to work with people who represent different culture than that of his/her own, also having sympathy or indulgence for beliefs or practices differing from or conflicting with his/her own.*

PROBLEM-SOLVING SKILLS IN WORK

- Detecting central problems and handling information
 - *The employee is able to distinguish the essential information from the massive load of information.*
- Dealing with wicked problems in everyday working life

- *The employee is able to deal with wicked problems in everyday working life.)*
**A wicked problem is an issue or concern that is difficult to explain and inherently impossible to solve. The solutions are open-ended without wrong or right solutions because they are not asking for a solution actually.*
- Solution-orientation
 - *The employee begins by exploring what is the real problem, which will allow him/her to explore a solution that might not have been immediately obvious.*
- Creativity
 - *The employee has the ability to perceive the world in new ways, to find hidden patterns, to make connections between seemingly unrelated phenomena, and to generate solutions.*
- Ability to tolerate insecurity in decision-making
 - *The employee is able to tolerate insecurity in decision-making.*
- Looking solutions in past, present and future
 - *The employee is able to see the continuum of things, benchmark what has been done earlier, forecast and make solutions.*

PROJECT MANAGEMENT SKILLS

- Resilience
 - *The employee has an excellent capacity to recover quickly from difficulties; toughness.*
- Tenacity
 - *The employee has excellent mental and/or moral strength to resist opposition, danger, or hardship.*
- Open-mindedness
 - *The employee is able to move beyond or temporarily sets aside my own presumptions in order to give a fair and impartial hearing to the intellectual opposition.*
- Taking action
 - *The employee will act in order to get a particular result.*
- Ability to handle and balance content, deadlines and other project elements, and to prioritize them if needed.
 - *The employee has the ability to handle and balance content, deadlines and other project elements, and to prioritize them if needed.*
- Ability to adapt to new contexts and situations.
 - *The employee sees easily the overall picture and sees how things are linked with each other, get down to business and act.*
- Ability to tolerate insecurity.
 - *The employee is able to tolerate insecurity.*

FLEXIBILITY AND ADAPTABILITY

- Ability to optimize personal know-how
 - *Employee understands his/her strengths and weaknesses and is able to see how to develop his/her personal know-how.*
- Ability to adapt to change and to understand change on a systemic level and their impact.
 - *The employee is able to adapt to change and to understand change on a systemic level and their impact.*

INTERCULTURAL AWARENESS

- Curiosity
 - *The employee has a strong desire to know or learn something.*
- Openness to new
 - *The employee enjoys trying new things.*
- Thinking outside the box
 - *The employee is able to think differently, unconventionally, or from a new perspective – thinking outside the box.*
- Willingness to connect own doing with something meaningful.
 - *The employee is extremely willing to connect his/her own doing with something meaningful.*

PART C: PREFERRED TRAINING CHALLENGES AND OPTIONS

21. What kind of training/education would you recommend for unemployed and underemployed HE graduates who are applying for a job in your organisation?

Based on the theme

- professional development of employee's/applicant's own field
- professional development of another field of employee's/applicant's interest, please specify the field
- job application, CV and portfolio development
- International language skills
- IT-skills
- Other, please specify

By the following methods

- Self-paced training
- Group work
- Lecture-type setting
- Networking events
- Individual coaching with a mentor, trainer, expert
- Discussions together with peers
- Online

- Gaming
- Action learning
- Cases from real life, storytelling
- Self-tests/self-analysis/ quizzes
- Hobbies and free-time activities
- Other, please specify

22. Other comments related to the topic

OPEN

Thank you!

- We are interested in having some face-to-face interviews with the target group. If you are interested in sharing your views in deeper, please write your contact information below.
 - I am interested
 - I am not interested
- Reboot-project organizes various activities during the project time span (2018-2020), such as workshops and training. We are inviting our target groups to brainstorm and develop ideas. This would enable us to develop the project output, but also to give you first-hand information on current issues in the field. If you are interested in contributing your time and effort, please let us know.
 - I am interested, please keep me updated
 - I am not interested
- My contact information:

Appendix 4: Survey for training and education organisations

Reboot IO1: Questionnaire_3

Target group: Training Organisations

Version 29.10.2018

Welcome!

The aim of this questionnaire is to investigate what kind of skills, attitudes, preferred training challenges and options employing organizations and training organizations emphasize, and compare the results with unemployed and underemployed higher education graduates. The outcomes of the questionnaire will be used for developing a unique employment training for unemployed and underemployed higher education graduates. Your answers are highly appreciated.

Completing the questionnaire takes approximately 10–15minutes.

The questionnaire is part of the project “Reboot - Re-rooting and Re-skilling Unemployed and Underemployed Higher Education Graduates for Work 4.0”, which is a collaborative project between four countries (Belgium, Finland, Greece and the UK), funded by the European Union under the ERASMUS+ programme. The project aims to develop a training model to support unemployed and underemployed HE graduates in developing their soft skills that are essential in today’s rapidly changing working environment.

If you want to stay updated about the project’s activities and seize the opportunity to take part in our various activities, such as free training sessions or workshops, that are to start in 2019, then do not forget to include your email address in the contact information box.

All information will be treated strictly confidentially and no personal information will be disclosed or be otherwise used except for research purposes.

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Thank you for your time!

All the best,

The Reboot project consortium

PART A. BACKGROUND INFORMATION

23. Sector

- Private organization
- Public organization
- Non-governmental organization

24. Location of your organization

OPEN

25. What kind of services does your organization offer to unemployed HE graduates?

OPEN

26. What kind of services does your organization offer to underemployed HE graduates?

OPEN

27. According to your own views and observations, which are the three main challenges for unemployed HE graduates to find a job?

OPEN

28. According to your views and observations, which are the three main challenges for underemployed HE graduates to reach the position that corresponds to their professional qualification?

OPEN

PART B: COMPETENCY CLUSTERS FOR WORK 4.0

29. Please estimate how important it is for an employee to master the following skills at work in general. Please estimate in scale 1-5

5=very high – 4=high – 3=medium – 2=low – 1=very low – 0=I don't know/want to say

HARD SKILLS

Hard skills are specific, teachable abilities that can be defined and measured, such as typing, writing, math, reading and the ability to use software programs. They include the expertise necessary for an individual to successfully do the job.

- Substance knowledge
- International language skills
- IT-skills
- Other, please specify

INTERPERSONAL SKILLS

- User-orientation skills
 - *The employee has the ability to translate results in a way that anyone can understand them and make things usable.*

- Co-operation and teamworking skills.
 - *The employee has excellent co-operation and teamworking skills.*
- Multidisciplinary
 - *The employee is able to combine several fields of study or academic interests, translate and apply them in work.*
- Self-awareness
 - *The employee has the capacity to recognize his/her own feelings, behaviours, and characteristics - to understand his/her cognitive, physical and emotional self.*
- Cultural difference awareness and tolerance
 - *The employee is able to work with people who represent different culture than that of his/her own, also having sympathy or indulgence for beliefs or practices differing from or conflicting with his/her own.*

PROBLEM-SOLVING SKILLS IN WORK

- Detecting central problems and handling information
 - *The employee is able to distinguish the essential information from the massive load of information.*
- Dealing with wicked problems in everyday working life
 - *The employee is able to deal with wicked problems in everyday working life.)*
**A wicked problem is an issue or concern that is difficult to explain and inherently impossible to solve. The solutions are open-ended without wrong or right solutions because they are not asking for a solution actually.*
- Solution-orientation
 - *The employee begins by exploring what is the real problem, which will allow him/her to explore a solution that might not have been immediately obvious.*
- Creativity
 - *The employee has the ability to perceive the world in new ways, to find hidden patterns, to make connections between seemingly unrelated phenomena, and to generate solutions.*
- Ability to tolerate insecurity in decision-making
 - *The employee is able to tolerate insecurity in decision-making.*
- Looking solutions in past, present and future
 - *The employee is able to see the continuum of things, benchmark what has been done earlier, forecast and make solutions.*

PROJECT MANAGEMENT SKILLS

- Resilience
 - *The employee has an excellent capacity to recover quickly from difficulties; toughness.*
- Tenacity

- *The employee has excellent mental and/or moral strength to resist opposition, danger, or hardship.*
- Open-mindedness
 - *The employee is able to move beyond or temporarily sets aside my own presumptions in order to give a fair and impartial hearing to the intellectual opposition.*
- Taking action
 - *The employee will act in order to get a particular result.*
- Ability to handle and balance content, deadlines and other project elements, and to prioritize them if needed.
 - *The employee has the ability to handle and balance content, deadlines and other project elements, and to prioritize them if needed.*
- Ability to adapt to new contexts and situations.
 - *The employee sees easily the overall picture and sees how things are linked with each other, get down to business and act.*
- Ability to tolerate insecurity.
 - *The employee is able to tolerate insecurity.*

FLEXIBILITY AND ADAPTABILITY

- Ability to optimize personal know-how
 - *Employee understands his/her strengths and weaknesses and is able to see how to develop his/her personal know-how.*
- Ability to adapt to change and to understand change on a systemic level and their impact.
 - *The employee is able to adapt to change and to understand change on a systemic level and their impact.*

INTERCULTURAL AWARENESS

- Curiosity
 - *The employee has a strong desire to know or learn something.*
- Openness to new
 - *The employee enjoys trying new things.*
- Thinking outside the box
 - *The employee is able to think differently, unconventionally, or from a new perspective – thinking outside the box.*
- Willingness to connect own doing with something meaningful.
 - *The employee is extremely willing to connect his/her own doing with something meaningful.*

PART C: PREFERRED TRAINING CHALLENGES AND OPTIONS

30. What kind of training/education would you recommend for unemployed and underemployed HE graduates who are applying for a job?

Based on the theme

- professional development of employee's/applicant's own field
- professional development of another field of employee's/applicant's interest, please specify the field
- job application, CV and portfolio development
- international language skills
- IT-skills
- Other, please specify

By the following methods

- Self-paced training
- Group work
- Lecture-type setting
- Networking events
- Individual coaching with a mentor, trainer, expert
- Discussions together with peers
- Online
- Gaming
- Action learning
- Cases from real life, storytelling
- Self-tests/self-analysis/ quizzes
- Hobbies and free-time activities
- Other, please specify

31. Other comments related to the topic

OPEN

Thank you!

- We are interested in having some face-to-face interviews with the target group. If you are interested in sharing your views in deeper, please write your contact information below.
 - I am interested
 - I am not interested
- Reboot-project organizes various activities during the project time span (2018-2020), such as workshops and training. We are inviting our target groups to brainstorm and develop ideas. This would enable us to develop the project output, but also to give you first-hand information on current issues in the field. If you are interested in contributing your time and effort, please let us know.

- I am interested, please keep me updated
 - I am not interested
- My contact information:

Appendix 5: Interview template for unemployed and underemployed HE graduates

Reboot

INTERVIEW TEMPLATE 1

Unemployed and underemployed HE graduates

Information about interviewee	
Country	
Name of interviewee	
Current status of the interviewee	Unemployed/Underemployed
Date and time of interview	
Location of the interview (skype, face-to-face)	
Audio record (e.g. file name, format)	

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PART 1: INTERVIEWEE PROFILE

1.	Basic information about the interviewee
	1.1 What is your current status? - Unemployed/underemployed since? - What are your plans regarding work life, working in general, career development?
	1.2 Your educational background? - What have you studied (major/minor)? - Other relevant training and courses?
	1.3 Please tell us shortly about your work history after graduation?

	- Have you worked in jobs corresponding to your degree?

2.	Challenges in getting a job (or a job corresponding to your degree)
	2.1 According to your own views and observations, what are the main challenges for you in finding a job?
	2.2 How actively are you searching for a job in your field/related to your degree?
	2.3 What is the employment situation in your field in general?

PART 2: COMPETENCY CLUSTERS FOR WORK 4.0

3.	The most essential skills that are expected from employee/applicant
	3.1 Based on your own observations and experience, which are the most essential skills that are expected from you? Hard/soft skills? <i>Refer to soft skills list if needed (see the last page)</i>
	3.1.1 According to employers (e.g. based on job adverts you have seen, your discussions with employers)? - How strongly these skills are required by the employer side? - Are employers' demands for skills and competencies reasonable?
	3.1.2 According to others, e.g. employment experts (trainers, mentors) or study counsellors at the university (based on advice you have received)?

PART 3: PREFERRED TRAINING CHALLENGES AND OPTIONS

4.	Preferred training options and challenges in participating
	4.1 How familiar are you with the training offered in your region/field/other service providers (labour union, NGOs, etc.)?

	<p>4.2 What topics are covered in the training services available? Are they accessible?</p> <p>4.3 What kind of training options are you interested in?</p> <p>- e.g. workshops, online training, etc.</p> <p>4.4 What prevents you from participating in training?</p> <p>- Lack of interest, schedules, content, etc.</p>

5.	Soft skills development in higher education institutions
	<p>5.1 Were there any soft skills training available during your studies?</p> <p>- Focusing on which soft-skills?</p> <p>- Did you participate? Why, why not?</p> <p>- Was career counselling included in your degree?</p>

PART 4: WRAP-UP AND CONCLUSIONS

6.	Ideas for developing the current situation
	<p>6.1 In your opinion, what could be done differently in order to ease the employment possibilities for HE graduates?</p> <p>- During/after degree</p> <p>- At work</p> <p>- Other ideas</p>

SOFT SKILLS	
INTERPERSONAL SKILLS	<ul style="list-style-type: none"> ▪ user orientation skills ▪ cooperation skills and team working ▪ multidisciplinary ▪ self-awareness ▪ cultural difference awareness and tolerance
PROBLEM-SOLVING SKILLS	<ul style="list-style-type: none"> ▪ Detecting central problems and handling information ▪ Dealing with wicked problems in everyday working life ▪ Solution orientation ▪ Creativity ▪ Ability to tolerate insecurity in decision-making ▪ Looking solutions in past, present and future
PROJECT MANAGEMENT SKILLS	<ul style="list-style-type: none"> ▪ Resilience ▪ Tenacity ▪ Open-mindedness ▪ Taking action ▪ Ability to handle and balance content, deadlines and other project elements, and to prioritize them if needed ▪ Ability to adapt to new contexts and situations ▪ Ability to tolerate insecurity
FLEXIBILITY AND ADAPTABILITY	<ul style="list-style-type: none"> ▪ Ability to optimize personal know-how ▪ Ability to adapt to change and to understand change on a systemic level and their impact
INTERCULTURAL AWARENESS	<ul style="list-style-type: none"> ▪ Curiosity ▪ Openness to new ▪ Thinking outside the box ▪ Willingness to connect own doing with something meaningful

Appendix 6: Interview template for employing and employing training organisations

Reboot

INTERVIEW TEMPLATE 2

Employing and training organisation

	Information about interviewee	
	Country	
	Name of interviewee	
	Position and organisation of interviewee	
	Date and time of interview	
	Location of the interview (skype, face-to-face)	
	Audio record (e.g. file name, format)	

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PART 1: INTERVIEWEE / ORGANISATION PROFILE

1.	Background information
	<p>1.4 <u>Employing organisations</u> - Sector, field, size, recruits per year, any challenges in finding the needed workforce?</p> <p>1.5 <u>Training organisations</u> - Services (offered especially for unemployed and underemployed HE graduates)</p> <p>1.6 <u>Interviewee</u> - Current position and tasks</p>

2.	<p>Challenges of unemployed and underemployed HE graduates to find a job</p> <p>2.4 What are the main differences between the challenges faced by the two groups: <u>unemployed</u> and <u>underemployed</u> higher education graduates?</p> <ul style="list-style-type: none"> - If you are not able to distinguish these two groups, please answer in general - Have you perceived any notable changes during previous years? (skills, desires for working life/career) <p>2.5 According to your views and observations, what are the main challenges for these two groups in finding a job?</p>

PART 2: COMPETENCY CLUSTERS FOR WORK 4.0

3.	<p>The most essential hard and soft skills in working life in general</p> <p>3.1 Based on your own observations and experience, what are the most essential skills that are needed in work?</p> <p><i>Refer to soft skills list if needed (see the last page)</i></p> <p>3.2 What is your impression, do unemployed and underemployed HE graduates have these skills?</p> <ul style="list-style-type: none"> - Are they able to highlight their skills during the recruiting process? <p>3.3 What kind of soft skills qualification or proof does your organisation consider/value as an asset?</p> <ul style="list-style-type: none"> - How applicants can prove their soft skills?

4.	<p>Ways to explore or measure soft skills in recruiting</p> <p>4.1 How do you explore the presence or lack of soft skills, especially if you are looking for certain soft skills?</p> <ul style="list-style-type: none"> - Is it possible to explore them during the recruiting process or only as a post-evaluation of active employees? - How does your staff recognise the existence of the needed soft skills? Do they use a certain methodology or tools?

PART 3: PREFERRED TRAINING CHALLENGES AND OPTIONS

5.	Preferred training providers and challenges in participating
	<p>5.1 Describe the strengths and weaknesses of the training offered in your city/region/field</p> <p>5.2 Do higher education institutions prepare their students for the current working life and its requirements? - Please describe and give examples.</p> <p>5.3 What could other institutions (employment organisations, trainers, NGOs) do differently to improve their training offer? - Estimate also the role of your own organisation.</p> <p>5.4 What kind of training options would you recommend for unemployed or underemployed HE graduates? - Content and methods give examples.</p>

PART 4: WRAP-UP AND CONCLUSION

5.	Ideas for developing the employment of unemployed or underemployed HE graduates
	<p>5.1 In your opinion, what could be done differently in order to ease the employment possibilities for HE graduates? - During/after studies</p> <p>5.2 What could be done differently in HE institutions?</p>

SOFT SKILLS	
INTERPERSONAL SKILLS	<ul style="list-style-type: none"> ▪ user orientation skills ▪ cooperation skills and team working ▪ multidisciplinary ▪ self-awareness ▪ cultural difference awareness and tolerance
PROBLEM-SOLVING SKILLS	<ul style="list-style-type: none"> ▪ Detecting central problems and handling information ▪ Dealing with wicked problems in everyday working life ▪ Solution orientation ▪ Creativity ▪ Ability to tolerate insecurity in decision-making ▪ Looking solutions in past, present and future
PROJECT MANAGEMENT SKILLS	<ul style="list-style-type: none"> ▪ Resilience ▪ Tenacity ▪ Open-mindedness ▪ Taking action ▪ Ability to handle and balance content, deadlines and other project elements, and to prioritize them if needed ▪ Ability to adapt to new contexts and situations ▪ Ability to tolerate insecurity
FLEXIBILITY AND ADAPTABILITY	<ul style="list-style-type: none"> ▪ Ability to optimize personal know-how ▪ Ability to adapt to change and to understand change on a systemic level and their impact
INTERCULTURAL AWARENESS	<ul style="list-style-type: none"> ▪ Curiosity ▪ Openness to new ▪ Thinking outside the box ▪ Willingness to connect own doing with something meaningful

Appendix 7: Interview template for stakeholders

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INTERVIEW TEMPLATE 3

Stakeholders

policymakers, developers, regional authorities, researchers, HE staff and students, VET-providers, SME organisations, chambers of commerce, business representatives

	Information about interviewee	
	Country	
	Name of interviewee	
	Position and organisation of interviewee	
	Date and time of interview	
	Location of the interview (skype, face-to-face)	
	Audio record (e.g. file name, format)	

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PART 1: INTERVIEWEE / ORGANISATION PROFILE

1.	Background information
	1.7 Interviewee - Organisation - Position of the employee, relation to the topic

2.	Challenges of unemployed and underemployed HE graduates to find a job
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	<p>2.6 What are the main differences between the challenges faced by the two groups: <u>unemployed</u> and <u>underemployed</u> higher education graduates?</p> <ul style="list-style-type: none"> - If you are not able to distinguish these two groups, please answer in general - Have you perceived any notable changes during previous years? (skills, desires for working life/career) <p>2.7 According to your views and observations, what are the main challenges for these two groups to find a job?</p>

PART 2: COMPETENCY CLUSTERS FOR WORK 4.0

3.	The most important hard and soft skills in work
	<p>3.4 Based on your own observations and experience, what are the most essential skills that are needed in work?</p> <p><i>Refer to soft skills list if needed (see the last page)</i></p> <p>3.5 What is your impression, do unemployed and underemployed HE graduates have these skills?</p> <ul style="list-style-type: none"> - Are they able to highlight their skills during the recruiting process?

PART 3: PREFERRED TRAINING CHALLENGES AND OPTIONS

4.	Preferred training providers and challenges in participating
	<p>5.5 Describe the strengths and weaknesses of the training offered in your city/region/field.</p> <p>4.1 Do higher education institutions prepare their students for the current working life and its requirements?</p> <ul style="list-style-type: none"> - Please describe and give examples <p>4.3 What kind of training options would you recommend for unemployed or underemployed HE graduates?</p> <ul style="list-style-type: none"> - Content and methods

PART 4: WRAP-UP AND CONCLUSION

5.	Ideas for developing the employment of unemployed or underemployed HE graduates
	<p>5.2 In your opinion, what could be done differently in order to ease the employment possibilities for HE graduates?</p> <ul style="list-style-type: none"> - During/after studies <p>5.2 What could be done differently in HE institutions</p>

SOFT SKILLS	
INTERPERSONAL SKILLS	<ul style="list-style-type: none"> ▪ user orientation skills ▪ cooperation skills and team working ▪ multidisciplinary ▪ self-awareness ▪ cultural difference awareness and tolerance
PROBLEM-SOLVING SKILLS	<ul style="list-style-type: none"> ▪ Detecting central problems and handling information ▪ Dealing with wicked problems in everyday working life ▪ Solution orientation ▪ Creativity ▪ Ability to tolerate insecurity in decision-making ▪ Looking solutions in past, present and future
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FLEXIBILITY AND ADAPTABILITY	<ul style="list-style-type: none"> ▪ Ability to optimize personal know-how ▪ Ability to adapt to change and to understand change on a systemic level and their impact
INTERCULTURAL AWARENESS	<ul style="list-style-type: none"> ▪ Curiosity ▪ Openness to new ▪ Thinking outside the box ▪ Willingness to connect own doing with something meaningful