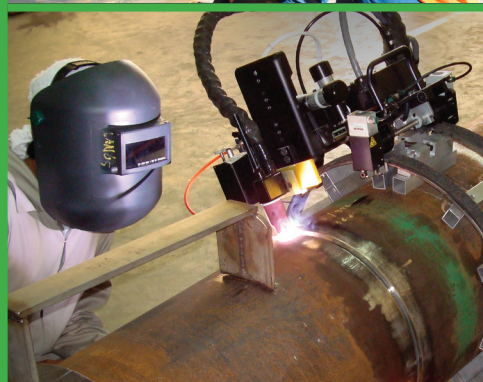
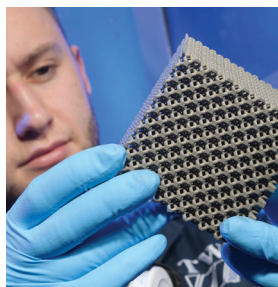


GUIDANCE DOCUMENT

**DEFINING THE
METHODOLOGY
BASED ON EWF
QUALITY
STANDARDS &
RULES**



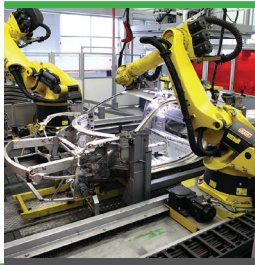
BENCHMARKING STRATEGY FOR IMPLEMENTATION IN OTHER SECTORS

Project Ref.: ERASMUS + KA3: 576125-EPP-1-2015-1-BE-EPPKA3-TRANS-SQ



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INTRODUCTION



INTRODUCTION

RAINBOW project addresses the EWF qualification system, following its alignment with the European Qualifications Framework (EQF) and how the EWF System can be transferred to other International Qualifications, covering different processes and/or industrial sectors. At the same time focusing on Quality Assurance at the European level for enhanced transparency and recognition of skills and qualifications, in accordance with the ERASMUS+ support for Policy Reform sub-programme.

The 22nd of May 2017 Council Recommendation on the European Qualifications Framework for lifelong learning (EQF), clearly expresses that all references to EQF of International Qualifications (IQ), should be made through National Qualifications Framework (NQF), in recommendation 11, by stating the need to “support the setting up of voluntary procedures on the levelling of international qualifications through national qualification frameworks or systems and information exchange and consultation between Member States on those procedures to ensure consistency.”

The aim of the current document is to provide guidance on how EWF methodology for developing Qualifications/modules and the EWF's quality assurance system for awarding International Qualifications can be transferred to other sectors, recommending actions to establish a linkage between the IQ and the EQF based on the results achieved within RAINBOW Project for the Welding sector.



E W F QUALIFICATIONS

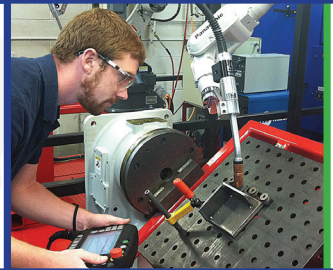
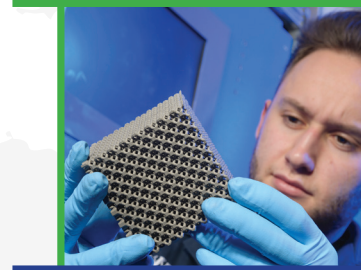
The EWF Training, Qualification and Certification System is a harmonised scheme for the education, training and examination of personnel involved in welding, joining and related technologies, used in 30 European countries and recognised worldwide as international qualification system.

The need from industry to have international qualifications, was the starting point for the development of Guidelines for the higher level (International Welding Engineer Qualification) in 1992. Since then, more guidelines have been developed to encompass all professional levels of welding.

The EWF System assures harmonised knowledge, skills and competence for any holder of a diploma in any region of the world, and comprises Education, Examination and Qualification Guidelines for different professional levels.

EWF qualifications are fully accepted by employers and are much in demand and used in the labour market in all industrialised countries. Hence, the EWF system created a basis for trust in the levels and content of its qualifications, having more than 250 000 qualification diplomas awarded and being the basis for the free circulation of holders in and outside Europe.

The EWF Training and Qualification system success is supported by a robust and transparent quality system, which is developed, implemented and recognised by the complete chain of individuals and organizations involved, from training institutions, national certification bodies, companies, trainers and trainees.





DESIGN OF

INTERNATIONAL QUALIFICATIONS

As explained in the “Guideline of EWF methodology for writing Learning outcomes”, EWF has started to implement a learning outcomes approach within its qualifications, which are being developed in a modular basis. Each qualification comprehends a set of competence units, that can be taught, assessed and validated individually.

The implementation of a modular system for the design of qualifications has several advantages for its users. Students can benefit from a more flexible and tailor-made training, both aligned with their needs and industrial requirements.

The duplication of contents (re-learning) is avoided and students might progress more easily within the qualification systems. For educational systems, both Vocational Education and Training and Higher Education, it represents an opportunity for addressing technical contents or emergent technologies which are required by the sector or sectors, and therefore can be easily integrated at national level (figure 1).

With this approach it is possible to ensure harmonisation of the technical content at the European level and still give flexibility to the different National Qualification Agencies in adding content and aligning the qualification to their national requirements.

The design and implementation of international qualifications was based on a research path, build up on several steps, ranging from the need's identification, description of professional standards, assignment of level of complexity, curriculum design and content agreement, testing, validation and finally the implementation. A full description of each stage is given in the “Guideline of EWF methodology for writing Learning outcomes”.



Figure 1 - Illustrative example on the uptake of technical competence unit by VET

The collaboration and agreement between stakeholders from different countries and with different backgrounds is required for the successful implementation and for assuring a holistic and comprehensive approach. In this context, the EWF methodology for designing International Qualifications has foreseen the involvement of representatives and experts from the industry, R&D; VET and HE institutions, standardisation bodies,

European policy makers as well as National Qualifications Authorities.



RECOMMENDATIONS

FOR OTHER SECTORS AND FURTHER DEVELOPMENTS

As stated in the Note AG 43-3 on the EQF Advisory Group work plan for 2018-2019, there are still several issues that need to be addressed regarding linking:

IQ - NQFs - EQF - such as:

- Reference to different EQF levels of the same international qualifications;
- Possibility of inclusion of international qualifications as part of a module/national qualification;
- Quality assurance and transparency mechanisms;
- Self-declared reference to EQF of international qualifications, among others.

These challenges are transversal to all sectors dealing with the establishment of IQ. Based on the development of a wider network between EWF's Qualifications focused on Welding and Manufacturing and other sectors, these recommendations can easily be transferred and adapted to different sectors and to different technologies or processes. Examples are industrial sectors such as Additive Manufacturing, Automotive, Aerospace or technologies/processes, Non-destructive testing (in collaboration with associations

like European Federation for Non-Destructive Testing – EFNDT and engagement with ManuFuture Platform) and Machine Tool processes (through the involvement of European association like CECIMO). Also, other totally different areas such as the Health and Fitness sector, where EuropeActive (formally the European Health and Fitness Association), has already embedded some of EWF's quality assurance principles in their international system (see SIQAF project: www.europeactive-euaffairs.eu/projects/SIQAF).

This section resumes EWF's experience in dealing with these challenges and where practical examples can be found within RAINBOW Project Results:

Recommendation 1: Establishment of a Sectoral Qualification Framework

EWF System assures harmonised knowledge, skills, autonomy and responsibility for any holder of a diploma in any region of the world, and comprises Education, Examination and Qualification Guidelines for different professional/proficiency levels.

For that purpose, EWF System has its own reference framework containing seven different proficiency levels, currently organized in statements of general descriptors defined in terms of knowledge, skills, autonomy and responsibility for each proficiency level that its qualifications encompass, enabling EWF's Qualifications transparency, recognition and linkage to both national and European Qualifications frameworks. The process leading to the establishment of the sectoral framework and its linkage to the national and European frameworks is detailed in the following documents:

- Guideline of EWF Methodology for writing the Learning Outcomes

- European Conference on Sectoral Qualifications - Validation Report
- European Projects:
 - <http://makeitproject.eu>
 - <http://manumobile.eu>
- Strategies for implementing International Qualifications in VET Systems – Rainbow Final Conference - Validation Report

While the EWF case is an example to follow, when it comes to establish a Sectoral Qualification Framework it is clear that, in order to be completely aligned with industry/sector requirements, the sector stakeholders have to be involved in defining the Sectoral Qualification Framework at the European level, but with inputs from stakeholders from the different countries with expertise in the process/technology/sector/industry. By doing this it will be possible to ensure that the developed content/qualifications are aligned with the sector/industry requirements.

Recommendation 2: Inclusion of Technical International Qualifications/Modules as part of a National Qualification

In some EU countries, qualifications are structured in such a way that enable the combination of both national training requirements and technical requirements aligned with EWF/IIW guidelines. Thus, the integration of, as an example, EWF qualifications in the Portuguese VET System enables the issuing of three different diplomas: The national education level and occupation diploma, the European and International diplomas. The possible inclusion of Technical International Qualifications/Modules/Competence units as a part of a national qualification has been addressed in detail in several RAINBOW results:

- European conference on sectoral qualifications - validation report
- State of the Art Report
- Strategies for implementing international qualifications in VET systems – rainbow final conference - validation report

The recommendation is that all European National Qualification Agencies decide on the structure of their qualifications to allow the easy integration/adoption of different International Qualifications/Modules/Competence Units. The inclusion should be made based on the suggested EQF level assigned to a specific International Qualification/Module/Competence Unit, done by industrial experts when defining the Sectoral Qualification Framework.

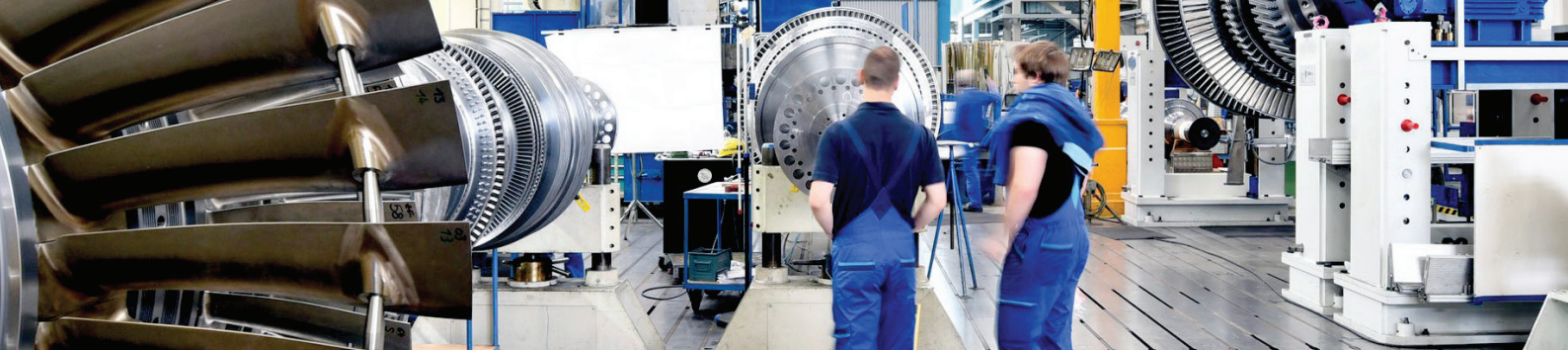
This procedure will allow that the harmonisation of technical/sectoral Qualifications is done at the European level but only for the technical content of the Qualification allowing the National Qualification Agencies to align it with their own national requirements.

The scheme 1 illustrates how the integration of the International Qualifications/Competence Units into the different National Qualifications, can be done ensuring that there is a harmonisation of content.

IMPLEMENTATION OF HARMONISED TECHNICAL QUALIFICATIONS /MODULES / COMPETENCE UNITS



Scheme 1 – Example of the integration and harmonisation of an International Qualification or International Module/Competence Unit, of EQF level 4, in different countries



Recommendation 3: Assure Mechanisms for Quality Assurance and Transparency

The key supporting areas of EWF's Qualification System are the harmonisation of the Qualifications Guidelines and the Quality Assurance System.

In the EWF Qualification System, agreement on the definition of IQ is set through the approval of training Guidelines developed by Working Groups that have representatives from the 30 EWF national members. EWF's Quality Assurance System includes operational procedures defining the quality assurance requirements for the design, implementation and harmonised assessment.

Operational procedures comply with ISO 17024 (Conformity assessment -- General requirements for bodies operating certification of persons) and at the present it is under study also the link to the ISO/DIS 21001 (Educational organizations -- Management systems for educational organizations -- Requirements with guidance for use).

In the EWF qualification system, the implementation of IQ courses is provided by Authorised Training

Bodies (ATBs), under Authorised Nominated Bodies (ANBs) supervision, which combine both supporting knowledge and application experience, in a close relation with industry and their needs.

It's recommended that any International Qualification system should have a Quality Assurance System complying with the criteria addressed to guarantee a clear link between the IQ and the EQF levels. The pre-conditions and eligibility criteria for the implementation of IQ and establishment of quality assurance mechanisms are described in the following documents :

- Criteria to relate International Sectoral Qualifications to the EQF
- European Conference on Sectoral Qualifications - Validation Report
- Strategies for implementing International Qualifications in VET Systems – Rainbow Final Conference - Validation Report

Recommendation 4: Guarantee Continuous Update and Involvement of Stakeholders

The implementation of mechanisms that assure the continuous improvement of International Qualifications contents and methodologies and its adaptation according to national context, is a relevant positive action.

The involvement of stakeholders from both the education/training system and the sector/industry/economical fields is also of extreme importance to guarantee the successful implementation of international qualifications at national and European level. The role of each stakeholders could be:

- **Independent VET providers/ATBs/Universities** – to deliver the training courses based on harmonised guidelines, thus giving access to the adequate educational materials for both practical and theoretical training, as well as the access to the proper facilities;

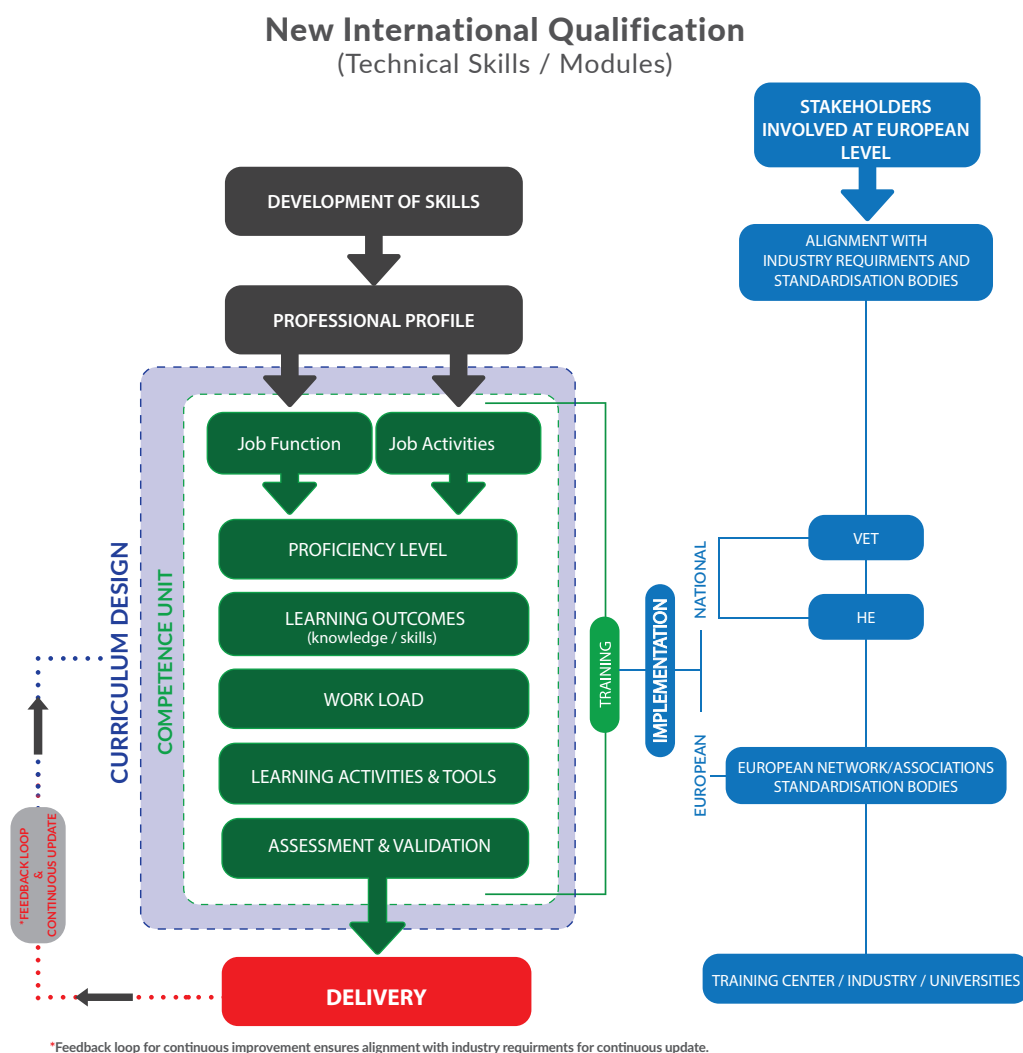
- **Awarding bodies/ANBs** – to manage/supervise training courses/qualifications in each country; to guarantee that both training and examination comply with the EWF rules and industrial standards to issue qualifications diplomas;
- **Companies (SMEs, medium and large) from the relevant sector/industry** – to assure that current skills needs are met through updated qualifications contents and learning outcomes, as well as to anticipate future skills needs.

CONCLUSION

The growing internationalization of products and services has triggered an increasing number of qualifications – certificates and diplomas – awarded at international (sectoral) level, outside the jurisdiction of national authorities.

International sectoral qualifications, such as the EWF European/International Qualifications, are of great importance, as they are driven by the industry/market needs and based, in most cases, on standards issued by ISO and CEN. These qualifications set standards to perform manufacturing tasks according to stakeholders' needs, ensuring the new technologies are embraced, as well as, the health and safety assurance requirements are met. Finally, they enable mobility and recognition of workers across borders in and outside Europe.

The development of IQ for new Qualifications or processes based on modular approach represent a way to accelerate the uptake of qualifications in emergent technologies/processes (e.g. Additive Manufacturing, Industry 4.0), thus ensuring that these new qualifications are implemented and recognised at European and National level. Finally, the recommended actions and stakeholders involved in this design, implementation, delivery and updating processes are referenced in scheme 2 :



Scheme 2 – Key steps and actors involved in the development of New International Qualifications

Relating International qualifications to the EQF – The Welding Case - September 2018

GUIDANCE DOCUMENT DEFINING THE METHODOLOGY BASED ON EWF QUALITY STANDARDS/RULES

Benchmarking strategy for implementation in other sectors