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TRAINEE TowarD market-based skills
for sustAINable Energy Efficient construction

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Authors	Lihnida S. Georgievska, Hristina Spasevska, Ivana Sandeva,
Contributors	Risto Ivanov, Irena Milkov, Emilija Nikolovska
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TRAINEE



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1 Introduction

1.1. Project description

The project “Toward market-based skills for sustAINable Energy Efficient construction” is EU funded project under HORIZON 2020 programme, topic: Construction skills, Type of action: CSA Coordination and support action.

Overall objective is to increase the number of skilled building professionals according to recommendations from National qualification roadmap (http://buildupskills.mk/images/Publikacii/Roadmap/EN_Roadmap_BUS-MK.pdf) concerning two priorities, training of 4.500 building professionals and blue collar workers and overcoming barriers for implementation of EE measures in operation and maintenance.

Three specific objectives are set up as:

- (1) Upgrading two qualification schemes for technicians, building managers and engineers and development of large scale of training schemes for 5 blue collar qualifications and two RES occupations (designers and installers) by establishing the Knowledge Centre for support in development of sustainable EE market-based construction skills with annual capacity to replicate it to 10 training providers and 600 qualified construction workers (200 through training and 400 through recognition of previous learning);
- (2) Increasing awareness of building professionals for use of Building Information Modelling (BIM) tools, in order to achieve the desired multidisciplinary approach in construction that should result with reduction in the gap between designed and actual energy performance through improved quality of construction in specific projects and to achieve measurable energy savings and improved quality of indoor environment;
- (3) Improved market recognition of skills in the building sector and enhancing collaboration across different professional groups and introducing methodology for mutual recognition of skills with three EU countries (Greece, Slovenia and Croatia).

The TRAINEE consortium consists of 6 partners, 5 from Macedonia: ECM-Economic Chamber of Macedonia; ZBK Kreacija-Association of business and consultancy; UKIM Ss Cyril and Methodius University, with the Faculty of Electrical Engineering and Information Technologies; EIM-Engineering institution of Macedonia; AEC-Adult Education Centre; and 1 partner from Spain: BIM Academy-WITS Institute from Barcelona.

The project is organized in six working packages that will produce 34 deliverables (products) with intended impact on two areas: (a) enabling policy and (b) building capacity and skills for energy efficiency measures. The project intends to have impact on 270 building professionals, 440 blue color workers, 230 construction companies and 32 relevant market



actors (6 public authorities; 6 national professional associations 1- educational and training institutions and 10 investors).

This document is Deliverable # 4.5, which results out of Task 4.4 Ensuring replication of project results across EU through Knowledge center and mutual recognition among EU countries.

Within this task the methodology for mutual recognition of EE construction skills will be developed. The methodology encompassed of procedures for recognition of obtained EE construction skills by workers and professionals. The pilot implementation of the methodology will be organized with three EU countries: Greece, Croatia and Slovenia. The pilot results will be used by AEC in formal state procedures for mutual recognition of EE construction skills among EU countries.

2 Background

Learning mobility fosters the development of key competences and experiences that are crucial for active participation in society and in the labour market.

In the context of a globalised education and employment environment, it is essential that people are able to make the best possible use of all learning opportunities across the EU. There are several actions that are representing the EU's commitment to facilitate mutual recognition of qualifications in general, and also of particular specific knowledge, skills and competences as well. However, the studies confirm that recognition procedures are often slow, left to the discretion of individual institutions, not sufficiently transparent and usually impose extra cost to a student.

Particularly at secondary level, recognition of both upper secondary qualifications and outcomes of learning periods abroad varies greatly from one country to another. Young people who want to study for a longer period abroad during secondary education, or to access higher education in another EU Member State, often lack information and certainty about the recognition of their qualifications and competences. This case is even more unfavourable when it comes to recognise informal or nonformal learning.

2.1 The Council Recommendation

With the Council Recommendation, EU Member States make a political commitment to take steps to introduce automatic recognition by 2025. This will be accompanied by actions that will build trust in each other's education systems, and support Member States to improve recognition to facilitate learning mobility.

In the field of higher education, the Recommendation builds on progress already made in other forms, notably the Bologna Process and the Lisbon Recognition Convention, as well as



through multilateral agreements between groups of EU Member States, such as the Benelux Decision on automatic recognition of higher education qualifications and the agreement of Baltic countries.

It also promotes the further use of existing tools which can support the recognition of qualifications and the outcomes of learning periods abroad, such as Europass, the European Qualifications Framework, the European Credit Transfer and Accumulation System (ECTS), the Diploma Supplement and the European Credit System for Vocational Education and Training, among others.

At upper secondary level, the proposed Recommendation aims to improve recognition processes for qualifications required to access higher education, including vocational education and training qualifications. It will also promote the recognition of the outcomes of learning periods abroad at this level.

3 Different contexts of Recognition of skills

Recognition of skills and qualifications is an important tool to facilitate mobility across a range of dimensions, by nationals, EU mobile citizens and third country migrants alike. The focus of different contexts can differ between

- mobility between different levels and types of education,
- mobility between education and employment and vice versa,
- mobility within employment, including between economic sectors.

This can generally concern a range of target groups, some of which are also geographically mobile (EU and third country nationals). The temporary and permanent dimensions of mobility are cross-cutting. Different types of mobility may have their own frameworks regulating recognition issues and individuals may face different types of obstacles depending on the mobility dimension.

3.1 The nature of recognition

Recognition of skills and qualifications takes place when an individual applies for a job or an education and training programme. In this process, the individual must be able to clearly demonstrate existing skills and qualifications, so that employers and education/training providers can come to a fair, reliable and efficient decision on their recognition. This can be done either through using documentary evidence, which outlines the content, levels of skills and qualifications of an individual, including information on the authenticity of information and the quality of the education/training provider issuing these documents, or through more



direct assessments of skills, such as through work samples, presentations or assessment centres.

The recognition of skills and qualifications is assumed to take place in a variety of ways, for a variety of purposes, and to be undertaken by a variety of stakeholders, and not as being the preserve of public authorities alone. We distinguish between:

- **formal recognition**, i.e. a process of granting official status to acquired learning outcomes for the purposes of further studies or employment, and
- **de facto recognition**. De facto recognition is defined as the opposite of formal recognition, although the lines between both types can be blurred.

3.1.1 Recognition of skills

Regarding the subject of recognition, i.e. skills or qualifications, the purposes for which recognition can take place are different, as well as the stakeholders granting recognition.

A first consideration around the nature of recognition is what is being recognised, whether these are skills or qualifications. At the level of the **recognition of skills**, it is self-evident that qualifications (a key formal recognition mechanism) only ever recognise a portion of somebody's skills. Typically, qualifications acquired through learning at school or through work-based learning/apprenticeships are focused on what has been learned through a formal curriculum, although increasingly curricula and qualifications have been broadened to take into account transversal and 'soft' skills (not least through the identification of knowledge, skills and competences which lies at the heart of the European Qualification Framework), and systems to validate non-formal and informal learning (leading to, e.g., competence certification) are also weakening the connection between school curricula and qualifications. Nonetheless, since qualifications are unlikely to ever have a complete coverage of an individual's competences, employers make use of de facto practices to recognise skills in addition to qualifications.

3.1.2 Recognition of qualifications

In contrast, when we speak of **recognition of qualifications**, we are dealing with a slightly different concern which raises different issues. It can be seen in two ways:

☐ First, recognition of qualifications can be concerned with how qualifications are recognised across geographical borders or between education/training and employment or between different parts of an education and training system. This can involve formal recognition by legal authorities but also de facto practices, e.g. by individual educational institutions or employers.

☐ Secondly, we can take a wider perspective and consider that not all qualifications are recognised to the same extent in the wider economy and society. Indeed, in some countries, such as the UK, some vocational qualifications have been shown to have little currency in the labour market at all. In this sense, we might say that, de facto, qualifications in this context have low recognition, especially amongst employers.



From this perspective, it can be seen that skills can be formally recognised through qualifications, but also that qualifications do not recognise all skills, thereby opening up space for the use of de facto recognition practices, especially by employers.

This perspective also highlights the fact that the recognition of qualifications concerns another set of activities. For example, the recognition of qualifications can involve the recognition of qualifications from abroad, or in ensuring that qualifications obtained in one part of an education and training system are recognised in another.

3.2 The purpose of recognition

Further it is useful to understand why recognition is being carried out. There are at least two purposes for which recognition takes place:

In the case of **academic recognition**, recognition is sought for the purpose of further studies. It relates to the process whereby applicants apply to the higher education institution of their choice and thus enter the institutional admissions process, which includes to varying degrees some form of formal recognition procedure.

De facto recognition can have a role to play in accessing non-formal training particularly of the type that takes place in the workplace, as part of continuing vocational education and training or lifelong learning.

Professional recognition concerns the recognition of skills and qualifications for employment purposes. It involves both the process of initial entry to the labour market, as well as recognition as part of progression within an occupation or profession. Here it is useful to distinguish between regulated and non-regulated professions. In the case of regulated professions, formal recognition (through qualifications and perhaps other formalised procedures such as interviews) is essential in order to enter those professions; de facto recognition plays little or no role. Where non-regulated professions are concerned, however, the balance between formal and de facto recognition is highly variable. Indeed, there is no black and white distinction between the regulated and non-regulated professions in this respect, but rather a continuum. Current research is showing that voluntary but formal practices at a sectoral and/or occupational level may be increasing in importance, such as the Construction Skills Certification Scheme in the UK and Ireland where major contractors are increasingly requiring employees to hold the CSCS card. Furthermore, the picture is also made more complicated where, for example, employers may require recognition in non-regulated professions to guard themselves against any legal issues that they may fear if a non-recognised – let's say – plumber makes a mistake, as in Germany. Equally, from an employee perspective, recognition may take place in non-regulated professions to get access to the salary tariffs negotiated between social partners for certain (VET) professions.

Additionally, recognition may take place for reasons unrelated to the usability of the acquired skills and qualifications in the labour market or education system. Sometimes, (formal) recognition of qualifications is sought by individuals for intrinsic reasons, e.g. where non-



formal or informally acquired learning are recognised towards a higher level qualification to *recognise the 'value'* of the learning that has taken place, without immediate effects on job and employment conditions.

3.2.1 Responsible institutions

Formal recognition is sometimes taken to be exclusively the domain of **public authorities** and other stakeholders (e.g. Chambers in Germany) which issue qualifications or operate systems to validate non-formal and informal learning (which may or may not be linked to qualifications). However, as the preceding discussion suggests, we can also take a wider view in which recognition is carried out not just by such authorities but also, and principally, by employers.

In their recruitment practices, **employers** use a variety of methods to de facto recognise skills and balance the information they obtain from qualifications (including foreign qualifications or qualifications issued by a **private body** which may have required to be formally recognised) with interviewing and other testing which may be carried out, such as aptitude tests. At the same time, as noted above, in some occupations and sectors some qualifications are required for employment even though they are not backed up by the force of law, which might perhaps be said to be 'semi-formal' and are accepted by 'custom and practice'.

4 Existing Processes/Mechanisms for the Recognition of Qualifications and/or Skills

4.1 (A) Mutual recognition or reciprocity

Mutual recognition or reciprocity is where countries sign an agreement to accept each others' qualified workers in particular occupations (e.g. accountants, engineers) or in all occupations (e.g. EU). Mutual Recognition Agreements or Arrangements (MRAs) are optimal but are also the most difficult type of arrangements to achieve. They represent a two-way process. They rely on common standards of training, ethics and practice, and sometimes-common cultures, languages and laws. Otherwise, people and their skills are not seen as easily transferable. They involve a lengthy period of negotiation, usually involving professional bodies, and they usually do not involve participation by governments. They are a formal recognition process.

Developing countries are generally left out of most MRAs, and capacity-building is required in these countries to set up a recognition system and professional bodies, before agreements can begin to be negotiated. The European Union is relatively good example for MRA, but nevertheless most, if not all, MRAs that have been developed have been in professional level occupations and the lower level occupations have been left out of them.



Here, it is also important to be aware that many people use the term ‘mutual recognition’ to refer to one-way processes, such as the following (B, C and D). This is incorrect, though common, usage. In its strict sense, mutual means that countries agree to accept each other’s training as equivalent or comparable.

4.2 (B) Assessment/recognition of qualifications

Assessment/recognition of qualifications is where qualifications from one country are assessed for equivalence or comparability in another. This has been the most common form of qualifications assessment and immigrant-receiving countries have gradually instituted mechanisms/bodies that have been charged with conducting assessments and recognizing/accrediting ‘paper’ qualifications. Government, government-accredited agencies or professional bodies may conduct the assessments. This is a one-way process and there is no ‘mutual recognition’.

4.3 (C) Examinations of knowledge, clinical skills and language

Examinations of knowledge, clinical skills and language began in the 1970s and 1980s in various countries (e.g. Australia, Canada, US). They are often seen as an easier and more straightforward way of examining skills and preparedness to work in a host country. Once a test has been successfully completed the person can be ‘recognised’. This is a one-way process.

On the surface, this seems to be a good mechanism but the indirect discrimination that may be built into testing techniques (which may be unfamiliar in their format and conducted in a language other than the first language of the candidate), the cost of tests (which may exclude many people), the lack of opportunity to learn about local conditions and regulations before the test make such tests problematic for many candidates.

4.4 (D) Competency-based assessment (CBA)

Competency-based assessment (CBA) by means of a variety of methods, including:

- (a) employer/recruiting agent/professional body assessment/interviews have been the oldest method of assessing competency, and have emerged as the most common method in business-driven temporary migration.
- (b) a test of competency (often in registrable or licensable occupations, such as nursing or physiotherapy).
- (c) on-the-job competency assessment — during a period of service (nursing, working on site, teaching).



- (d) an agreement on regional competencies, which leads to the automatic acceptance of each other's workers.

In summary, various methods for assessing and recognising qualifications and skills have emerged over time. Each has particular advantages and disadvantages in terms of cost, efficiency, reliability of outcome and equity. They have all be subjected to challenge by interested parties who feel that they have been unfairly assessed and have been denied access to jobs for which they perceive themselves to be competent. It could be that they do not have comparable skills or it could be the result of control over the size and composition of the labour force.

5 Draft Methodology for mutual recognition

The main objective of drafting this document is to discuss and analyse how to ensure that skills and qualifications recognised in one Member State are recognised in another Member State. This is important in particular for cross-border and migrant workers in construction. As such, we can compare the issue of mutual recognition with the issue of mobility of workers in the EU. The standardization process has always been the precursor of new era. The industrialization started when standards on screw and bolts were agreed. Similarly, a Common European Market has started since European standards have set the performance of products with an EU label. The same has to happen for workers, once the standards will be agreed, they will easily move from one country to another as far as their languages competences come along the professional competences. If European standards are defined for each field, the problem of mutual recognition will be solved, the workers will know exactly what they should know in order to work in a specific sector and the ESCO or stakeholder interested in renovation would have a list of qualified workers in any country and the region they are available.

It is important to start a standardization process as when the rules are not clear there is more conflict and uncertainty, which ultimately is not beneficial for the market. In general, people say that it is better to have a bad standard than no standard at all. Standardization process is usually a long process but even a draft standard can help the training system to gradually go in the right direction and train workers in the correct way.

5.1 EU initiative for developing energy efficient construction skills

BUILD UP Skills is a strategic initiative which started under the Intelligent Energy Europe (IEE) programme to boost continuing or further education and training of craftsmen and other on-site construction workers and systems installers in the building sector.



Its final aim is to increase the number of qualified workers across Europe to deliver building renovations which offer high-energy performance as well as new, nearly zero-energy buildings. The initiative addresses skills in relation to energy efficiency and renewable energy systems and measures in buildings.

The activities within BuildUpSkills initiative launched since 2011 resulted with National reports on training needs and gaps (Status Quo Analysis) and defined Roadmaps for fulfilling those gaps, in the frame of established National Qualification Platforms-NQP, created to enhance stakeholder's engagement. The evaluation of BuildUpSkills pillar I resulted with identified need for upskilling of more than 4 mio workers in construction sector by 2020.

Furthermore, following this good start, well defined roadmaps reached their realisation in next actions under BuildUpSkills Pillar II, by supporting activities to establish new or upgrade existing large-scale qualification and training schemes based on the roadmaps' recommendations. A tremendous work was done on national level throw-out Europe, by developing a number of schemes for training, upskilling and qualification, covering a broad scope of occupations involved in construction. During these actions the importance of non-formal training was not disregarded, in contrary, the process of lifelong learning was recognized as reliable path, if not even most important, for keeping-up with the state-of-art development of the sector, although the EE and RES topics are usually coming in the school curricula (indeed with a delay). In the frame of 22 realized projects (each on national level), 805 training courses were developed involving more than 8500 trainees. These actions continued via the construction skills strand of the European Horizon 2020 research and innovation programme (H2020 EE4 Construction Skills) by developing additional schemes for upskilling and adding international component to the actions. The most recent H2020 call from 2018 have launched a group of projects that have further contributed to development of construction skills and schemes for trainings not only for blue collar workers but also have involved the necessity of training of building professionals too.

The building industry and suppliers as well as craftsmen, installers and on-site workers have shown huge interest for development of accreditation and certification of non-formal vocational education and training - VET. But all this success have identified the lack of more international approach, which would be enabled only by mutual recognition of national achievements and making energy skills comparable and validated across different EU countries.

According to the conclusions of Technical Working Group for Mutual Recognition of construction skill within BUILD UP Skills EU exchanges meetings the necessary preconditions to successfully facilitate mutual recognition are therefore:

- **To create European standards for learning outcomes for some of the professions;**
- Harmonise the qualification standards and formulate Units of Learning Outcomes (ULO) in order to increase comparability;



- Set up a minimum standard at EU level required for each profession, i.e. a kind of 'driving license' for a key set of competences which would be the minimum requirements to do the job. This action would not require further standardization.

The three above actions, in sequence, could solve the problem of the complexity and variety of MS qualification systems.

5.2 Minimal Requirements for Mutual Recognition of EE construction skills

The aim of this document is to facilitate meeting the requirements for mutual recognition of knowledge, skills and competences in construction sector in order to follow the general COUNCIL RECOMMENDATION of 26 November 2018 on promoting automatic mutual recognition of higher education and upper secondary education and training qualifications and the outcomes of learning periods abroad (Official Journal of the European Union 2018/C 444/01).

Currently, there are many different approaches employed within the EU to provide E&T in construction sector and differing arrangements for approval/accreditation. For this reason, there is a need to address the current situation and develop a set of key mutual recognition factors and information requirements that would allow mutual recognition of E&T courses between the relevant stakeholders in MS. In this context, the endorsed EU E&T Working Document states that there is a need for a common approach to assure confidence in the quality of E&T and assessments being provided even though it does not differentiate between processes of approval and accreditation.

The recommended framework on information required for mutual recognition is intended to serve as advice and give guidance to the different stakeholders. The decision whether or not a course fulfils the educational and training requirements in a given situation will be taken by the Competent Authority (CA), their nominee, by delegated authority or by another responsible institution/body as applicable.

5.3 The need for Mutual Recognition and Acceptance

Without mutual recognition of education and training and acceptance of a person's training/competence records free movement of personnel could be hindered. Since arrangements for E&T is at the discretion of the MS, often overseen and managed through their nominees or by delegated authority, different requirements for assuring the quality of E & T courses may arise as a consequence. This could lead to a variable quality of training and subsequently work is being done to different standards. There is a need, therefore, to develop a common framework of reference for E&T in order to set common principles and information requirements for E&T courses on which relevant stakeholders in MS, and as



things progress, in other countries could rely. Common key factors and information requirements should assist MS (CA or employers) in having confidence in the quality of E&T being delivered to an appropriate standard and its related assessment and hence facilitate mutual recognition. Such common principles could also be beneficial to aid E&T providers in setting up courses of required quality and content.

E&T is a multi-step/stage process which encompasses initial attendance at a modular E&T course followed by on-the-job education, practical training and therefore, the development of competence through work experience. This document sets out guidance for stakeholders involved in establishing programmes which aim to achieve mutual recognition of E&T courses between different.

5.3.1 Key Factors for Mutual Recognition of E&T Courses

In order to facilitate mutual recognition of skills, the most important precondition is to recognise the E&T courses that have lead to achieving skills. There is a need for relevant stakeholders in MS to rely on E&T provisions and competence assessment whether delivered locally, regionally, nationally or internationally.

Course recognition may be achieved in a number of ways, including approval by MS (or delegated) authority, through educational management and quality control (for example in the case of courses run in academia) or through independent organisations, such as independent accrediting bodies, providing relevant expertise and objectivity to evaluate the various (local, regional, independent, academic/industry/commercial) courses.

Common E&T provisions and competence assessment with quality assurance should contribute to confidence in E&T standards. Key factors are:

- Common principles for competence assessment and confidence in adherence to these principles.
- Good communication between relevant stakeholders in MS to deliver mutual recognition within a MS.
- A recognition process to ensure quality, based on availability of comparable information and assessment complying with EU recommendations.
- A common evaluation framework for courses as the basis for mutual recognition of E&T carried out elsewhere in other MS and, where appropriate, in non-EU countries

Adherence to these key factors should facilitate mutual recognition of an E&T course. Relevant stakeholders in MS could agree to accept courses that have undergone an approval or accreditation process meeting the information requirements set out below.



5.3.2 Information Requirements for Mutual Recognition of E&T Courses

Any process to ensure mutual recognition should specify clearly the information on course content, delivery and assessment which should be provided by the course providers to approval or accrediting bodies. The information requirements set out below are considered the minimum to allow for mutual recognition.

The information should include:

1. The name of the E&T provider, institution and contact details. When applicable include appropriate quality reference (legal, regulatory or any relevant E&T reference).
2. Qualifications/experience of educators, trainers and assessors (to meet agreed performance standards for course provision).
3. Syllabus for the module(s), including type/s of delivery (e.g. lectures/video materials/e-learning/interactive small group sessions etc.) including practical elements if applicable, and the associated Learning Outcomes (LOs).
4. Comprehensive, detailed, course information including topics covered, for example regarding regulatory and legal modules (European framework, national, local and other related legislation).
5. Example course programme including an indication of approximate timings.
6. Details of the minimum attendance requirements for the course and any critical sessions that must be attended.
7. How the LOs are to be assessed, including assessment criteria.
8. Language of the course. Certification to be in the recognised language of the MS and in English to promote free movement.
9. Certificate, issued by the accreditation or approval body where these exist, which should include EU module details for information (or link to relevant information).
10. Information on the means to access records of participants and course assessment results kept by the course provider and any other related records in accordance with requirements of the MS (those records should be kept for 5 years after the E&T course).



5.4 Guidelines for drafting MRAs

5.4.1 Introduction

This Annex contains guidelines to provide practical guidance to facilitate the negotiation of MRAs for EE construction skills. These guidelines are non-binding and they do not modify or affect the rights and obligations of a Party under this Agreement.

5.4.2 Definitions

For the purposes of this Annex:

adaptation period means a period of supervised practice, possibly accompanied by further training, of a occupation / profession in the host jurisdiction under the responsibility of a qualified person. This period of supervised practice shall be subject to an assessment. The detailed rules governing the adaptation period, its assessment and the professional status of the person under supervision shall be set out, as appropriate, in the host jurisdiction's law;

aptitude test means a test limited to the professional knowledge of applicants, made by the relevant authorities of the host jurisdiction with the aim of assessing the ability of applicants to pursue a regulated profession in that jurisdiction; and

scope of practice means an activity or group of activities covered by a regulated profession.

5.4.3 Form and Content of the MRA

This Section sets out various issues that may be addressed in a negotiation and, if so agreed, included in final MRAs (da ima prashanje dali sakaat dogovor). It outlines elements that might be required of foreign professionals seeking to benefit from an MRA.

1. Participants

The parties to the MRA should be clearly stated.

2. Purpose of the MRA

The purpose of the MRA should be clearly stated.



3. Scope of the MRA

The MRA should set out clearly:

- (a) the scope of the MRA, in terms of the specific professional titles and activities which it covers;
- (b) who is entitled to use the professional titles concerned;
- (c) whether the recognition mechanism is based on formal qualifications, a licence obtained in the jurisdiction of origin, or on some other requirement; and
- (d) whether the MRA allows permanent or temporary access to the profession concerned. Different set of requirements could be considered for permanent and for temporary, project-based access to the profession concerned.

4. Mutual Recognition Provisions

The MRA should clearly specify the conditions to be met for the recognition of qualifications in each jurisdiction and the level of equivalence agreed.

The following four-step process should be considered to simplify and facilitate the recognition of the qualifications.

Four-Step Process for the Recognition of Qualifications

Step One: Verification of Equivalency

The negotiating entities should verify the overall equivalence of the scopes of practice or qualifications of the regulated profession in their respective jurisdictions.

The examination of qualifications should include the collection of all relevant information pertaining to the scope of practice rights related to a legal competency to practice or to the qualifications required for a specific regulated profession in the respective jurisdictions.

Consequently, the negotiating entities should:

- (a) identify activities or groups of activities covered by the scope of practice of the target occupation / profession;
- (b) identify the skills /qualifications required in each jurisdiction. These may include the following elements:
 - (i) the minimum level of education required, for example, entry requirements, length of study and subjects studied;
 - (ii) the minimum level of experience required, for example, location, length and conditions of practical training or supervised professional practice prior to licensing, or the framework of ethical and disciplinary standards;
 - (iii) examinations passed, especially examinations of professional competency;



(iv) the extent to which qualifications from one jurisdiction are recognised in the other jurisdiction; and

(v) the skills / qualifications which the relevant authorities in each jurisdiction are prepared to recognise, for instance, by listing particular diplomas or certificates issued, or by reference to particular minimum requirements to be certified by the relevant authorities of the jurisdiction of origin, including whether the possession of a certain level of qualification would allow recognition for some activities of the scope of practice but not others (level and length of education, major educational focuses, overall subjects and areas).

Step Two: Evaluation of Substantial Differences

There exists a substantial difference in the scope of skills / qualifications required for certain occupation, in cases of:

- (a) important differences in the essential knowledge; or
- (b) significant differences in the duration or content of the training between the jurisdictions.

There exists a substantial difference in the scope of practice if:

- (a) one or more professional activities do not form part of the corresponding profession in the jurisdiction of origin;
- (b) these activities are subject to specific training in the host jurisdiction; and,
- (c) the training for these activities in the host jurisdiction covers substantially different matters from those covered by the applicant's qualification.

Step Three: Equivalence Measures

If the negotiating entities determine that there is a substantial difference in the scope of practice rights or of skills / qualifications between the jurisdictions, they may determine equivalence measures to bridge the gap.

An equivalence measure may take the form of, among other things, an adaptation period or, if required, an aptitude test.

Equivalence measures should be proportionate to the substantial difference which they seek to address. The negotiating entities should also evaluate any practical professional experience obtained in the jurisdiction of origin to see whether this experience is sufficient to remedy, in whole or in part, the substantial difference in the scope of practice rights or qualifications between the jurisdictions, prior to determining an equivalence measure.



Step Four: Identification of the Conditions for Recognition

Once the assessment of the overall equivalency of the scopes of practice rights or skills / qualifications of the certain occupation is completed, the negotiating entities should specify in the MRA:

- (a) the legal competency;
- (b) the qualifications for certain occupation;
- (c) whether equivalence measures are necessary;
- (d) the extent to which professional experience may compensate for substantial differences;
- (e) a description of any equivalence measure, including the use of any adaptation period or aptitude test.

5. Mechanisms for Implementation

The MRA should state:

- (a) the rules and procedures to be used to monitor and enforce the provisions of the agreement;
- (b) the mechanisms for dialogue and administrative co-operation between the parties to the MRA; and
- (c) the means for individual applicants to address any matters arising from the interpretation or implementation of the MRA.

As a guide to the treatment of individual applicants, the MRA should include details on:

- (a) the point of contact for information on all issues relevant to the application, for example, the name and address of the relevant authorities, licensing formalities, information on additional requirements which need to be met in the host jurisdiction;
- (b) the duration of the procedures for the processing of applications by the relevant authorities of the host jurisdiction;
- (c) the documentation required of applicants and the form in which it should be presented;
- (d) acceptance of documents and certificates issued in the host jurisdiction in relation to qualifications and licensing;
- (e) the procedures of appeal to or review by the relevant authorities.

The MRA should also include the following commitments by the relevant authorities:

- (a) requests about the licensing and qualification requirements and procedures will be promptly dealt with;
- (b) adequate time will be provided for applicants to complete the requirements of the application process and of any appeal to or review by the relevant authorities;



- (c) exams or tests will be arranged with reasonable frequency;
- (d) fees for applicants seeking to take advantage of the terms of the MRA will be commensurate with the costs incurred by the host jurisdiction; and
- (e) information will be supplied on any assistance programmes in the host jurisdiction for practical training, and any commitments of the host jurisdiction in that context.

6. Licensing and Other Provisions in the Host Jurisdiction

If applicable, the MRA should also set out the means by which, and the conditions under which, a licence is obtained following the determination of eligibility, and what a licence entails, for example, a licence and its contents, membership of a professional body, use of professional or academic titles. Any licensing requirements other than qualifications should be explained, including requirements relating to:

- (a) having an office address, maintaining an establishment or being a resident;
- (b) language skills;
- (c) proof of good character;
- (d) compliance with host jurisdiction's requirements for use of trade or firm names.

To ensure transparency, the MRA should include the following details for each host jurisdiction:

- (a) the relevant law to be applied, for example, regarding disciplinary action, financial responsibility or liability;
- (b) the principles of discipline and enforcement of professional standards, including disciplinary jurisdiction and any consequential effects on practicing professional activities;
- (c) the means for the ongoing verification of competence; and
- (d) the criteria for, and procedures relating to, revocation of the registration.

7. Revision of the MRA

If the MRA includes terms under which the MRA can be reviewed or revoked, the details should be clearly stated.

8. Transparency

The Parties should:

- (a) make publicly available the text of MRAs which have been concluded; and,
- (b) notify each other of any modifications to qualifications that may affect the application or implementation of an MRA. If possible, a Party should be given an opportunity to comment on the modifications of the other Party.

6 REPORT on piloting of Methodology for Mutual recognition of EE construction skills

Project TRAINEE developed methodology for Mutual Recognition of EE construction skills related to two training schemes that are delivered by Knowledge and skills management Centre and its visibility is provided through Catalogue of training offer for **14 occupations** (listed in Annex 1).

Knowledge and Skills Management Centre identifies and implements two different qualification schemes that both lead to certification of skills and knowledge:

- Non-formal classroom or on-line trainings
- Procedure for recognition of previous learning RPL obtained both through non-formal or in-formal education

First trainings scheme encompasses non-formal training for EE and RES skills structured in standardized way, 30% theory, 60% practical training and 10% exam from total number of training hours. Second one is Recognition (validation) of previous learning (RPL) for 9 occupations and implementation is based on the developed Methodology for RPL.

The EE skills that are subject of recognition are defined in Annex 1 of this Methodology for Mutual recognition. The piloting of the methodology aims to increase mobility of the workers and professionals from whole value chain in construction sector within EU member states.

6.1 Purpose of piloting

Purpose of piloting of methodology for MR is to enable Knowledge and skills management centre to reach market acceptance of the delivered EE construction skills to national and EU market, and to ensure visibility of learning outcomes among employers and investors as well. It means that purpose is professional recognition of EE skills that are covered with training offer of Knowledge and skills management Centre.

The approach in piloting is composed of two methods: first, one-way recognition, meaning searching for training schemes in other countries and to recognize those who are similar with K&S centre's offer and propose to public authorities to implement formal recognition according to established legislation. Two-way recognition with other EU projects within BuildUpSkills initiatives and implement TRAINEE methodology for MR.

6.2 Scope of piloting

Mutual recognition is focused on EE construction skills as the legislation about adult learning defines that training organized with up to 120 hours is recognized as acquiring skills but not whole qualification. It is one factor that determines the scope of the piloting. Next factor is that piloting is implemented for professions and occupations which are included in K&S centre's offer.

6.3 (Adjusted) Plan for Piloting the Methodology for MR

The prepared Plan for piloting follows the developed methodology as the purpose, approach and scope can be achieved.

Initial activities for establishing contacts to enable piloting started in January 2020 with the adoption of draft piloting plan by the consortium, which scheduled the travel and Regional dissemination meetings for establishing procedures for mutual recognition of EE construction skills with stakeholders from three countries Croatia, Greece and Slovenia. The plan was created according to the DoA in GA, as presented below.

Table 1 Plan for Regional dissemination meetings and procedures for mutual recognition

Scope of meeting	Destination	Partners traveling	Planned date	Status
Initial meeting for establishing procedure	Zagreb, Croatia	UKIM	1 st week of March	Realised
Initial meeting for establishing procedure	Athenes, Greece	EIM, ECM	4 th week of March	Canceled due to pandemia
Initial meeting for establishing procedure	Ljubljana, Slovenia	Kreacija, AEC	1 st week of April	Canceled due to pandemia
Meeting for realization of piloting	Zagreb, Croatia	EIM, ECM, Kreacija	3 rd week of April	Canceled due to pandemia
Meeting for realization of piloting	Athenes, Greece	UKIM, Kreacija, AEC	1 st week of May	Canceled due to pandemia
Meeting for realization of piloting	Ljubljana, Slovenia	UKIM, ECM, AEC	2 nd week of May	Canceled due to pandemia

As the initial plan for realization of the piloting phase of the methodology for Mutual recognition of EE skills was unable to be realized, the adjusted Plan for realization of the activities with the use of electronic means and intensified electronic communication was prepared.

The Adjusted Plan for piloting was adapted to all available means for gathering information and testing the relevance and applicability of proposed procedure for MR. Therefore, piloting is planned to be realized by using two methods, and consequently in different time frames:

- One-way piloting of procedure for MR
- Two-way piloting of procedure for MR



6.3.1 One –way piloting of procedure for Mutual recognition

Web search for training schemes in other countries and to recognize those who are similar with K&S centre's offer and propose to public authorities to implement formal recognition according to established legislation

- a) Survey of the verified training providers and training programs in Slovenia, Croatia and Greece, responsible partner Adult Education center; may 2020;
- b) Selection of comparable training program, all partners responsible for occupation to be upgraded with EE skills, May- June 2020;
- c) Implementation of four steps procedure defined in Methodology for MR. Analysis of the selected training program for preparation of proposal for training providers for mutual recognition, May- July 2020
- d) Definition of proposal of construction skills/occupation as appropriate for recognition. August- September 2020.

6.3.2 Two-way piloting of the procedure for Mutual recognition

Two-way recognition approach is planned to be implemented with EU projects within Build Up Skills initiative. The plan encompassed of following activities:

- (a) Survey of the EU projects that developed training schemes within buildup initiatives pillar II and Pillar III and establishing contact for MR. The criteria in regard to type of training provider, training hours, knowledge, skills learning outcomes and value of certificate will be implemented. May 2020, responsible partner UKIM
- (b) Collection and analysis of training offer and certification schemes related to occupations covered by TRAINEE. For this activity Annex 2 from methodology of MR will be used. May-June 2020. Responsible all partners according to occupation and training programs they covered within TRAINEE.
- (c) Selection of project for MR having in mind educational standards (training for, training hours, training content, structure of training, theory, practical and exam, and visibility of learning outcomes in certificate) and employment standards (experience, skills and occupation profile). June 2020, Responsible all partners coordinated by UKIM.
- (d) During this activity piloting will be assessed regarding applicability of four steps defined in Annex 4, meaning procedure in terms of subject of recognition, encompassing verification of equivalence, evaluation of substantial differences, equivalence measures and identification of conditions for recognition. The output from this activity will be proposal for construction skills/occupation as appropriate for recognition.
- (e) Definition of proposal for each EU project and communication with project team for mutual recognition of training and certification schemes. Piloting will be focused on the process and duration of the period for signing MRA.



The proposal for MR will be managed by Knowledge and skills management centre and communication for MR will be open until the end of the project.

6.4 Piloting report

6.4.1 Report from One –way piloting of procedure for Mutual recognition

Online Survey of the existing training schemes for EE construction skills within three countries in the region (Croatia, Greece and Slovenia) resulted with identifying the following potential schemes for piloting phase.

Table 2 Potential training schemes for piloting from the region

Region \ TRAINEE			EE1	EE2	EE3	RES1	RES2	RES3	RES4	BIM1	BIM2	BIM3	BIM4	EEC1	EEC2	EEC3
Croatia	Croskills	Carpenters														
		ETICS, Exterior joinery														
		Drillwall instalers														
		House painter														
		Masons and bricklayers														
		Roofers														
	BIM Cert Hrvoje Pozar	35 different training modules (content NA) Possible equivalence of group of several modules with specific BIM training scheme														
Greece	NET UBIEP Univ. of Zagreb	BIM Coordinator														
		BIM Expert Specialist														
		BIM Manager														
		BIM Model Evaluator														
		BIM User														

[illegible]

Identification of equivalency

Possible equivalence, training content NA

Selected for One-way piloting of MR

One-way piloting for selected training courses (one from three countries Croatia, Slovenia and Greece) is conducted using the evaluation form in Annex 2. The report is prepared in the form presented in Annex 5. The level of correspondence is marked in collors for easier identification of equivalence as below.

Level of correspondence
not comparable
needed major adjustments
needed minor adjustments
correspondence
full correspondence



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6.4.2 Pilot report No. 1 Croskills-TRAINEE

Plasterer/Façade worker

Details for E&T provider					
No.	Name of the providing institution	Type of institution	Address	Contact details	Quality reference (ex. Accredited by...)
1 Plasterer	CROSKILLS	project	Slovenia		MINISTRY OF CONSTRUCTION AND PHYSICAL
2 Façade worker	TRAINEE	project	Macedonia		Adult education Centre of Macedonia

Comparison of training schemes					
Level	Syllabus of training content (modules)	Types of delivery	Number of classes	ECVET (if defined)	Prerequisites
not comparable					
needed major adjustments			x	NA/4	
needed minor adjustments					
correspondence	x	x			x
full correspondence					

Comparison of Learning outcomes					
Level	Knowledge	Skills	Competences	Assesment types	Assesment criteria
not comparable					
needed major adjustments					
needed minor adjustments					
correspondence	x	x	x	x	x
full correspondence					

Evaluation for MR					
NQF level	Significant differences - NOT appropriate for MR	Modular equivalency	Proposed equivalence measures	Conditions for MR	Fully appropriate for MR
3 or 4			Adjustment of number of training hours	Conditions refer to different ECVET	



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6.4.3 Pilot report No. 2 NET Ubiep –TRAINEE

BIM user /BIM for practitioners

Details for E&T provider					
No.	Name of the providing institution	Type of institution	Address	Contact details	Quality reference (ex. Accredited by...)
1 BIM user	NET UBIEP	project	Croatia	Univ. of Zagreb	BuildingSmart
2 BIM for practitioners	TRAINEE	project	Macedonia		BIM Academy, Spain

Comparison of training schemes					
Level	Syllabus of training content (modules)	Types of delivery	Number of classes	ECVET (if defined)	Prerequisites
not comparable					
needed major adjustments					
needed minor adjustments			NA/40	NA/3	
correspondence	x	x			x
full correspondence					

Comparison of Learning outcomes					
Level	Knowledge	Skills	Competences	Assessment types	Assessment criteria
not comparable					
needed major adjustments					
needed minor adjustments					
correspondence	x	x	x	x	x
full correspondence					

Evaluation for MR					
NQF level	Significant differences - NOT appropriate for MR	Modular equivalency	Proposed equivalence measures	Conditions for MR	Fully appropriate for MR
4 or 5			Need to define training hours	Defining No of training hours and ECVET	



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6.4.4 Pilot report No. 3 Fit-toNZEB-TRAINEE

Building services/Installer of electrical installations with EE skills

Details for E&T provider					
No.	Name of the providing institution	Type of institution	Address	Contact details	Quality reference (ex. Accredited by...)
1 Building services	Fit-to-NZEB	project	Greece	Hellenic Passive House Inst.	NA
2 Installer of electrical installations with EE skills	TRAINEE	project	Macedonia		Adult education Centre of Macedonia

Comparison of training schemes					
Level	Syllabus of training content (modules)	Types of delivery	Number of classes	ECVET (if defined)	Prerequisites
not comparable					
needed major adjustments	x		NA / 80	NA/4	
needed minor adjustments					
correspondence		x			x
full correspondence					

Comparison of Learning outcomes					
Level	Knowledge	Skills	Competences	Assessment types	Assessment criteria
not comparable					
needed major adjustments	x	x	x		
needed minor adjustments					
correspondence				x	x
full correspondence					

Evaluation for MR					
NQF level	Significant differences - NOT appropriate for MR	Modular equivalency	Proposed equivalence measures	Conditions for MR	Fully appropriate for MR
3 or 4		Very good correspondence of modular content with full training schemes from TRAINEE	Equivalence identified between different modules of Building services and different training schemes in TRAINEE (EE1, EE2, RES2)	MR possible only if modular content is well described	



6.4.5 Report from Two-way piloting of the procedure for Mutual recognition

Two-way recognition approach has started with implementation, accruing to adopted plan for mitigation of occurred COVID 19 conditions.

- Online survey of the EU projects that developed training schemes within buildup initiatives was carried out to identify corresponding projects for comparing the schemes. Special topic is BIM ALLIANCE project group (BIMcert, BIMEET, BIMplement, Net-UBIEP) as most recent projects with best practice regarding BIM qualification and certification schemes. It was done by Kreacija and focused was on BIM skills.
- Collected offer will be analyzed in June 2020, according to plan. Collection and analysis of training offer and certification schemes related to occupations covered by TRAINEE. For this activity Annex 2 from methodology of MR will be used. Responsible all partners according to occupation and training programs they covered within TRAINEE.
- Selection of project for MR having in mind educational standards (training for, training hours, training content, structure of training, theory, practical and exam, and visibility of learning outcomes in certificate) and employment standards (experience, skills and occupation profile). June 2020, Responsible all partners coordinated by UKIM.
- During this activity piloting will be assessed regarding applicability of four steps defined in Annex 4, meaning procedure in terms of subject of recognition, encompassing verification of equivalence, evaluation of substantial differences, equivalence measures and identification of conditions for recognition. The output from this activity will be proposal for construction skills/occupation as appropriate for recognition.
- Definition of proposal for each EU project and communication with project team for mutual recognition of training and certification schemes. Piloting will be focused on the process and duration of the period for signing MRA.
- The proposal for MR will be managed by Knowledge and skills management centre and communication for MR will be opened until the end of the project.



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Table 3 Status of contacted construction skills projects

Project	Status
https://www.craftededu.eu/	Initial contact
https://www.cen-ce.eu/cen-ce-project	Initial contact → Positive response → Exchange of information → Adjusting piloting conditions
https://www.bimplement-project.eu/	Initial contact → Positive response → Exchange of information → Adjusting piloting conditions → TRAINEE involved in piloting BIMplement ULO methodology
http://construye2020plus.eu/en/	Initial contact
http://www.net-ubiep.eu/	Initial contact → Expressed interest → Exchange of information → Initiated contact with BuildingSmart Spain
https://energybimcert.eu/	Initial contact → Expressed interest → Exchange of information
http://www.rivc.eu/	Initial contact
https://www.newcomtraining.com/	Initial contact → Expressed interest → Exchange of information
http://www.ingrees.eu/en/about-project/	Initial contact
http://www.fit-to-nzeb.com/	Initial contact → Positive response → Exchange of information
http://www.train-to-nzeb.com/	Initial contact → Positive response → Exchange of information

Two-way piloting of MR procedure will bring added value to the methodology itself as well as developed training schemes, confirming them as comparable, equivalent and replicable in other countries. The whole process will be open until the end of the project and the conclusions will serve to use the lessons learnt to improve the training offer of Knowledge and skills management centre that will be the owner of IPR rights of training scheme after project life.

TRAINEE



Annex 1 - TRAINEE Mutual Recognition - Survey

This survey is organised to select a pilot group of construction occupations and professions to be considered for mutual recognition action supported by TRAINEE.

Name:

Surname:

Phone number:

E-mail:

Organisation:

Main mission of your organisation is representing:

- Authorities or public interest
- Profesional Association
- Employer
- Education and training organisation
- Project

Priorities in selecting crafts and professions

Following is the list of occupations and skills for which training schemes within TRAINEE project are developed. In the following list of professions, please assign to each occupation/profession priority from point of view of your organisation. Priority 1 is the highest priority, Priority 5 is the lowest priority. After assigning priority, please enter the name of the occupation/profession in your own language. Please use only latin characters.

Code of occupation	Title of the occupation	Duration of training
	Thematic section: ENERGY EFFICIENCY	
EE1	Installer of electrical installations with skills for implementation of EE measures	80 hours
	Name of the craft/profession in your nomenclature in your language:	Priority:
EE2	Installer of systems for heat, ventilation and air conditioning with skills for implementation of EE measures	80 hours
	Name of the craft/profession in your nomenclature in your language:	Priority:



EE3	Graduated architectural engineer with skills for implementation of EE measures in design	16 hours
	Name of the craft/profession in your nomenclature in your language:	Priority:
Thematic section: RENEWABLE ENERGY SOURCES		
RES1	Certified Designer of solar-thermal systems in buildings	80 hours
	Name of the craft/profession in your nomenclature in your language:	Priority:
RES2	Certified Installer of solar-thermal systems in buildings	80 hours
	Name of the craft/profession in your nomenclature in your language:	Priority:
RES3	Certified Designer of photovoltaic systems in buildings	80 hours
	Name of the craft/profession in your nomenclature in your language:	Priority:
RES4	Certified Installer of photovoltaic systems in buildings	80 hours
	Name of the craft/profession in your nomenclature in your language:	Priority:
Thematic section: BUILDING INFORMATION MODELING - BIM		
BIM1	BIM for practitioners: engineers, architects and technicians	40 hours
	Name of the craft/profession in your nomenclature in your language:	Priority:
BIM2	BIM for decision makers, market, owners	15 hours
	Name of the craft/profession in your nomenclature in your language:	Priority:



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BIM3	BIM for builders and contractors	40 hours
	Name of the craft/profession in your nomenclature in your language:	Priority:
BIM4	BIM for industry and manufacturers	15 hours
	Name of the craft/profession in your nomenclature in your language:	Priority:
Thematic section: ENERGY EFFICIENCY MEASURES IN CONSTRUCTION		
EEC1	Facade worker with skills for implementation of EE measures	80 hours
	Name of the craft/profession in your nomenclature in your language:	Priority:
EEC2	Roof construction worker with skills for implementation of EE measures	80 hours
	Name of the craft/profession in your nomenclature in your language:	Priority:
EEC3	Carpenter Installer with skills for implementation of EE measures	80 hours
	Name of the craft/profession in your nomenclature in your language:	Priority:



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Annex 3 – Template for Statement for expressing commitment for participation in piloting of methodology for mutual recognition of EE construction skills

STATEMENT FOR EXPRESSING COMMITMENT FOR PARTICIPATION IN PILOTING OF METHODOLOGY FOR MUTUAL RECOGNITION OF EE CONSTRUCTION SKILLS

Dear sirs,

by signing this statement, I acknowledge that our institution/ association /project

settled at _____

is expressing commitment to participate in the process of piloting of the Methodology for mutual recognition of EE construction skills, developed within the project “Toward market-based skills for sustainable Energy Efficient construction “Grant Agreement No: 785005 — TRAINEE.

Place _____

Date _____

Signed by

/name and surmane/

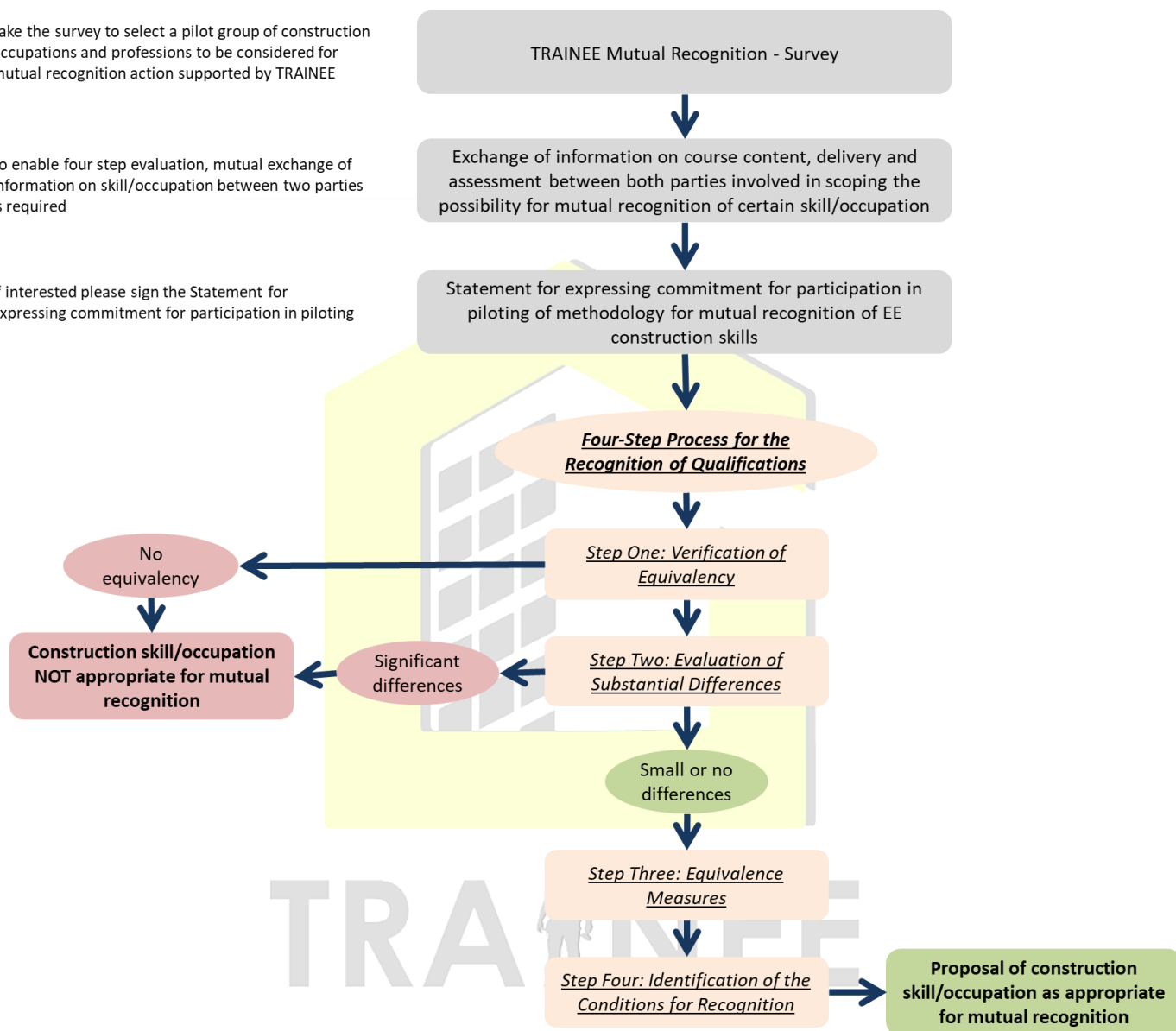
/role in organisation/

Annex 4 – Piloting procedure of methodology for mutual recognition of EE construction skills

Take the survey to select a pilot group of construction occupations and professions to be considered for mutual recognition action supported by TRAINEE

To enable four step evaluation, mutual exchange of information on skill/occupation between two parties is required

If interested please sign the Statement for expressing commitment for participation in piloting





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Annex 5 – Template form for Pilot evaluation Report

Title of comparing scheme/Title of scheme in TRAINEE

Details for E&T provider					
No.	Name of the providing institution	Type of institution	Address	Contact details	Quality reference (ex. Accredited by...)
1					
2	TRAINEE				

Comparison of training schemes					
Level	Syllabus of training content (modules)	Types of delivery	Number of classes	ECVET (if defined)	Prerequisites
not comparable					
needed major adjustments					
needed minor adjustments					
corespondence					
full corespondence					

Comparison of Learning outcomes					
Level	Knowledge	Skills	Competences	Assesment types	Assesment criteria
not comparable					
needed major adjustments					
needed minor adjustments					
corespondence					
full corespondence					

Evaluation for MR					
NQF level	Significant differences - NOT appropriate for MR	Modular equivalency	Proposed equivalence measures	Condidtion for MR	Fully aproprate for MR