

QUALIFICATIONS REGISTERS IN SELECTED EUROPEAN UNION COUNTRIES

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Warsaw, Poland 2020

Publication Coordinators
Beata Balińska
Marek Kopyt

English Language Editing
Translation from Polish
Barbara Przybylska

Graphic Design and Layout
Anna Nowak

Cover Design
Marcin Broniszewski

Cover Illustration
Shutterstock.com

Printing
ViW Studio Wiktor Krawczyński
ul. Szkolna 3, 05-530 Dobiesz, Poland

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ISBN 978-83-66612-00-6

Publisher
Instytut Badań Edukacyjnych/Educational Research Institute
ul. Górczewska 8, 01-180 Warsaw, Poland
tel. (22) 241 71 00; www.ibe.edu.pl

This publication was prepared by a team of independent international experts. The opinions it presents are the authors' own and do not necessarily reflect the opinions of the Educational Research Institute.

The publication was financed as part of the project "Operating and Developing the Integrated Qualifications Register", implemented by the Educational Research Institute as commissioned by the Ministry of National Education, co-financed by the European Union under the Operational Programme Knowledge Education Development.

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Preface

This publication is the result of the cooperation of institutions responsible for maintaining and developing databases or registers of qualifications in selected European countries: Austria, Croatia, Latvia, France, Poland, Slovakia and Scotland.

Work on modern qualifications systems has been conducted throughout the world for many years. From a technical point of view, qualifications registers are tools to support the qualifications systems of individual countries. On one hand, registers enable broad access to qualifications functioning in national education systems, on the other – they support the development of lifelong learning.

The effective modernization of education systems – including the modernization of the systemic conditions of learning – should meet today's challenges and create responsive solutions. Current social and economic challenges are the result, among others, of the increasing pace of change, especially relating to the development of new technologies. Keeping up with these changes while maintaining the transparency of an education system is one of the tasks facing qualifications registers.

The nature of work is also changing on an unprecedented scale. New and emerging technologies – including artificial intelligence and robotics – are playing increasingly important roles in shaping jobs today, and this will continue in the future. Their impact includes shifting tasks among sectors, transforming the types of tasks performed in existing workplaces and changing the way people do their jobs.

The answer to these trends is the concept of lifelong learning, in which particular emphasis is placed on the role of non-formal education and informal learning. This as yet underappreciated field creates a unique opportunity for many people to cope with a constantly changing labour market. These changes affect each one of us and in practice mean that a once chosen path of development and career can change. Therefore, the possible directions of personal development must be considered in the long term.

In order for lifelong learning to become a reality (everyday practice), flexible forms of learning, transcending those that have prevailed until now, are required.

The way in which we communicate what we know must also change: we need other ways to do this than those limited to reporting "completed schools and courses". And what makes a significant difference here is the qualifications system.

We can attain qualifications both by graduating from a school (for example, the university diploma is a qualification) as well as by confirming learning outcomes acquired at work (a qualification is also a certificate awarded after the validation of non-formal learning). The qualifications system can therefore be seen as the entirety of solutions relating to lifelong learning.

In order to ensure the coherence of the work undertaken to promote lifelong learning – including activities promoting the coherence of national qualifications systems developed in the context of national specificities – the recommendation in force on the European Qualifications Framework for lifelong learning must be taken into account. This document recommends that Member States should "Make the results of the referencing process publicly available at national and Union levels and, where possible, ensure that information on qualifications and their learning outcomes is accessible and published..." (2017/C 189/03, item 6).

This publication presents selected databases or qualifications registers that currently exist in Austria, Croatia, France, Latvia, Poland, Slovakia and Scotland.

In **Austria**, the qualifications register – the NQF Register – is a tool to enhance transparency in the educational system and also to promote lifelong learning. This objective is regulated by Austria's NQF Act. Publication of a qualification in the register means that the process of assigning an NQF level to a qualification has been successfully completed, the level of the qualification is defined correctly and the institution awarding the qualification has the right to include information about the NQF/EQF level on its certificates. Importantly for the further development of Austria's qualifications system, "all political parties support the NQF project" and state policy in the field of education supports the implementation of the NQF at every stage. Assigning a level to non-formal qualifications can be a stimulus in popularizing the NQF among new target groups by promoting adult education and training in different sectors.

Croatia designed its national qualifications framework as a tool to introduce changes for the quality improvement of education in the country. It is optional for educational institutions and is intended to serve as a mark of quality and the relevance of qualifications to the needs of the labour market. The Croatian Qualifications Framework Register consists of three sub-registers: the Occupational Standards Sub-register – presenting occupational standards, especially occupational tasks and units of required competences; the Qualifications Standards

Sub-register – presenting qualifications standards, programmes leading to the attainment of qualifications and a list of entities authorised to award qualifications; and the Units of Learning Outcomes Sub-register – with information on programmes leading to the attainment of qualifications and the validation of learning outcome units linked to a list of entities and businesses authorised to award certificates confirming their achievement.

In **France**, the newly established institution *France Compétences* currently manages two qualifications databases and the French qualifications framework. The first database (*Répertoire national des Certifications professionnelles* – RNCP) serves the national qualifications framework and contains qualifications with assigned levels, while the second (*Répertoire spécifique*) is a database of labour market qualifications that do not have assigned French qualifications framework levels.

Latvia developed the Latvian Qualifications Database (LQD), a digital database of national qualifications with an assigned level of the Latvian Qualifications Framework, which is referenced to the European Qualifications Framework. National qualifications included in the framework and the database are the property of the state, as they were developed and published in accordance with regulations of the Council of Ministers. Currently, only quality assured qualifications awarded in formal education are included in the LQD. The database includes three types of qualifications: those from general education, from vocational education and from higher education.

Poland's Integrated Qualifications Register (IQR), which as an element of the Integrated Qualifications System (IQS), maintains information on all full and partial qualifications included in the system. By law, the IQR is required to contain all full and partial qualifications attained from the general, vocational and higher education systems, as well as legally-regulated qualifications in the Integrated Qualifications System. In addition, the IQR includes information on non-statutory qualifications (market qualifications) that have been included in the system as well as those specified in the Act on the Integrated Qualifications System, e.g. qualifications awarded upon completion of post-graduate studies. The IQR operates a portal containing information not only on the qualifications included in the system, but also about related institutions, the learning outcomes required for particular qualifications and their assessment criteria, as well as detailed requirements for validation. The Register is a public tool, operating in accordance with the Act on Integrated Qualifications System and accessible online to all interested parties.

The **Scottish** Credit and Qualifications Framework (SCQF) database is an online national repository of qualifications that have an assigned SCQF level and a determined number of credit points. As with the SCQF, there are no legal provisions

governing its database. However, credit rating bodies must adhere with the 25 principles contained in the SCQF *Handbook* when credit rating qualifications for inclusion on the SCQF.

Slovakia has one of the youngest qualifications systems in Europe. The establishment of the National Qualifications Framework and the National Qualifications Database (NSK) was the first step in introducing a system of validation and recognition of qualifications attained through non-formal education and informal learning. Slovakia's National Qualifications Database is a public, online register of professional qualifications, which at the initial stage were selected by employers as key to the labour market. The main body responsible for describing professional qualifications and developing the NSK are the Sectoral Councils in Slovakia.

Finally, we are most grateful to the co-authors of this publication: Jana Admine, Brigitte Bouquet, Marcin Będkowski, Łukasz Budzynowski, Wolfgang Denk, Sheila Dunn, Ľubica Gáľlová, Bartłomiej Głowacki, Wojciech Stęchły, Ana Tecilazić Goršić, Barbi Svetec and Robert Ziółkowski for their work, invaluable comments and analyses of the presented issues.

We would also like to thank Beata Balińska for coordinating the work on this publication and our colleagues in ERI's Communication and Promotion Department for their editorial skills and support in preparing this publication.

Marek Kopyt



AUSTRIA

THE AUSTRIAN NQF REGISTER

www.qualifikationsregister.at

SCHEME OF THE NQF REGISTER

The publication of a qualification in the NQF Register successfully completes the mapping process¹, the mapping is valid and the qualification provider can include the NQF/EQF level on its certificates. The mapping process and the NQF Register are described in the NQF Act.

The Austrian NQF Register has been continuously developed over several years. During the implementation of the first steps, the referencing process had not yet been fully settled. Today, the database is structured in two main parts. On one hand, the database contains all mapped qualifications, and on the other hand, it provides a website with all information for different target groups on the National Qualifications Framework in German and English. The NQF Register was developed and is administered by the NQF National Coordination Point (NCP).

The database itself is individually coded based on Java, JavaScript, HTML 5 and PostgreSQL 9.2. For better usability in the frontend and backend and improved layout options, it is embedded in a WordPress content management system.

The central point of the website is the search function of the database. A user can choose different options to find a suitable qualification. You can filter different types of qualifications or opt for conducting a full text search. Using the button "extended search", you have an even wider range of filter functions. You can conduct a full text search, search via an NQF level, via the type of qualification, e.g. apprenticeship, or in categories such as duration or sector. Furthermore, it is possible to generate a PDF of the chosen qualifications to export and print for personal use, create a list of favourite qualifications and compare two chosen qualifications side by side.

¹ This is called *Zuordnungsprozess* in Austria and refers to the process of including a qualification in the Austrian National Qualifications Framework. The English term used for this process in Austria is "mapping", and this is the term that will be used throughout this chapter.

To date², 41 formal qualifications³ are listed in the NQF Register. Due to the need to use economic resources efficiently, exemplary formal qualifications were mapped in a cluster. E.g. there are ten different apprenticeships listed in the NQF Register representing all 198 apprenticeships in Austria. The Bologna qualifications of Bachelor, Master's and PhD were mapped to levels VI, VII, VIII by law and it is foreseen that some examples of academic qualifications will be listed in the NQF Register too.

A probable difference between other databases and the Austrian NQF Register is that the Austrian Register does not collect data from existing databases, but creates new data sets and edits these for the end user. This provides the opportunity to format the information especially for NQF target groups and develop a database that is not overloaded with unspecific data. The NQF Register should work as transparency tool and offer information at a glance with the possibility of finding more specific information at other sources.

Which data is collected? Different types of data are required on the form requesting that a qualification be mapped. Some are obligatory and some are voluntary. In addition to the qualification's title and name of the qualification provider, the learning outcomes, description of the assessment method, quality assurance and correlation of the learning outcomes with the level descriptors are essential. Besides these technical sets of information, some data is voluntary. These data should help an interested end user obtain a comprehensive idea about the qualification, such as e.g. certain requirements for attaining the qualification. Some data are relevant for the mapping process and some data are published to better serve the end user. In order to reach a broader community of interested persons and to make the information in the NQF more accessible, there is a point where the "expert level" of information must be left behind.

DEVELOPMENT OF THE NQF REGISTER

The NQF Register was designed in three different stages. Stage one was the core development of the database, which meant its technical development by a subcontractor. The main challenge was to define the needs and indispensable functions without having a legal base for the National Qualifications Framework. So one could say that it was a continuous work in progress mainly limited to technical questions. A comprehensive specifications sheet was developed by the NCP

² August 2019

³ August 2019

and, following Austrian regulations, several offers were tendered. The contractor with the best offer was chosen to program and host the database. The same procedure was used for the WordPress content management system that followed the existing corporate design.

Stage two included the necessary adaptations in accordance with the Federal Act on National Qualifications Framework. This act was passed in 2016 and defined the mapping process for Austrian qualifications to the NQF. Furthermore, this phase of development included the technical aspects of the data-transfer to European portals and optimizing usability.

Stage three is an ongoing process of updating all relevant information for the different target groups and evaluating user experiences. It was possible to increase usability by implementing the new WordPress content management system, which is technically a state of the art system offering all possibilities for a high end user experience. The NQF Register can now be accessed by all kinds of mobile devices. Additionally, it now meets the criteria for the standards of accessibility for persons with disabilities. The challenge was to develop and implement a database as the political and economic status was undergoing changes.

Over a period of six years, the costs for developing the database by subcontractors were about 20 000 Euro per year, excluding 4 500 Euro per year for hosting, regular updates and data security financed by the national authorities and the European Union.

LEGAL REGULATIONS GOVERNING THE NQF REGISTER

The development of a National Qualifications Framework in Austria was pushed by the 2008 EQF recommendation of the European Parliament and Council and finally by the adoption of the federal law on the National Qualifications Framework (NQF Act), which was adopted by the Austrian parliament in spring 2016 and went into effect on 15 March 2016. The legal basis provided by the NQF Act was a necessary step to fully implement the National Qualifications Framework in Austria.

To develop a common understanding of the aims of the NQF, all relevant stakeholders were involved in working on the NQF Act, led by the former Federal Ministry of Education and Women's Affairs in cooperation with the Federal Ministry of Science, Research and Economy, which today is the joint Federal Ministry of Education, Science and Research.

The act regulates the mapping of Austrian qualifications based on learning outcomes to one of the eight qualification levels of the National Qualifications Framework and the publication of these qualifications for information purposes in the NQF Register.

Furthermore, it describes the composition and tasks of the relevant bodies involved in the mapping process. These are the NQF NCP, the NQF Steering Group, the NQF Advisory Board and external persons with expertise. The main tasks of the NQF NCP as described in the NQF Act are:

- Formal and content-related verification of mapping requests with the aim of mapping a qualification to one of the NQF qualification levels.
- Supporting the development and further implementation of the NQF in Austria. Maintaining a NQF Register of mapped qualifications. The register includes mapped qualifications and at least the name of the qualification provider, a description of the qualification, and the essential learning outcomes.
- Being responsible for public relations activities and advising organisations requesting the mapping of a qualification.

The NQF Act enables the mapping of formal and non-formal⁴ qualifications. Furthermore, it promotes lifelong learning, which also includes informal learning. Qualification providers of non-formal qualifications may submit a request for the mapping of their qualifications beginning with the autumn of 2019.

THE MAPPING PROCESS OF A QUALIFICATION

A request for mapping a formal qualification can be submitted by the responsible ministries or federal states to the NCP. The template of the request is provided by the NCP. Actually, only formal qualifications are mapped to the NQF. These mainly represent, beside the Bologna qualifications, relevant VET qualifications. Starting in October 2019, qualification providers of non-formal qualifications can submit a mapping request via an NQF Service Point⁵.

⁴ Non-formal qualification: A qualification that is not regulated by law.

⁵ NQF Service Point: An NQF Service Point is an intermediary body between a provider of a non-formal qualification and the entities responsible for the NQF. It submits requests for mapping a qualification on behalf of the qualification provider and is able to monitor the relevant sector of the qualification to evaluate its compatibility with the NQF. Currently there are six different NQF Service Points appointed by the Minister of Education, Science and Research.

The qualification has to be described using learning outcomes. The qualification provider must directly refer the learning outcomes to the level descriptors of the applied level. Furthermore, the assessment and method of confirming that the stated learning outcomes have actually been acquired by the learner needs to be described as transparently as possible. Basic principles, formal requirements and further information can be found in the NQF Manual, developed by the NCP and approved by the NQF Steering Group.

To start the mapping process, the NCP conducts a formal and content-related verification of the request. This may require the expertise of external experts and must include a statement from the NQF Advisory Board in order to further process the request. Finally, the mapping decision of the NCP and all relevant documents are sent to the NQF Steering Group, which may reject this decision with a two-thirds majority. In case of a veto, the qualification provider is informed and has the opportunity to submit a new request. If there is no veto, the qualification will be published in the NQF Register. From that day on, the mapping officially applies and the qualification provider can place the NQF/EQF level on its certificates.

PLANS FOR THE FUTURE

The implementation of the NQF is an ongoing process that needs to be open to new developments and changes. The development of the NQF is linked to a European dimension, the European Qualifications Framework. Therefore, a double strategy for the national and the European dimension is needed. The NQF Register is technically ready to transfer the data automatically. The actual size of the data makes it possible to transfer the data manually. An important point for the further integration and cooperation of the Austrian data with European initiatives is to have the data available in German and English. Providing English data will be an upcoming challenge for qualifications from the non-formal education sector, because they are not used to working in English at the national level. English language data should also foster increasing the usability of the Register for international stakeholders.

There are two challenges ahead at the national level. The first is the implementation of NQF Service Points to be able to map non-formal qualifications and include these mapped qualifications in the NQF Register. The second is to completely automate the mapping process, which means that the request can be submitted digitally and that all involved bodies have a digital account enabling them to work through the mapping process.

There are no plans at the moment to further integrate the NQF Register with other national databases. One main aim of the NQF Register is to promote the NQF and enhance transparency in an already multi-sided educational system in Austria. The NQF is also a tool to promote lifelong learning. The decision on the role that may be taken by the NQF in this process in the coming years will be a political one.

All political parties in Austria support the NQF project. This should help to maintain the sustainable implementation of the NQF in Austria. The mapping of non-formal qualifications may serve as a needed boost for broader publicity to reach new target groups by promoting further education and training in different sectors. An important and needed step to stimulate the NQF is to place NQF levels on official certificates. This has already started with some formal qualifications and will further consolidate the idea of the qualifications framework in Austria.



CROATIA

Barbi Svetec
Ana Tecilazić Goršić

THE CROATIAN QUALIFICATIONS FRAMEWORK REGISTER

www.kvalifikacije.hr/index.php/en/register-cqf

The Croatian Qualifications Framework (CROQF) has been widely presented as one of the main reforming policy tools in achieving the quality and relevance of education at all levels. In this paper, the authors focus on the CROQF Register (*Registar Hrvatskoga kvalifikacijskog okvira*). The aim is to provide information on the history of the Register, the legal regulations governing the register, the role of the register's managing institution, the qualifications that are collected in the Register, the rules for verifying entities, available applications to support stakeholders and plans for the future.

THE HISTORY OF THE CROQF REGISTER

The CROQF, since its beginning, was designed as a reforming tool to be used with the objective of achieving the quality and relevance of education. It has been introduced as a voluntary tool¹ that stands for ensured quality and the proven relevance of qualifications with a CROQF quality label. Furthermore, it requires the commitment of education institutions to continuously improve the quality and relevance of curricula in order to equip graduates with the knowledge and skills needed to face global challenges.

Although the idea had been conceived earlier, the development of the CROQF officially commenced in March 2006 when the Ministry of Science, Education and Sports formed the Committee for the Introduction of the CROQF, chaired by the minister. Following consultations with numerous stakeholders, the

Government adopted the Baseline of the Croatian Qualifications Framework in July 2007. With the CROQF Baseline, a set of criteria, establishing the basis for transparency, access, progression, award (including validation and recognition) and the reliability of qualifications, was introduced.

The CROQF has been designed in a way that ensures the coordination and inclusion of all relevant stakeholders. The National Committee for the Development of the CROQF and the National Committee for the Implementation of the CROQF were established to set the foundation for the development of the legal and institutional framework for further developments and implementation of the CROQF. In 2012, the Committee for the Development of the CROQF Law and respective bylaws was established and the CROQF Law was adopted in 2013, the same year when the Referencing Report and the Self-Certification Report were presented to the Advisory Group for the European Qualifications Framework. That was the beginning of a new phase of implementing the CROQF, which involved the development of the Register and the information system supporting its development and implementation. The Ordinance on the CROQF Register was adopted by the Ministry of Science and Education and the concept of the CROQF Register was designed in 2014. The basic functionalities of the Information System of the CROQF Register were implemented in 2015, reflecting the planned structure of the CROQF Register, which is based on three sub-registers:

- Occupational Standards Sub-register, including occupational standards and units of competences,
- Qualifications Standards Sub-register, including qualifications standards, programmes leading to the attainment of qualifications, a list of legal entities authorised to award qualifications,
- Units of Learning Outcomes Sub-register, including programmes² for the acquisition and validation of units of learning outcomes, programmes for the validation of units of learning outcomes, a list of legal entities and natural persons authorised to award certificates for acquired units of learning outcomes.

The qualifications standards sub-register is linked with the occupational standards sub-register by the links established between the occupation standards and qualifications standards. Every qualification that is designed within the labour market perspective should be linked with one or more occupational standards. In the process of adopting qualifications standards, the Sectoral Councils

¹ All education is covered by the CROQF. However, the use of the tool in reforming, restructuring and reconceptualising qualifications is voluntary. This means that there is still not a legally binding procedure that requires an education/study programme to comply with the respective standard.

² The accreditation process is only of formal education programmes, so a link can only be demonstrated with formal education programmes.

are required to evaluate the proposed qualification standard in relation to the existing occupational standard(s) and affirm the existence of this link.

Every standard has its own code and a person can see in the register the links between the occupational standards and qualifications standards through their respective codes. The units of learning outcomes within a qualification standard need to cover the units of competences of the respective occupational standard(s). If all the units of substantive occupational competences are covered in the qualifications standard, they are considered “aligned”.

The Information System of the CROQF Register provides support during the process of submitting requests for the inclusion of qualifications and of occupational standards in the CROQF Register, as well as in the process of evaluating these requests. Also, it enables the maintenance of the CROQF Register by the responsible ministries and provides access to the CROQF Register’s public data. Moreover, it serves as a platform for interoperability with other information systems and enables the publication of data in EU-level portals.

As far as access to the data stored in the Information System of the CROQF Register is concerned, a public website has been developed, as well as a dashboard with compiled data on the activity in the system.

Moreover, interconnections with other information systems, such as the *European Classification of Skills/Competences, Occupations and Qualifications* (ESCO) and *Learning Opportunities and Qualifications in Europe* (LOQ) have been enabled via the REST API interface.

The Information System of the CROQF Register is being continuously developed and improved in line with the needs identified by all types of users, in order to further enhance its fitness-for-purpose and user-friendliness (www.kvalifikacije.hr).

LEGAL REGULATIONS GOVERNING THE CROQF REGISTER

The development of the CROQF Register followed the adoption of the legal framework defining the features of the CROQF: namely, the CROQF Act in 2013 (OG, 22/13, 41/16, 64/18) and the Ordinance on the CROQF Register in 2014 (OG, 62/14). As foreseen by the legal framework, the core of the CROQF are qualifications standards, which present the content and the structure of qualifications and include the minimum quality and relevance criteria – most importantly, the minimum learning outcomes – those which should be included in all learning

programmes leading to a particular qualification. To ensure their relevance, standards of labour market oriented qualifications should be aligned with occupational standards, which include information on the key tasks and competences needed to perform a specific occupation.

Qualifications standards are also instrumental when it comes to the transparency of learning outcomes which a certain qualification entails. To allow for this transparency in practical terms, but also for the purpose of keeping records, connecting and aligning the data relating not only to qualifications standards and learning outcomes, but also to occupational standards and competences, as well as different types of related programmes, the legal framework anticipated the establishment of a public CROQF Register (Act, Art. 13.1).

Qualifications standards, after going through a thorough evaluation process and being agreed upon by all relevant stakeholders, become national standards and the basis for developing or enhancing educational and study programmes, aligned with the agreed quality and relevance criteria. In this process, in accordance with the CROQF Law, qualifications are assigned CROQF corresponding levels, which are referenced to the levels of the European Qualifications Framework (EQF) and the Qualifications Framework of the European Higher Education Area (QF-EHEA). This enables them to be compared to qualifications in other national qualifications frameworks.

THE ROLE OF THE CROQF REGISTER’S MANAGING INSTITUTION

The legal framework defines the responsibilities for the management of the three sub-registers of the CROQF Register. In this respect, it authorises the ministry responsible for education and science to be in charge of the Qualifications Standards Sub-register and Units of Learning Outcomes Sub-register, and the ministry responsible for labour to be in charge of the Occupational Standards Sub-register.

This includes the human, technical and organisational resources required for their functioning, as well as the input of data into the respective sub-registers. It also includes determining measures, means and conditions for securing, storing and protecting the data.

Additionally, the legal framework authorises the ministry responsible for education and science to be in charge of ensuring the continuous functioning of the

Information System of the CROQF Register and the provision of the necessary technical resources.

In practical terms, this means that the ministry responsible for education and science, along with the responsibilities relating to the Qualifications Standards Sub-register and Units of Learning Outcomes Sub-register, is in charge of the overall day-to-day functioning and development of the Information System of the CROQF Register. This includes general administration, verification of access, support to users, problem solving, identification of users' needs, planning of further development, communication with the IT provider, as well as the provision of required financial resources.

QUALIFICATIONS THAT ARE COLLECTED IN THE CROQF REGISTER

With the institutional framework and the technical preconditions set, requests for inclusion of occupational and qualifications standards in the CROQF Register began to be submitted. The first occupational standard was included in the CROQF Register in September 2017 and, as of July 2019, a total of 12 occupational standards have been included; moreover, there are around 90 requests for inclusion of both occupational and qualifications standards in different stages of the evaluation procedure. For the time being, there is a stronger focus on occupational standards, since they are a precondition for the inclusion of labour market relevant qualifications standards.

All qualifications standards included in the CROQF Register have to be structured as prescribed by the Ordinance (Art. 28.3) as follows:

1. The code of the qualification standard,
2. The title of the qualification,
3. The CROQF reference level of the qualification,
4. The EQF reference level of the qualification,
5. The minimum volume of the qualification,
6. The class of the qualification (full or part of the qualification),
7. The list of units of learning outcomes,

8. The entrance requirements for the qualification,
9. The requirements for attaining the qualification,
10. The justification for including the qualification in the register and a description of the role of the qualification³,
11. The date by which students are expected to enrol in a programme leading to the attainment of the qualification,
12. A link to the official document establishing the sectoral council that performed the evaluation,
13. A link to the expert opinion of the sectoral council on the inclusion of the qualification standard in the CROQF Register,
14. A link to the decision on the inclusion of the qualification standard in the CROQF Register,
15. The name of the applicant that submitted the proposed qualification standard,
16. The date of inclusion in the Qualifications Standards Sub-register,
17. A link to appropriate programmes and list of legal entities authorised to award the qualifications.

RULES FOR INCLUDING QUALIFICATIONS IN THE CROQF REGISTER

The procedure of including a qualification standard⁴ into the CROQF Register starts with the submission of a request.

³ The Croatian qualifications system envisages three roles for a qualification: labour market role, role in further studies and role for social relevance and meeting the needs of individuals.

⁴ The procedure of including occupational standards, which precedes the procedure of including qualifications standards essentially follows the same rules.

- The request form is described by the Ordinance and implemented in the Information System of the CROQF Register in the *Requests* programme module, allowing for the electronic submission of the request.
- The procedure can be initiated by any legal entity or a natural person, as well as national authorities, providing that their interest has reasonable grounds. In order to access the *Requests* programme module, an applicant needs to register in the system and be granted access by the administrator.
- There is no time limitation for working on a request. More representatives of the same institution can work on the same request, and one user can work on more than one request.
- In the case of labour market oriented qualifications, the precondition to submitting the request is that at least one corresponding occupational standard has already been included in the CROQF Register.
- The relationship between the learning outcomes of the qualifications standard and the competences included in a corresponding occupational standard needs to be demonstrated, which is done by using a specialized matrix that is part of the electronic request form.

Submission of a request to include a qualification standard in the CROQF Register is followed by the formal verification of the request.

- Formal verification is performed by the ministry responsible for education and science, to determine whether all the necessary documents have been submitted and whether the data provided are accurate.
- The verification is done electronically in the Information System of the CROQF Register, via the *Administrator's* programme module.
- If all the formal criteria are not met, corrections are requested from the applicant.
- The formally verified version of the request needs to be signed by the legal representative of the applicant and submitted again; this version of the request is sent to and also processed by the central administrative system of the Ministry of Science and Education.

Formally verified requests are submitted to experts for an evaluation.

- The expert evaluation is performed by competent sectoral councils⁵, relevant for specific sectors.
- The evaluation results are provided in a written expert opinion, submitted via the *Sectoral Councils* programme module to the applicant and the Ministry of Science and Education.
- A positive expert opinion is taken into account by the minister of science and education, who issues the decision on including the qualification standard in the CROQF Register.
- A negative expert opinion contains guidelines and recommendations for improving the request, if such improvement is considered possible.

The decision issued by the minister of science and education is the basis for including a qualification standard in the CROQF Register.

- The decision is uploaded into the system via the *Administrator's* programme module.
- Information about the qualification standard is made publicly available via the public website of the CROQF Register.

RULES FOR VERIFYING ENTITIES

In order to gain access to the programme modules *Requests*, *Sectoral Councils* and *Reviewers*, all users have to register using one of the allowable electronic identities: AAI@EduHr⁶, Facebook, Twitter, Google, LinkedIn. Each registration must be additionally verified by the administrator at the Ministry of Science and Education⁷.

In the process of registering, each user is assigned a specific role in the system, which enables them to access specific parts of the system and take specific actions. Each user can be assigned more than one role – for example, the same

⁵ Sectoral councils are advisory and expert bodies whose primary role is the expert evaluation of requests for entering occupational standards, qualifications standards and units of learning outcomes in the CROQF Register, within the relevant sectors (Act, Art. 12; Ordinance, Art. 37-44).

⁶ Authentication and authorization infrastructure of the Croatian science and higher education system.

⁷ This refers to all types of requests, not only for the inclusion of qualifications standards.

user can be granted access both as an applicant and as a member of a sectoral council.

To access the publicly available data on the public website, no registration is needed.

AVAILABLE APPLICATIONS TO SUPPORT STAKEHOLDERS

Since the CROQF is founded on the idea of the inclusion of all relevant stakeholders and bodies in the inclusion process, specialized programme modules were developed in correspondence with the roles and needs of different parties, such as: for submitting requests to include standards by applicants, for sectoral councils in charge of their respective expert evaluations, as well as for the administrators in the responsible ministries. By developing these functionalities, basic technical preconditions were set for implementing the procedures of submission, evaluation and inclusion of standards in the CROQF Register.

The most important applications included in the Information System of the CROQF Register are:

- **Requests:** an online module for applicants submitting requests for including entries in the CROQF Register; it also enables access to information on the status or results of evaluation procedures, enables improvement of requests when necessary, etc.,
- **Sectoral Councils:** an online module for sectoral councils working on the expert evaluation of requests; the module provides access to requests submitted for evaluation and is mainly used in the exchange of documents, organisation and monitoring of activities; it also includes a form for the electronic application of external experts interested in taking part in the work of sectoral councils,
- **Reviewers:** an online module for reviewers evaluating the alignment of proposed education and study programmes with the qualifications standards included in the CROQF Register,
- **Administrators:** a computer module for administrators at the responsible ministries; it provides access to information about all requests which are being processed and is used to administer evaluation procedures and provide support to other users,

- **Public website:** a website enabling public access to the data stored in the CROQF Register,
- **Dashboard:** a website with compiled data on the activity in the system.

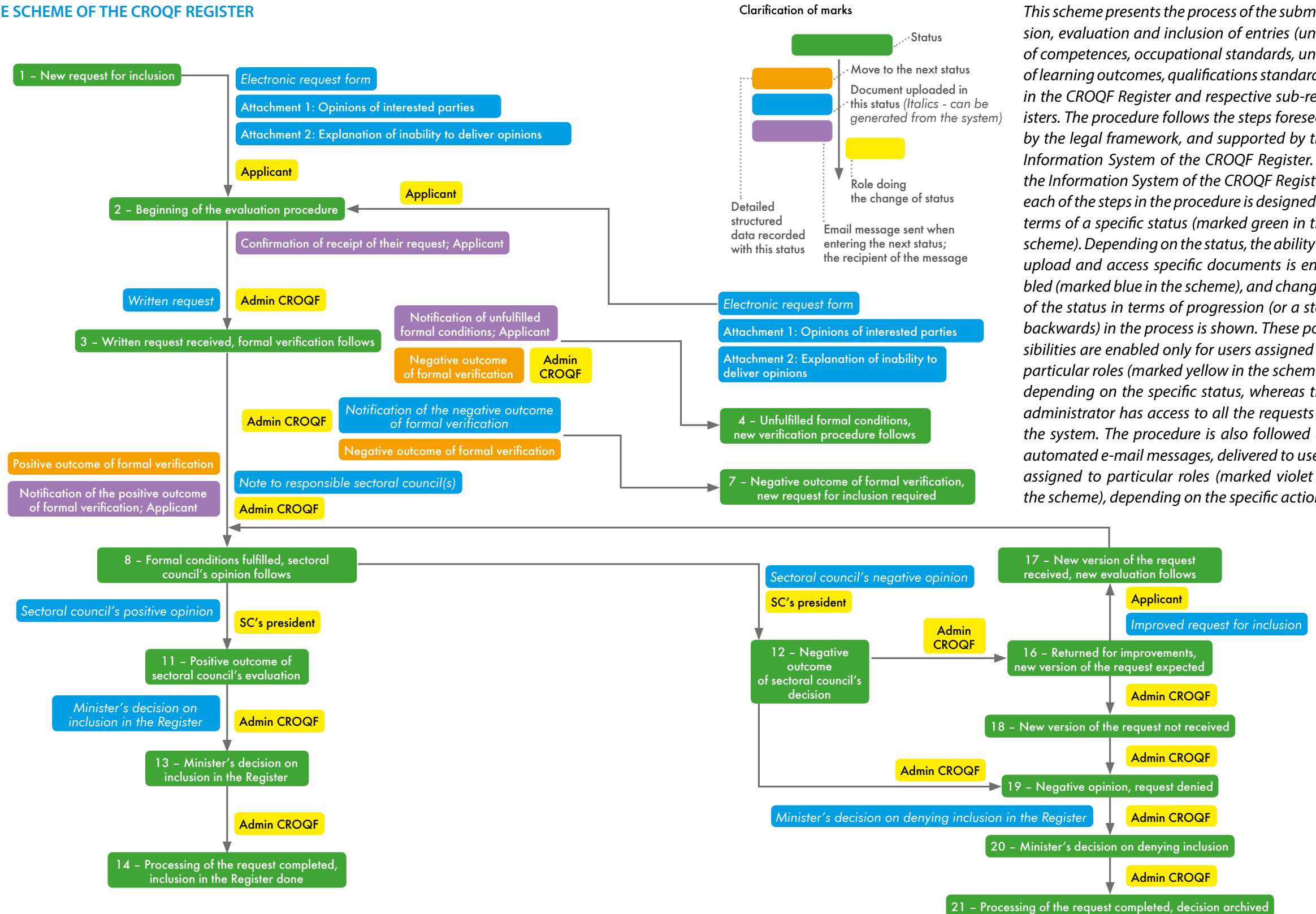
PLANS FOR THE FUTURE

The Information System of the CROQF Register is being continuously improved in line with the needs of all user groups, which will also continue in the future, in order to improve the user-friendliness of the system, simplify the procedures and ensure a smooth inclusion of qualifications standards in the CROQF Register.

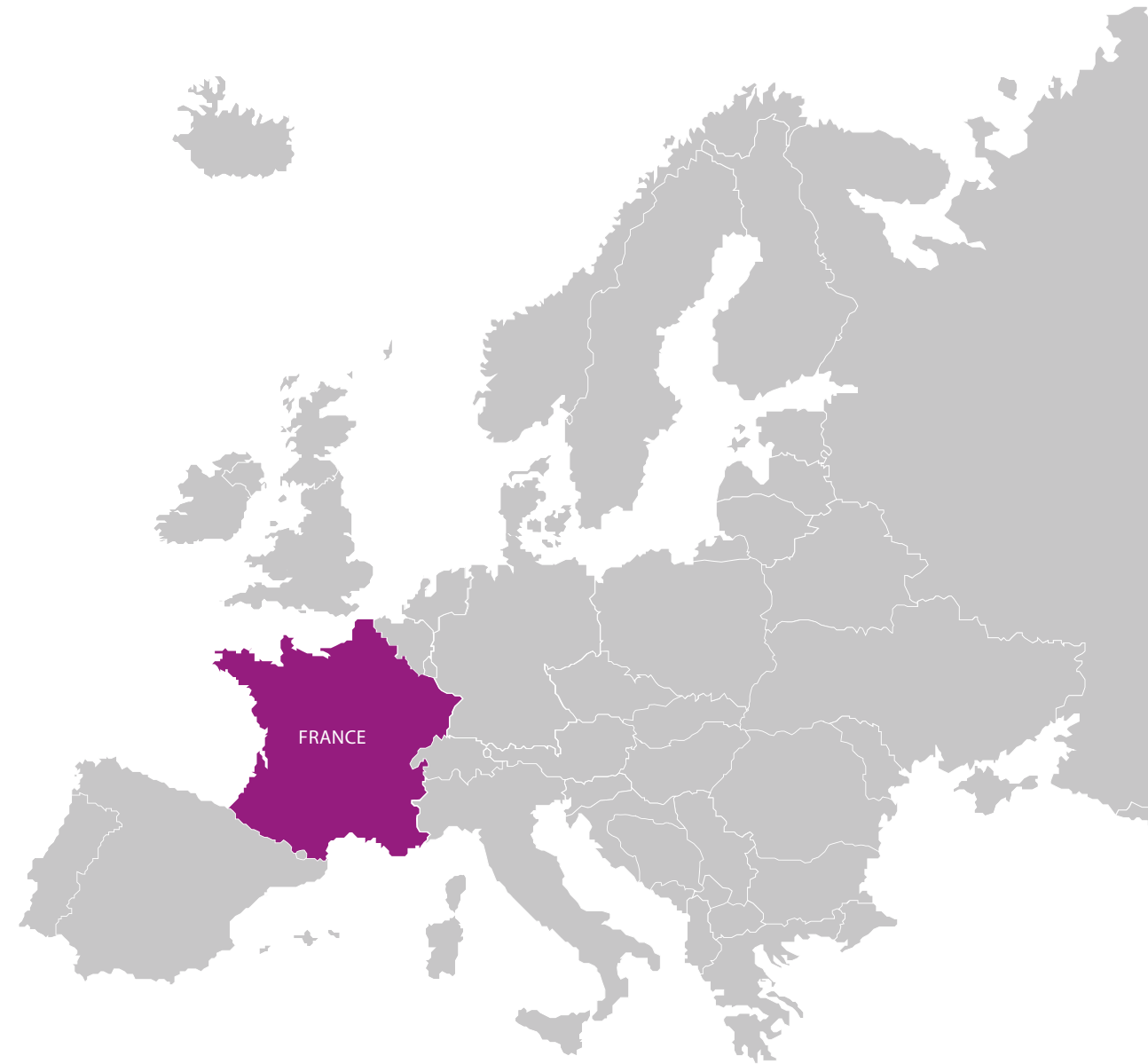
Recently, the submission of requests for inclusion was also enabled for study and education programmes, and another application module was developed for reviewers of these programmes' alignment with qualifications standards, as a precondition of their inclusion in the CROQF Register. In this respect, most progress has been accomplished for higher education and study programmes, for which the transfer of data from other information systems⁸ for higher education was enabled as well. For the time being, aligning programmes with the standards in the CROQF Register is not mandatory; however, the ultimate aim is to enhance the system of the quality assurance of study/education programmes with qualifications standards as a key tool for quality assurance, in which case the CROQF Register would replace existing databases and become the central information point for quality assured programmes and institutions.

⁸ Directory of accredited study programmes in the Republic of Croatia (owned by the Agency for Science and Higher Education), Directory of study programmes (owned by the Ministry of Science and Education), Directory of higher education institutions (owned by the Ministry of Science and Education).

THE SCHEME OF THE CROQF REGISTER



This scheme presents the process of the submission, evaluation and inclusion of entries (units of competences, occupational standards, units of learning outcomes, qualifications standards) in the CROQF Register and respective sub-registers. The procedure follows the steps foreseen by the legal framework, and supported by the Information System of the CROQF Register. In the Information System of the CROQF Register, each of the steps in the procedure is designed in terms of a specific status (marked green in the scheme). Depending on the status, the ability to upload and access specific documents is enabled (marked blue in the scheme), and changes of the status in terms of progression (or a step backwards) in the process is shown. These possibilities are enabled only for users assigned to particular roles (marked yellow in the scheme), depending on the specific status, whereas the administrator has access to all the requests in the system. The procedure is also followed by automated e-mail messages, delivered to users assigned to particular roles (marked violet in the scheme), depending on the specific action.



FRANCE

THE FRENCH CASE: TWO DATABASES IN THE NATIONAL SYSTEM

<https://www.certificationprofessionnelle.fr/>

Scheme of the *Répertoire national des certifications professionnelles* – RNCP and national specific register

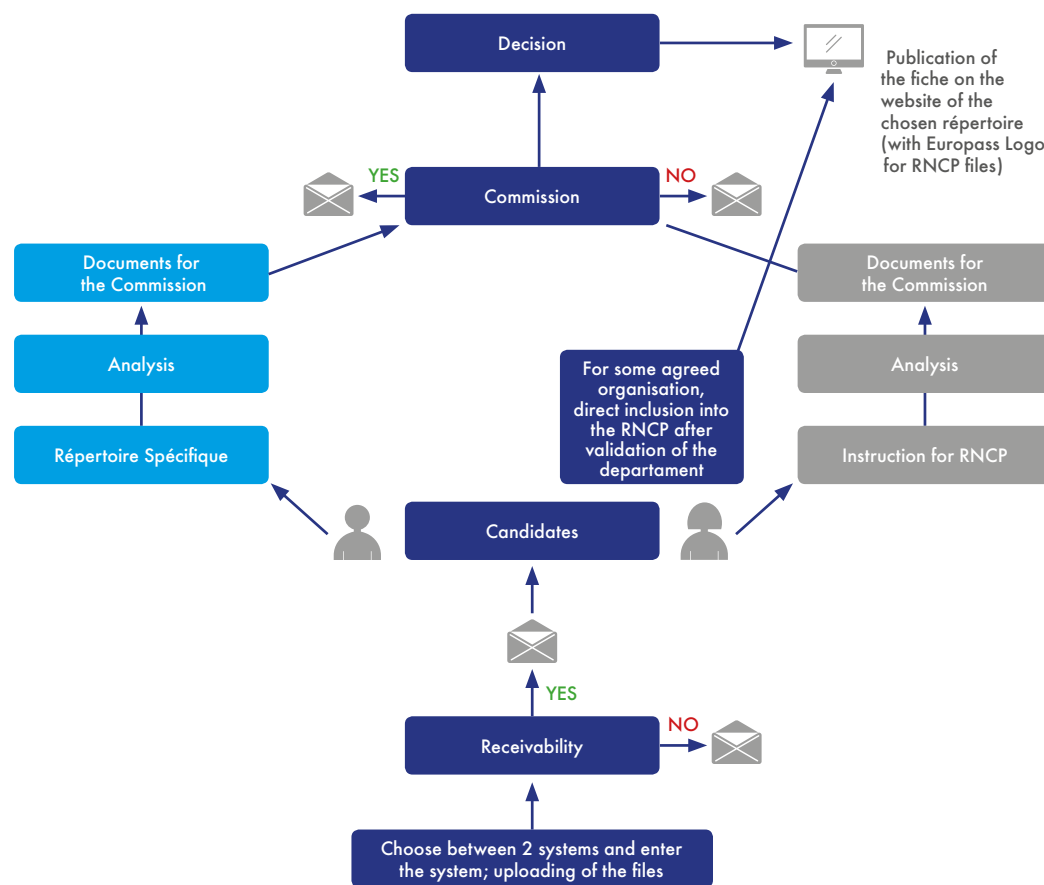


Diagram validated by *France compétences*

GENERAL INTRODUCTION AND CONTEXT

There are two qualifications databases in France. One is for the national qualifications framework and has qualifications with levels (its levels are reported to the EQF) and the other is a database for qualifications of interest to the labour market but without a level.

The database for the national qualifications framework is called the *Répertoire national des certifications professionnelles* – RNCP.

The other database without levels is called *Répertoire spécifique*, and will not be addressed in this article. Nevertheless, please note that it is possible to have links between the two databases, as there are some qualifications without a level considered to be part of a qualification registered in the RNCP.

Two different independent databases existed in the past, but a new system is under development. This new system will keep the two distinct national registers with a common back office. The diagram of the system under development is described above.

The reasons for this shift are technical (the former databases were based on older technologies), but it was also necessary to implement some new elements, as the law for “the freedom to choose one’s professional future”, which extensively changed many regulations relating to lifelong learning, apprenticeship and qualifications, was passed in September 2018. This law rescinded the commission in charge of the RNCP (CNCP) and created a new institution, *France compétences*, which replaces CNCP and is also responsible for several other issues, for instance, quality assurance for VET.

The aim of the new system is to offer qualifications providers and end users more practical access and to end the use of paper.

There is a platform dedicated to qualifications providers, but the back office of the system is also a crucial element, as it is the tool of the managing institution for managing all the processes of registering qualifications.

The qualifications registers are considered part of the global system of lifelong learning. They use existing elements applied in LLL, such as “Rome”, which is the file describing jobs by the Labour Agency, or classifications of firms by the national institute for statistics – INSEE, and their data will be used by other institutions from VET or higher education as needed.

The system is designed to use data from other departments of *France compétences* (for example, to obtain information from the sectors) and from other institutions and to exchange information with the databases of other stakeholders. The *Caisse des dépôts* is an institution in charge of the payment of some public funding for lifelong learning, as well as for guidance services. It is entitled by law to have access to and work with personal data. Data exchanges occur frequently to improve the system of lifelong learning.

The data of the register can be used by the managing institution for reports, quality assurance, but its “philosophy” is to provide open access to the published data and to share the data of the system (mainly statistical data presently) with partner institutions.

The Registers provide “fiches” describing the learning outcomes of the qualification, the link with the labour market and information about the awarding bodies. The national and European levels for the qualifications are also indicated in the RNCP.

The Europass supplement certificate is also produced, as *France compétences* belongs to a network of institutions working together with the Erasmus+ Agency.

Integration with the LOQ will be possible when the final version becomes available.

The use of artificial intelligence is not an option for the time being, as the conditions to avoid bias in the use of artificial intelligence do not exist (conclusions of a workshop on the NQF and artificial intelligence – conference organised by Erasmus+ France in October 2018 about the use of artificial intelligence for career guidance).

Two conditions would be necessary:

1. data: they must be numerous enough; they must have a sufficient degree of homogeneity so that data scientists can process them correctly in order to develop or test algorithms.
2. algorithms: levelling qualifications is the main mission of a qualifications framework.

In many cases, levelling is done after discussions, comparisons, and after agreement on the weighting of descriptors. In this field, determining an orderly and finite set of operations appears complex and requires time.

The former system did not take into account these aspects, and it will take time to develop them. What seems more interesting in the future is to have a system that can be accessed by other institutions to collect data that could be a basis for moving towards artificial intelligence.

THE HISTORY OF THE REGISTER

The RNCP had already been developed in two versions, but it was based on obsolete technologies. This made communication with other systems challenging. Deep links with the Labour Agency were established and there was a monthly data export to official organisations in the field of LLL guidance, but it was difficult to exchange data. Moreover, the RNCP database was not user-friendly and the development of the second register for qualifications without a level occurred under difficult circumstances (all the development had to be done within a few months to implement a new law).

So a decision was made to create a new system, more user-friendly for the general public and easier to use for qualifications providers. The choice was made to implement the two official registers in a unique system using open link data in order to provide better communication with other systems, without merging the *France compétences* databases.

It was also decided to develop a unique platform for qualifications providers.

The development of the databases also had to take into account the law passed in September 2018. Even if some measures were known and could be anticipated, a legal basis was needed (see section 2) to launch the first version of the system. New versions, more complete and user-friendly, are still under development and will be ready in the near future.

LEGAL BASIS

There are 3 levels of legal texts for the implementation of the databases: 1) the law creating the national databases, 2) general principles of organisation (i.e. *décrets*) and 3) treatment of personal data.

Laws govern all the issues concerning personal data and exchanges of mass data between institutions, if personal data are concerned. In this case, the general rules laid down by the law for the protection of personal data apply. But there were special articles to set rules as far as the exchanges of data between *France compétences* and the *Caisse des dépôts et consignations*. This public institution is authorised to pay for lifelong learning training directly to a special workers' account.

The existence and general structure of each official register is determined by law (the law of 2002 and 2018 on the structure of the RNCP, the law of 2009 and 2014 on the *répertoire spécifique*). At the time of this writing, the legal basis for the **structure** of the RNCP is ArtL.6113-1 Code du travail established by Art. 31 (V) of the law passed September 5, 2018.

General regulations are issued by the prime minister (*décrets*):

- September 18, 2018 – Regulation of the conditions for registration in the RNCP and *répertoire spécifique* (criteria of registration).
- January 8, 2019 – national qualifications framework Decree of the minister of labour about the information needed to enter the workflow (identification) for the two *répertoires*.

The general regulation by the prime minister and decree of the minister of labour will be called “texts” in this report.

To classify qualifications, the RNCP relies on the use of a national grid classifying the fields of activity. This grid is elaborated by the French national institute for statistics (INSEE). ISCED 2013 fields are not used for the RNCP, as they do not seem precise enough.

Other laws relating to lifelong learning do not address the structure of the databases but limited possibilities to obtain public funding for attaining the qualifications registered in one of the two databases of qualifications. For example, public funding cannot be used to finance workers' continuing education if the qualification is not registered in the RNCP or the *répertoire spécifique*. No funding is allowed for entities providing apprenticeships if the qualifications are not registered in the RNCP.

But in 2018, the law also changed the managing institution of the RNCP and the conditions for registering qualifications.

THE ROLE OF THE MANAGING INSTITUTION

The managing institution is a new public organisation, *France compétences*, which is also responsible for other major areas, such as the quality assurance of continuing education providers or the implementation of coherent rules for apprenticeship financing (<https://www.francecompetences.fr/>).

France compétences is officially in charge of the two national databases and of the qualifications framework. It prepares the work of a commission that advises the general director of *France compétences*, who acts in accordance with the regulations, but makes the final decisions.

The role of the *France compétences* team responsible for the registration of qualifications is to verify the administrative admissibility of the application of the awarding bodies and to ensure that the required criteria for registration are fulfilled. These criteria are public and set by a legal text.

The information needed by the commission members (grids of competences, analysis by the *France compétences* team) is prepared by the computer system.

The role played by the computer system depends on the different phases of registering a qualification (see sections 5 and 6).

The organisation of the “back office” depends totally on the organisation of the process by *France compétences* to help in organising the work (production of documents before the commission provides its advice, information on the different qualifications in the sector, on the average wages if needed and on the evolution of the jobs in the database, ensuring that all fiches published on the website have a similar format).

In France, the outputs of the computer application must follow the rules set by the texts of either the law on the principles of registration or regulations issued by the ministry of employment (see the section on the legal basis). The application only serves as a guideline for the work that must be done. It does not propose solutions for assigning levels or under what conditions a qualification is accepted or rejected.

As stated earlier, there is no evidence of the advantage of artificial intelligence algorithms. The cohorts of holders of more than 8000 qualifications were not kept and processed. It will take a number of years until the *Caisse des dépôts* will be able to record data, process them and send them back to *France compétences*.

Moreover, the very quick evolution of the labour market requires the development of original solutions. This is why a scientific committee with experts was established to identify new qualifications. For these qualifications, the process of including them will be easier. The list of these new qualifications will be published every year.

The managing institution will be in charge of further developments and maintenance of the RNCP, as initial developments were financed by the ministry in charge of employment.

THE QUALIFICATIONS COLLECTED IN THE RNCP

The qualifications registered in the RNCP are the ones recognized by the French state as included in the qualifications framework with a guarantee of their level.

The criteria are set by legal and regulatory texts, and there is no discrimination based on the origin of the provider or the type of qualification (international, private, public, etc.). The ability given to some providers (mainly ministries) to enter qualifications into the RNCP, after discussions with the *France compétences* team, is set by law (Art. L6113-5 labour code). The main role of the system is to require all providers to present their qualification in a standardised way for inclusion to the RNCP and to be sure that all the elements needed for the final decision on inclusion are presented by the providers. So documents are standardized, but the providers may load files in different formats when providing evidence. Statistics on the persons who were awarded the qualification are compulsory for registration.

There are no special requirements relating to the origin of the qualification. There is a rapid track for entering qualifications into the system for some ministries that is regulated by law, but this is only possible if commissions with representatives of employers and employees worked together on the qualification.

RULES FOR INCLUDING QUALIFICATIONS IN THE REGISTER

The system acts as a gatekeeper to verify the legal ability of awarding bodies to be considered qualifications providers and to ensure that the provider submits

the qualification to the relevant register. The choice between the two registers is mandatory at the beginning of the process, and it is not possible to switch from one database to the other. This is not a technical issue, as the objective is to avoid a situation where providers change their choice if they think that registering in a different register may be easier. The providers must understand the very nature of the qualification and what it means to assign a level.

The rules of entering the RNCP platform or the *répertoire spécifique* were set by official regulations, and they are mandatory for qualifications providers (Article R6113-8 code du travail, Arrêté du 4 janvier 2019).

These regulations enable *France compétences* to establish procedures (in fact, the rules of the platform for entering data) and to refuse requests for which all the items needed for the analysis (grids for the analysis, statistics on the holders of the qualifications, etc.) are not provided.

The system ensures that different items are in the system in the required format, which allows the provider to continue completing the process.

The most important issue enabling providers to continue the process of including a qualification in the register is the verification of entities described below.

VERIFICATION OF ENTITIES

In order to better identify companies and avoid duplication in the computer system, the decision was made to use another existing national register operated by the national institute for statistics (INSEE) to identify firms. This did not exist in the former databases, which happened to have the same provider under different names (brand name and legal name). This was confusing for everyone. Ministries or universities are not obliged to be identified in this way for the time being. In this case, these stakeholders are treated differently once they are allowed to do so by the *France compétences* team.

The legal existence of the provider must be proven by a document that is sent by the Registry of the Commercial Court.

It is only when this has been done that the provider is identified and allowed to enter documents into the Register's platform.

This has the advantage of avoiding “mills” (forged diplomas or qualifications) and enables foreign providers with a subsidiary in France to enter information into the platform.

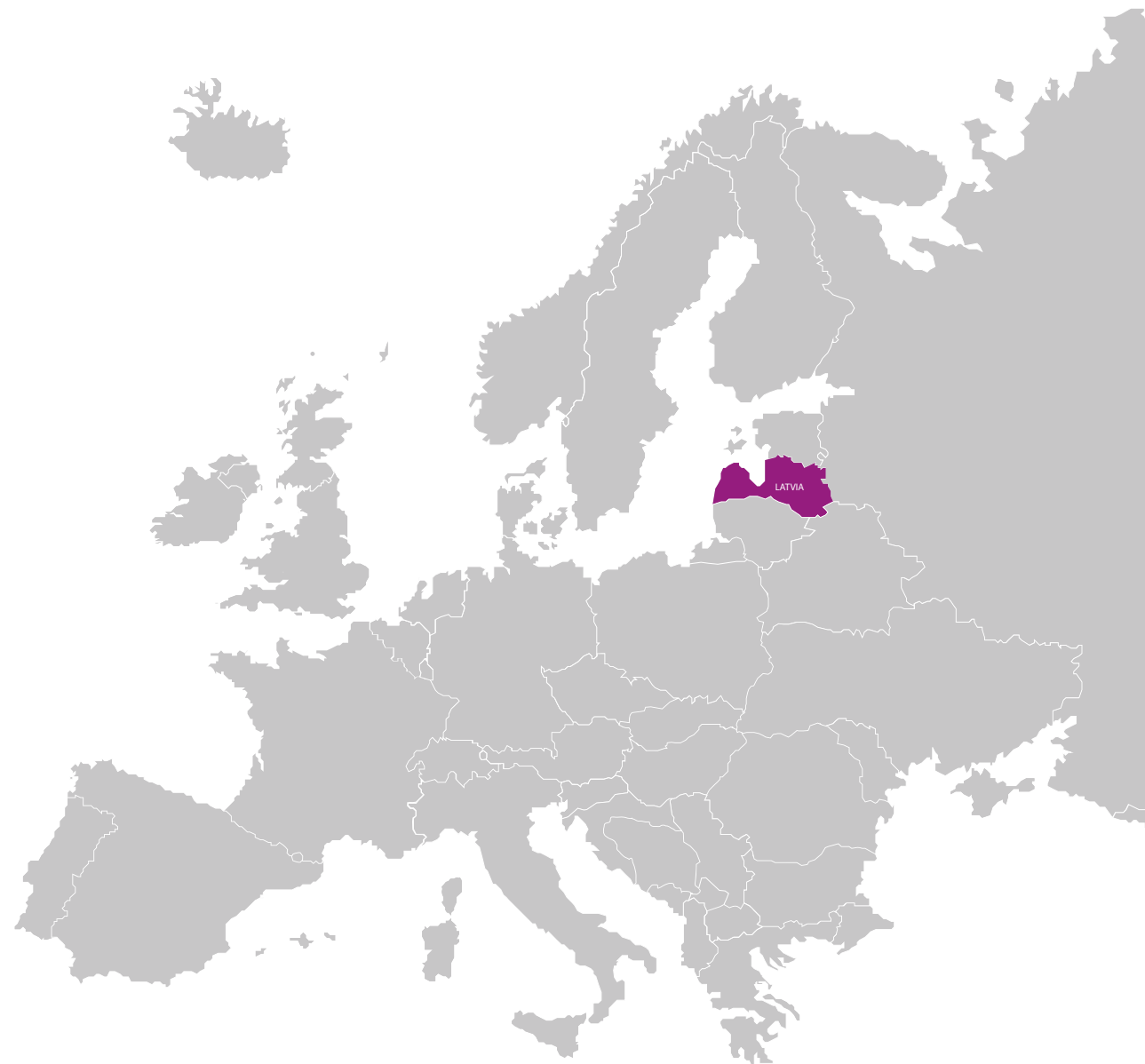
In the future, quality assurance providers should also be verified, but this system is under construction (the regulation was only published last June).

INFORMATION FOR STAKEHOLDERS AND NEXT STEPS

Information is provided to stakeholders to help them understand the system (published on the website: <https://certificationprofessionnelle.fr/aide-dans-vos-demarches>), and questions may be sent to a special address. There is also guidance available for providers when they have been allowed to enter the platform.

The system is still under development. The priority in the last months was more to establish a complete and robust back office in order to avoid gaps in the production of the RNCP and to secure its future implementation.

The focus in the coming months will be on the website for end users and improving access to the website for the general public.

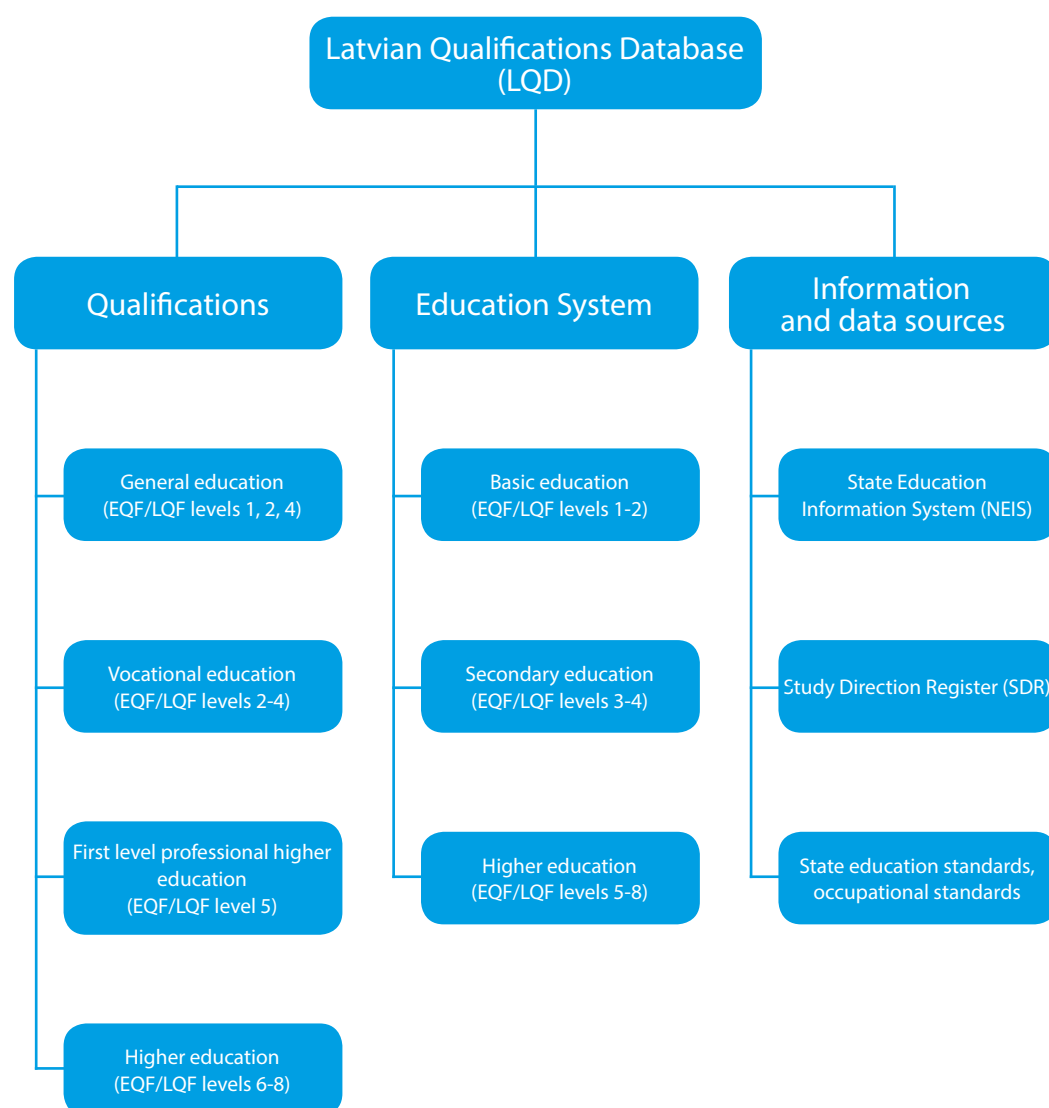


LATVIA

THE LATVIAN QUALIFICATIONS DATABASE (LQD)

www.latvianqualifications.lv

and www.lqd.lv



The Latvian Qualifications Database (LQD) is an informative database of national qualifications referenced to the Latvian Qualifications Framework (LQF), which, in turn, is referenced to the European Qualifications Framework (EQF). The LQD is accessible at www.latvianqualifications.lv and www.lqd.lv, and it is available in two languages – Latvian and English translation.

The LQD was developed within the framework of European Commission (EC) projects “European Qualifications Framework – National Qualifications Databases” (2014–2016, 2016–2018, 2018–2020) implemented by the Academic Information Centre (AIC) as National Coordination Point (NCP) for the EQF.

The LQD was launched in May 2016 and in the same year, it was also linked to the European joint portal – Learning Opportunities and Qualifications in Europe (LOQ), and in 2018 to the European Skills/Competences, Qualifications and Occupations (ESCO) portal through EC’s platform – Qualifications Dataset Register (QDR). In order to upload qualifications data through QDR to LOQ and ESCO, the EQF XML (*eXtensible Markup Language*) format is currently used.

As noted before, the LQD is an informative database not a register, therefore there are no legal regulations governing the structure, content and update of the LQD, and national qualifications are not required to be published.

Currently, national qualifications are referenced to the NQF and structured in accordance with 8 LQF and EQF levels, which are published by the AIC on the LQD within the EC project “Databases and registers for qualifications (EQF-NCPs)” (2018–2020). In addition to managing the inclusion of national qualifications, as well as ensuring the quality of the data in the LQD, the AIC improves the functionality and design of the LQD within the framework of this project.

The AIC coordinates the use and interpretation of national qualifications data in the LQD with the project working group of representatives from the Ministry of Education and Science (which hosts the State Education Information System – NEIS), National Centre for Education (which hosts the register of occupational standards), State Education Quality Service (which hosts registers of registered education providers and licensed education programmes), State Education Development Agency (which hosts the National Education Opportunities Database), and the Quality Agency for Higher Education (which hosts the Study Direction Register).

Currently, national qualifications are included and managed in the database by the LQD administrators from the AIC. After national qualifications are included and processed in the database, they are published for public users in the LQD website.

In addition to national qualifications, the LQD contains information on the LQF and EQF, a brief description of the Latvian education system, glossary of terms used in the context of the LQD and national qualifications, as well as hyperlinks to various data sources and information sources about national qualifications.

National qualifications that are included in the NQF and LQD are owned by the state, as they are designed and issued in accordance with the Cabinet of Ministers (government) regulations. Currently, only formal and quality assured national qualifications are included in the LQD.

The LQD includes three types of national qualifications: 1) general education, 2) vocational education, and 3) higher education.

The content of general education qualifications is defined by: a) state education standards, i.e., general basic and secondary education standard, as well as study subject standards (stipulated by Cabinet Regulations); b) general education programmes (developed by general education institutions in compliance with the regulatory framework).

The content of vocational education qualifications is regulated by the following documents: a) state vocational education standards, i.e., the state vocational secondary education standard, the state vocational education standard and the state standard of first level professional higher education (defined by the Cabinet of Ministers Regulations); b) occupational standards or requirements for professional qualifications and descriptors of the Sectoral Qualifications Framework (approved by the National Tripartite Sub-council for Cooperation in Vocational Education and Employment); c) vocational education programmes (developed by vocational education institutions in compliance with the regulatory framework).

The content of higher education qualifications is regulated by the following documents: a) state education standards, i.e. state academic education standard, state standard of first level professional higher education (EQF/LQF level 5 under higher education, and is awarded in colleges), state standard of the second level professional higher education, and state professional higher education standard for obtaining Doctor's degree and professional Doctor's degree in Arts (determined by the Cabinet of Ministers Regulations); b) for professional higher education programmes – occupational standards or the requirements for professional qualifications and Sectoral Qualifications Framework descriptors (approved by the National Tripartite Sub-council for Cooperation in Vocational Education and Employment); c) higher education study programmes (developed by higher education institutions in compliance with the regulatory framework).

The LQD is integrated with the State Education Information System (NEIS), which is an official state education information database maintained by the Ministry of Education and Science. National qualifications that are included and published in the LQD are automatically imported from NEIS. In order to ensure data quality, imported qualifications are manually reviewed and then published, currently by the LQD administrators for the AIC.

Only qualifications that are awarded by state registered, licensed and accredited education institutions implementing education programmes leading to the particular qualifications (and are authorised to award state recognised qualifications) are included in the LQD.

The LQD is developed in accordance with open data principles. The entire LQD dataset is publicly available for downloading and free usage from the LQD website. Stakeholders and other interested parties can download up-to-date LQD data in XML format, as well as CSV (*comma-separated values*) format.

Plans for the LQD future are formulated and implemented within the EC project "Databases and registers for qualifications (EQF-NCPs)" (2018–2020). Many visual and functional tools and updates are being developed in order to make the LQD more visually appealing and intuitive for users. For example, an interactive tool will provide statistical data on qualifications within LQD, and also provide users with the functionality to compare the content of chosen qualifications.

AIC, in cooperation with independent researchers, is conducting an impact study in order to learn more about users' experiences with the LQD, which will provide insight into what content updates would be necessary for better user experience when working with the LQD.

Work is also scheduled to transform the LQD dataset from LOQ EQF XML to Qualifications Metadata Schema XML format for more effective linking of qualifications data to LOQ and ESCO.

LIST OF ABBREVIATIONS:

LQD – Latvian Qualifications Database

LQF – Latvian Qualifications Framework

EQF – European Qualifications Framework

AIC – Academic Information Centre

NCP – National Coordination Point

LOQ – Learning Opportunities and Qualifications in Europe

ESCO – European Skills/Competences, Qualifications and Occupations

EC – European Commission

QDR – Qualifications Dataset Register

NEIS – State Education Information System

XML – eXtensible Markup Language

CSV – Comma-separated values



POLAND

Robert Ziółkowski
Bartłomiej Głowacki
Marcin Będkowski
Łukasz Budzynowski
Wojciech Stęchły

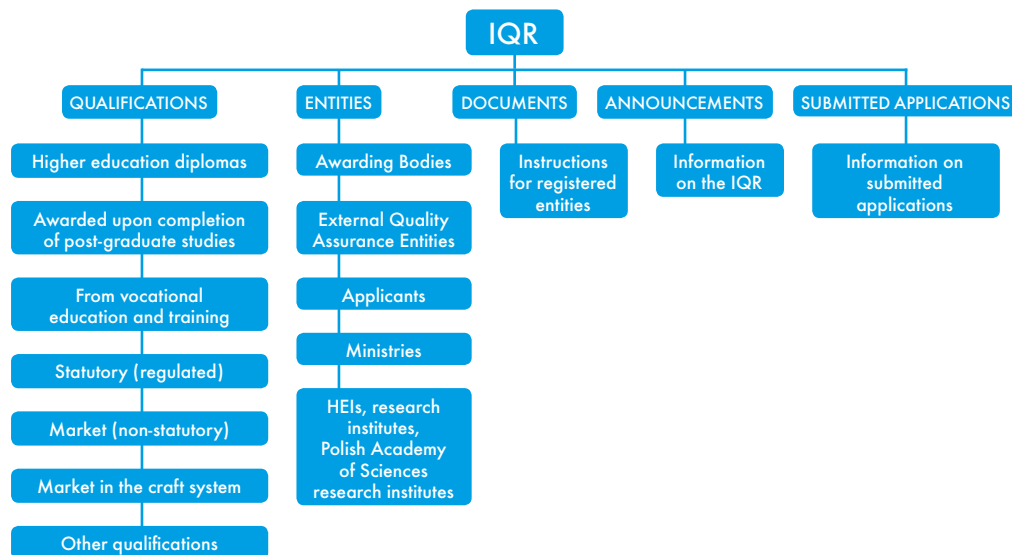
THE INTEGRATED QUALIFICATIONS REGISTER IN POLAND

www.kwalifikacje.gov.pl

STRUCTURE OF THE INTEGRATED QUALIFICATIONS REGISTER AND VIEWING ITS INFORMATION

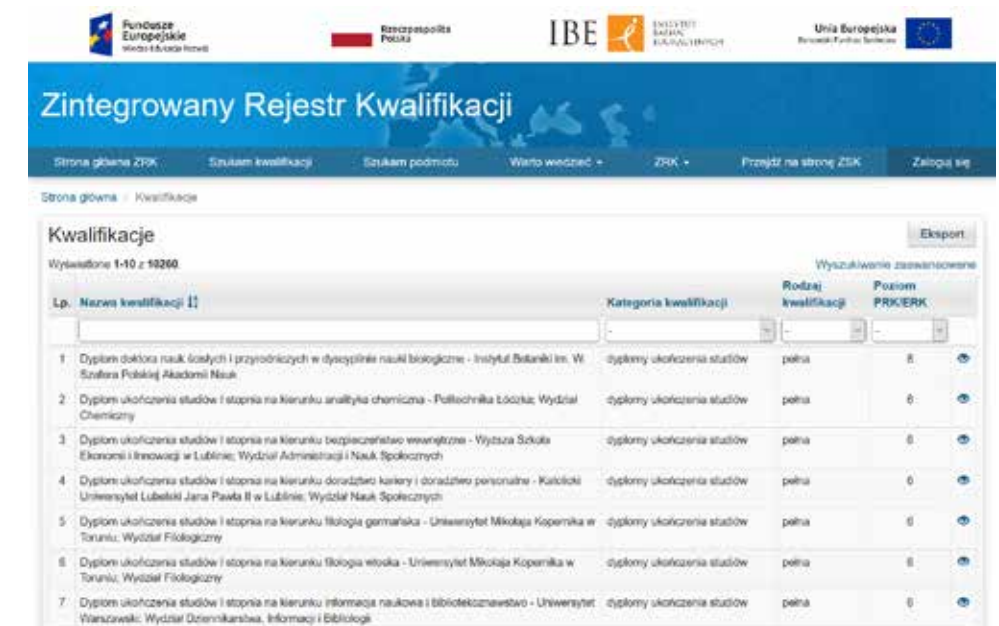
The Integrated Qualifications Register (IQR) is a national public register which collects information about all qualifications included in the Integrated Qualifications System (IQS). The register functions independently of other registers and lists of qualifications existing in Poland, established for the needs of particular ministries, sectors, communities and institutions.

The diagram below presents the types of information in the IQR portal that can be accessed by everyone without the need to log in.



The Integrated Qualifications Register portal consists of two parts. The publicly accessible part has information about the qualifications included in the Integrated Qualifications System, related institutions, learning outcomes required for particular qualifications and their assessment criteria, as well as the detailed requirements for validation. Moreover, portal users have access to important information and useful instructions.

Below is the qualifications search engine window of the register.



The second part of the portal is accessible to persons who have submitted various types of applications after having logged in to the system.

The IQR is used to submit applications for:

1. Including qualifications in the IQS,
2. Obtaining authorisation to award qualifications,
3. Inclusion in the list of external quality assurance entities.

The IQS portal was developed in the Polish language. It is currently being translated into English. This is important in view of the planned ongoing inclusion of information about Polish qualifications in the European Skills/Competence, Qualifications and Occupations Classification (ESCO) and the Learning Opportunities and Qualifications in Europe (LOQ) portals.

The IQR portal with an example of the information available about a qualification.

The screenshot shows the 'Zintegrowany Rejestr Kwalifikacji' (Integrated Qualifications Register) portal. The main heading is 'Kwalifikacja - podgląd' (Qualification - preview). Below this, there are tabs for 'Informacje ogólne', 'Efekty uczenia się', 'Podtrwałość', and 'Pozostałe informacje'. The 'Informacje ogólne' tab is active, displaying the following details:

- Nazwa kwalifikacji:** Certyfikat umiejętności komputerowych – poziom podstawowy
- Skróty nazwy:** [empty field]
- Rodzaj kwalifikacji:** kwalifikacja cząstkowa
- Poziom PRERK:** 2

Below these fields is a section titled 'Krótka charakterystyka kwalifikacji, obejmująca informacje o działaniach lub zadaniach, które potrafi wykonywać osoba posiadająca tę kwalifikację'. The text describes the qualification as evidence of basic computer skills and knowledge, including the use of a computer, internet, and office software. It also lists the corresponding competences from the European Qualifications Framework (EQF) and the Polish Qualifications Framework (PQF).

At the bottom, there is a field for 'Orientacyjny nakład pracy potrzebny do uzyskania kwalifikacji [godz.]' with a value of 100. A note indicates that the qualification is intended for individuals who have completed basic education and are seeking employment or further education.

The IQR IT system was commissioned by the Educational Research Institute (IBE) and developed using HTML, PHP, JavaScript, JQuery, Bootstrap and MySQL. The frontend is managed by CMS Joomla. Searching for information about qualifications, entities and submitting and processing applications is handled by the Yii PHP Framework.

As noted above, in September 2019, the Educational Research Institute submitted data on Polish qualifications to the European Skills/Competence, Qualifications and Occupations Classification (ESCO) through the Qualifications Dataset Register (QDR) platform. The XML QMS format is used to transmit qualifications data through the QDR ESCO (<https://ec.europa.eu/esco/portal/qualification>).

Information in the IQR can be downloaded in XML format using API.

HISTORY OF THE REGISTER

The premises of the Integrated Qualifications Register and the mechanisms of its functioning were developed in parallel with the concept of the IQS within the

project "Development of the terms of reference for the implementation of the National Qualifications Framework and the National Qualifications Register for lifelong learning" implemented under the Operational Programme Knowledge, Education and Development in 2010–2016 by the Educational Research Institute. The project was commissioned by the Ministry of National Education.

In 2013, the Educational Research Institute prepared the "Referencing Report. Referencing the Polish Qualifications Framework for Lifelong Learning to the European Qualifications Framework"¹. At the same time, the "Self-certification Report of the National Qualifications Framework for Higher Education"² was also published. Both reports were positively evaluated and accepted by the experts of the European Qualifications Framework Advisory Group.

Since the adoption of the Referencing Report by Polish authorities, a new stage of work in preparing for the modernization of the national qualifications system began. This included the preparation of detailed solutions for the qualifications register together with an IT system supporting its implementation and development.

In 2015, the Educational Research Institute launched a test version of the register. In December 2015, the Act on the Integrated Qualifications System (hereinafter, the IQS Act) was passed, and on its basis, on 1 July 2016, the Integrated Qualifications Register was officially launched. Until the end of 2017, the operator of the register was the Polish Agency for Enterprise Development, and on 1 January 2018, the Educational Research Institute became its operator.

LEGAL REGULATIONS GOVERNING THE REGISTER

The Integrated Qualifications Register is a public digital (ICT system) register³, which maintains the records of the qualifications included in the Integrated Qualifications System.

The manner in which the IQR is to function, including the scope of information collected in the register, is regulated by the IQS Act. This Act also defines the term

- 1 Sławiński, S., Dębowski, H., Chłoń-Domińczak, A. et al. (2013). Referencing Report. Referencing the Polish Qualifications Framework for Lifelong Learning to the European Qualifications Framework. https://depot.ceon.pl/bitstream/handle/123456789/15655/Referencing_Report_%20Referencing_PQF_to_%20EQF.pdf
- 2 Marciniak, Z. (Ed.). (2014). Self-certification report of the national qualifications framework for higher education. Instytut Badań Edukacyjnych. http://biblioteka-krk.ibe.edu.pl/opac_css/doc_num.php?explnum_id=702
- 3 Act of 22 December 2015 on the Integrated Qualifications System (Journal of Laws of 2016, items 2153 and 2245 as well as of 2019, items 534 and 1287).

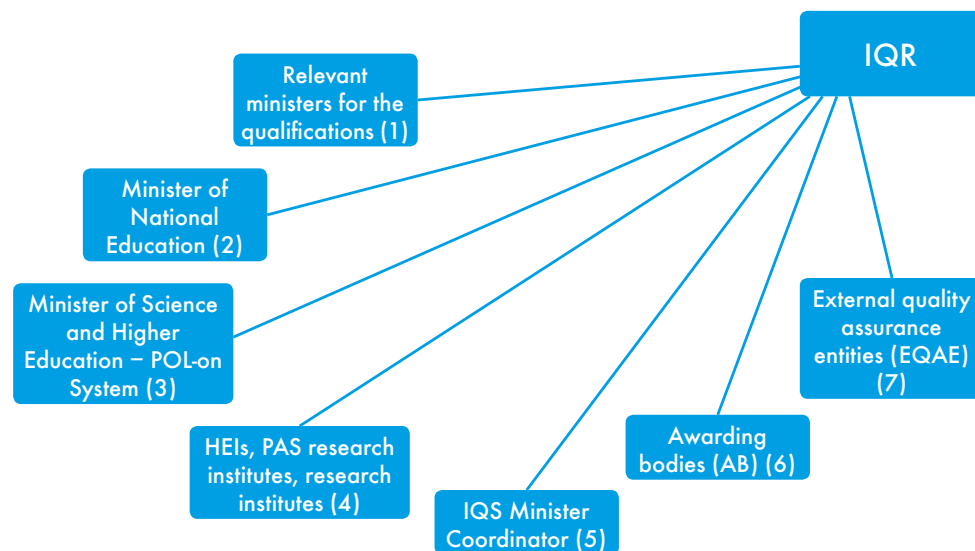
qualification, standards for describing qualifications, the principles of including qualifications in the IQS, as well as the principles of awarding qualifications and the quality assurance of the awarding process⁴. At present, the Ministry of National Education is working on an amendment to the IQS Act.

The statutory tasks required of the entity operating the register are supervised by the IQS minister coordinator, who, in accordance with the IQS Act, is the Minister of National Education. Currently, operation of the register is financed under the project “Operating and developing the Integrated Qualifications Register”, co-financed by the European Union. Ultimately, the tasks of operating the IQR referred to in Art. 87 para. 1 of the IQS Act will be financed from an earmarked subsidy provided by the IQS minister coordinator.

ROLE OF THE IQR OPERATOR

As the entity operating the IQR, the Educational Research Institute is obliged to publish and update information about the qualifications included in the IQS and institutions connected to those qualifications (awarding bodies – AB, external quality assurance entities – EQAE, applicants). This information is provided by the entities responsible for the inclusion of qualifications in the Integrated Qualifications System and their functioning in the system.

Sources of information in the register.



⁴ As set forth by Art. 3 para. 5 of the Act of 17 February 2005 on the Informatisation of the Activities of Entities Performing Public Tasks (Journal of Laws of 2017, item 570 as well as of 2018, items 1000, 1544 and 1669).

1. Ministers provide information on the market and statutory qualifications they include in the IQS, as well as on the awarding bodies (AB) authorised to award them and the external quality assurance entities (EQAE) monitoring these awarding bodies.
2. The Minister of National Education provides information on the full and partial qualifications awarded in the formal general and vocational education system.
3. The Minister of Science and Higher Education provides information on the full qualifications awarded in higher education. This information is provided directly from the Integrated System of Information on Science and Higher Education (POL-on).
4. Higher education institutions (HEIs), the research institutes of the Polish Academy of Sciences and research institutes provide information on the qualifications they include in the IQS that are awarded upon completion of post-graduate studies.
5. The IQS minister coordinator provides information on the entities entered on the list of external quality assurance entities.
6. Awarding bodies are required to update their data in the IQR as well as to provide information on the institutions that have been authorised to perform validation.
7. External quality assurance entities are required to update their data in the IQR.

In its daily activities, IBE is required to provide services to system users and to maintain the digital register, as well as to conduct the formal assessments of the applications submitted through the IQR.

IBE ensures that the IQR is consistently being developed as a user-friendly system and further enhanced, e.g. by improving information search options and the quality of content presentation.

IBE's duties also include collecting quarterly reports from awarding bodies concerning, among other things, the number of issued documents confirming the attainment of particular qualifications or the average amount of fees charged for validation and certification. IBE also collects, stores and makes available other statutory reports as well as reports from the awarding bodies and external quality assurance entities to the relevant ministers, the minister coordinator and the IQS Stakeholders Council.

The role of the IQR operator is also to facilitate dialogue and cooperation between stakeholders and to organise the exchange of experiences between the various register users. IBE also participates in disseminating knowledge about the IQS (e.g. through publications, informational seminars, workshops for users) and is responsible for operating the Integrated Qualifications Register portal, which is part of the IQS portal.

The objectives of the Educational Research Institute in operating the register are as follows:

1. To provide high quality of services in relation to issues, persons and processes through effective operations, comprehensive approach to processes, their continuous improvement in accordance with the needs of various stakeholders, permeability of communication channels, and a high substantive level of staff employed to maintain the register,
2. To enable ongoing cooperation with stakeholders,
3. To ensure the quality of the information collected in the IQR and to monitor the IQR,
4. To continuously develop the IQR through improvements and the development of new tools and solutions.

TYPES OF QUALIFICATIONS COLLECTED IN THE REGISTER

For a qualification to be included in the register, it must be described in accordance with the regulations set forth in the IQS Act and have an assigned Polish Qualifications Framework (PQF) level.

TYPE OF QUALIFICATION		CATEGORY OF QUALIFICATION	
Full	From the formal general and vocational education system	From vocational education and training	diploma confirming a vocational qualification (technician)
		Other qualifications	e.g. certificate of completion of primary school, lower secondary school, upper secondary school completion exams (matura)
	From the higher education and science system	Diploma of the completion of studies	e.g. diploma of the completion of first and second cycle studies, doctoral degree diploma
		After completion of specialist education	certificate of qualified specialist or qualified technologist

Partial	From the formal general and vocational education system	From vocational education and training	certificates confirming vocational qualifications
	From the higher education and science system	After completion of post-graduate studies	certificates of completion of post-graduate studies
	Outside the formal general, vocational and higher education systems	Statutory	various certificates and diplomas
		Market	various certificates confirming the awarded qualification
			certificates issued by higher education institutions upon completion of courses and training
		Market in the craft trades	master's diploma, journeyman's certificate

There are currently 10,000 qualifications entered in the IQR (status as of 13 November 2019), including:

- Full qualifications⁵ – 9,582
 - from higher education and science: 9092
 - from the formal general and vocational education system: 490
- Partial qualifications⁶ – 418:
 - from the formal general and vocational education system: 336
 - market: 55
 - statutory: 25
 - awarded after completion of post-graduate studies: 2

⁵ **Full qualifications** are awarded only in the formal general, vocational and higher education systems upon completion of specific stages of education (e.g. primary school, first cycle studies).

⁶ **Partial qualifications** may be awarded not only by the formal general, vocational and higher education systems, but also by different types of institutions, organisations and associations. They can supplement full qualifications, broaden or deepen one's preparation in performing a profession.

Types of information provided about full and partial qualifications from the formal general and vocational education system:

- name of the qualification
- type of qualification (full, partial)
- PQF/EQF level
- conditions to be met by persons undertaking validation
- required learning outcomes of the qualification
- awarding bodies
- external quality assurance entities
- period of validity of the document confirming the attainment of the qualification and the conditions for its renewal
- name of the document confirming the attainment of the qualification, period of its validity and the conditions for its renewal
- legal basis for including the qualification in the IQS
- qualification's IQR code
- status of the qualification in the IQS

Data on qualifications awarded in the formal general and vocational education system are submitted to IBE by the Minister of National Education.

Types of information on full qualifications provided by higher education institutions:

- title of the qualification
- type of qualification (full, partial)
- PQF/EQF level
- name of the document confirming the attained qualification
- name of the professional title attained after completing studies in a specific field, level and profile as well as doctorate
- contact information of the higher education institution, website address
- qualification's IQR code

The Minister of Science and Higher Education provides IBE with data on qualifications awarded in the higher education and science system from the Integrated Information System on Higher Education and Science POL-on.

Currently, work is underway to expand the information provided on these qualifications with descriptive syntheses of their learning outcomes.

RULES FOR INCLUDING QUALIFICATIONS IN THE INTEGRATED QUALIFICATIONS SYSTEM

There are four ways of including qualifications in the IQS resulting in their entry in the IQR:

- a) directly, based on the IQS Act

By virtue of the IQS Act, all full qualifications from the formal general, vocational and higher education systems, as well as partial qualifications in the professions attained through the formal general, vocational and higher education systems are by law included in the IQS and entered in the IQR.

- b) by a decision of the governing body of a higher education institution, research institute or Polish Academy of Sciences research institute

Partial qualifications awarded upon completion of post-graduate studies may be included in the IQS by decision of entities conducting such studies – a university, research institute or PAS research institute. These entities adopt resolutions on assigning a given PQF level to the qualification and including it in the IQS, and then registering it in the IQR by providing IBE with the relevant information for publication in the register.

- c) by a decision of the relevant minister at his/her own initiative

Statutory qualifications overseen by an administrative department supervised by a given minister may be included in the IQS. Such a qualification must meet certain conditions set forth in the IQS Act. The Minister issues a notice of the inclusion of the qualification in the IQS, and then registers it by providing IBE with the relevant information for publication in the register.

- d) by a decision of the relevant minister based on the application of an interested entity

This group includes market qualifications, craft trades qualifications – master's diplomas and journeyman's certificates, as well as qualifications awarded by higher education institutions, research institutes and Polish Academy of Sciences research institutes upon completion of various forms of education other than post-graduate studies (courses, training, etc.).

In such cases, the interested party submits an application to the relevant minister to have a qualification included in the IQS. Applications are

submitted through the electronic system of the IQR, and IBE conducts their formal assessment. A formally correct application is forwarded to the relevant minister, who issues a positive or negative decision concerning the inclusion of the qualification. After a positive decision, the minister registers the included qualification by providing IBE with information about the qualification for publication in the register.

PRINCIPLES OF EVALUATING THE ENTITIES CONNECTED TO A QUALIFICATION

The application for including market qualifications in the IQS or for becoming authorised to award qualifications or for inclusion in the list of external quality assurance entities may be submitted by entities that meet the detailed requirements enumerated in the IQS Act. Each applicant must be registered in the IQR.

A properly prepared application is submitted electronically to IBE through the portal of the Integrated Qualifications Register. IBE assesses the formal aspects of the applications, which includes checking compliance with the requirements specified in the IQS Act. IBE sends each formally correct application for the inclusion of a qualification or for the authorisation to award a qualification to the relevant minister for the given qualification.

The application to be listed as an external quality assurance entity is sent to the IQS minister coordinator. The ministers perform the substantive assessment of the applications and make conclusive decisions. IBE and the register thus perform the function of a single window for the Integrated Qualifications System.

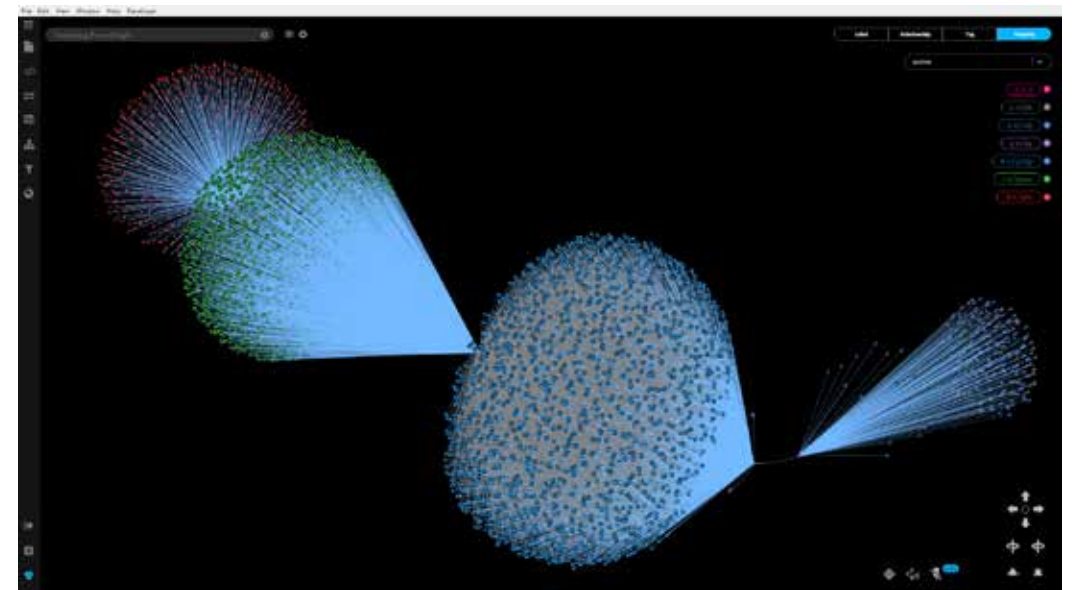
DEVELOPMENT OF THE REGISTER, FUTURE PLANS AND AVAILABLE APPLICATIONS

The plans for the future of the IQR respond to the challenges of today and the trends in Europe relating to the thinking on education in the context of dynamic technological development and the growing pace of changes in the labour market.

IBE is undertaking activities to prepare a number of applications supporting people in lifelong learning, based, on the data collected in the IQR. To this end,

IBE is deploying, among others, algorithms of natural language processing, as well as testing solutions from the field of machine learning and based on graphical databases. Work is also in progress on the automatic determination of relationships between qualifications and occupations.

The *Development Paths* application will illustrate the relationship between qualifications: the way to obtain them, the degree of similarity and groups of similar qualifications. It will consist of an interactive qualifications map, allowing the user to obtain a range of information narrowed down by a set of criteria, to read information about the relationships between qualifications, and to view the development path in accordance with a given person's interests.



Visualization of over 8,000 qualifications and their antecedent relationships. Points represent qualifications, while lines represent the antecedent relationships (explanatory figure illustrating the basis for developing a more individualised path).

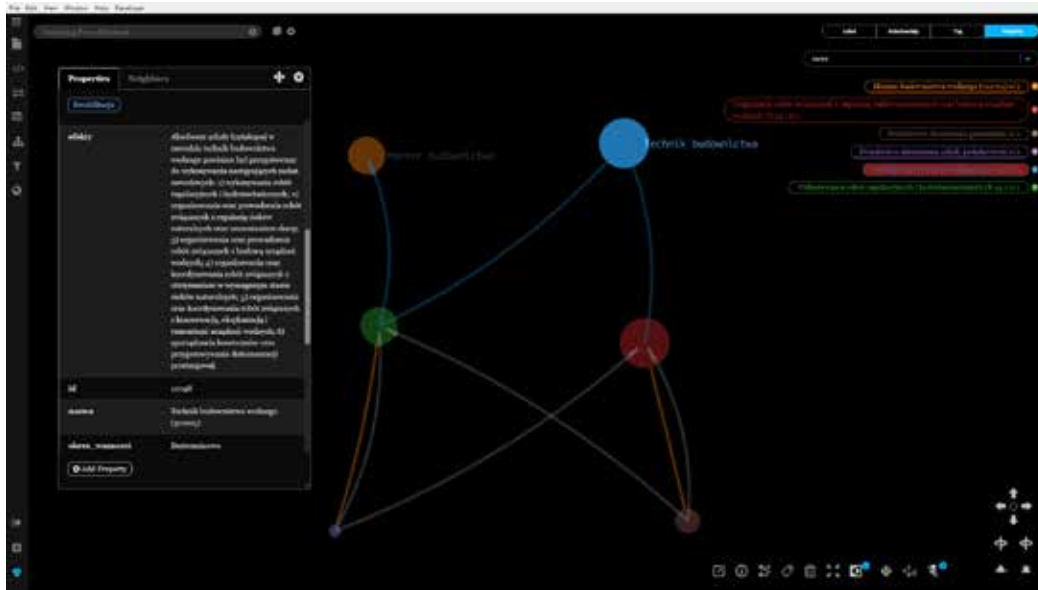
The main task of the application will be to allow the user to select a subset of all the information available in the register, in particular that relating to the relationships between qualifications (e.g. component⁷, required⁸, similar⁹, historical¹⁰) and present it in the form of a development path adapted to the initial situation (competences, interests) of the user.

⁷ Description of the relationship between a partial qualification and the full qualification it is part of.

⁸ The relationship between qualifications where one must already be possessed to attain the other.

⁹ The relationship between qualifications that are very similar to one another in some aspect, e.g. content.

¹⁰ The relationship between qualifications that are reciprocal, but which originate from different versions of the core curriculum (e.g. from the years 2012, 2017 and 2019).



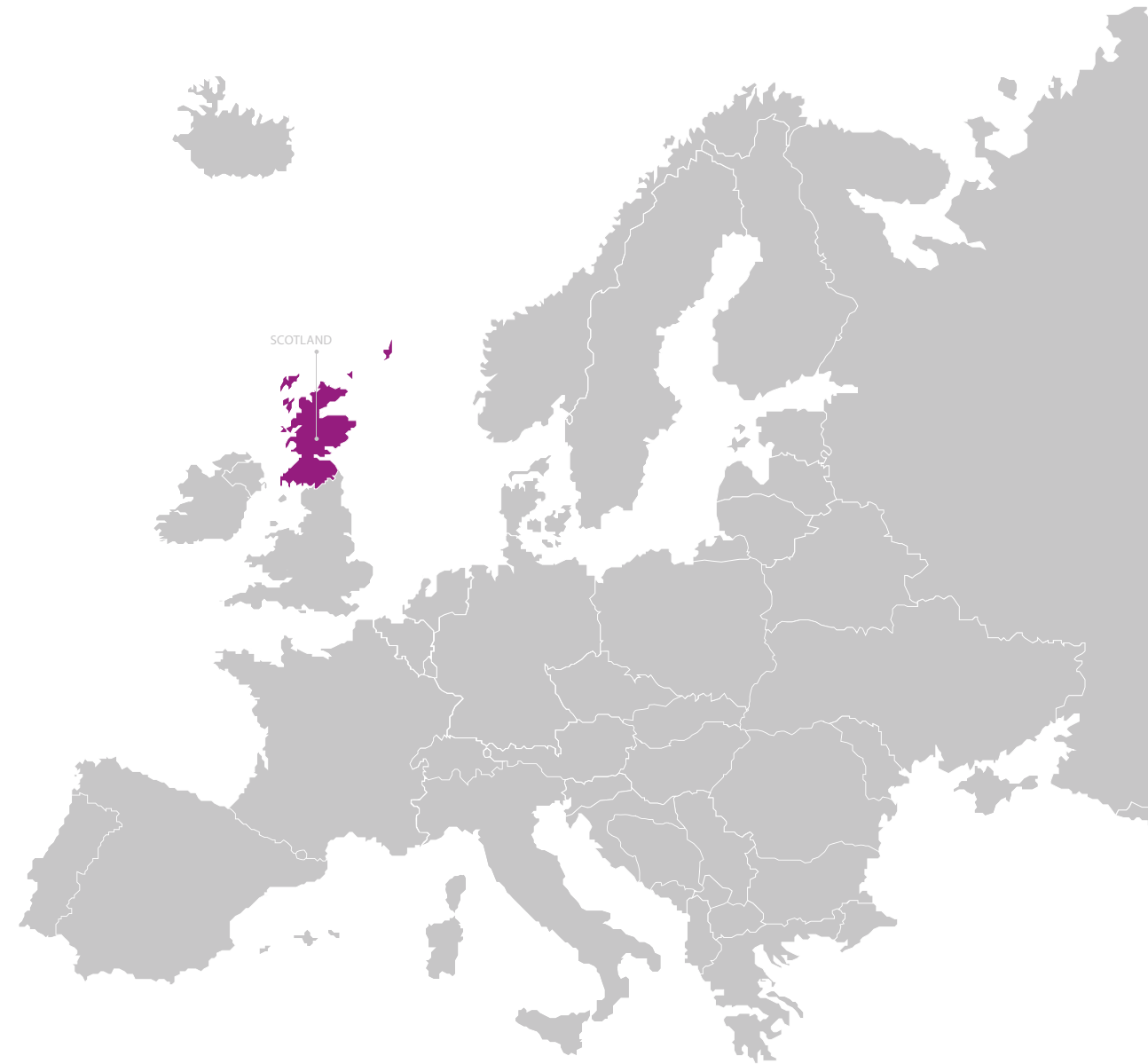
Visualization of example development paths. Points represent qualifications (key is on the right¹¹), blue lines represent the relationship of being a component, orange lines – the antecedent relationship, grey lines – alternative paths.

The *Compass* application will enable qualifications to be selected in accordance with one's interests and competences. It will indicate the appropriate field of qualifications, e.g. relating to the industry (e.g. agriculture, IT) or the way of performing a given job (e.g. office work, work with plants). A variant of the application limited to sectoral education qualifications is also planned, targeted in particular to parents of children who are finishing primary school and choosing their further education.

The implementation of additional functions of the register is also envisaged. A virtual advisor application is planned, equipped with a text interface, the so-called *chatbot*. Chatbot will help users find information of interest by using terms expressed in natural language (in Polish). Chatbot will not only make it easier for users to take full advantage of the portal, it will enable discussions to take place about qualifications as well as provide occupational counselling. This will be possible thanks to the implementation of a virtual advisor with scenarios, prepared in cooperation with professional counsellors and based on materials about occupations.

The development of the applications described above requires the use of artificial intelligence and automated natural language processing. Solutions will

¹¹ The list on the left contains a synthesis of the qualification's learning outcomes, in this case for a technician in hydrological civil engineering, id number of the qualification, name of the qualification, and period of validity. The key on the right lists the names of the qualifications (component, antecedent and their id numbers).



SCOTLAND

Shelia Dunn

SCOTTISH CREDIT AND QUALIFICATIONS FRAMEWORK (SCQF) DATABASE

<https://scqf.org.uk/the-framework/search-database/>

SCHEME OF THE DATABASE/REGISTER

The SCQF Database¹ is the online national register of all qualifications with an assigned SCQF level and number of credit points². All qualifications³ which are credit rated⁴ must be entered onto the database. However, as the inclusion of qualifications onto the SCQF is voluntary, this means that the database does not include all qualifications that may be available to learners in Scotland. There are other databases of qualifications in Scotland, some with narrower and wider scopes containing qualifications which may or may not be included on the SCQF.

Part of the database is available to the general public from the home page of the SCQF website and is available to all without the need for a password. A search function allows users to search the database by subject, by level, by programme (qualification) owner and by Credit Rating Body (CRB)⁵.

As the process of credit rating for the SCQF is a devolved system, information included in the database is provided by SCQF Credit Rating Bodies (CRBs) through an online portal which is password protected. At the time of writing,

there are currently 56 SCQF Credit Rating Bodies⁶ all with controlled access to this non-public part of the portal. Each CRB can only view, access and amend those qualifications which they have entered under their CRB status.

The database and its content are managed by the SCQF Partnership (SCQFP).

Figure 1 shows the data which is accessible on the public version for each qualification. The EQF level is automatically added to the qualification when it is entered onto the database by the CRB, meaning that the EQF level of each qualification is clearly shown to all.

In addition, a closed portal contains further information about the dates of credit rating and review, ISCED codes (which are added automatically but with a provision allowing the CRB to amend them), CRB user details and provides a history of amendment activity for monitoring purposes.

Each qualification's credit rating is valid for an allocated period of time (usually up to 5 years). At the end of this period, the CRB will review the qualification and if appropriate allocate a further period of credit rating or archive the qualification. After a qualification has been archived, no new learners can be certificated using SCQF level and credit. However, in certain circumstances the qualification may continue to function and learners may still receive a certificate for achievement but this will not receive an SCQF level or credit points, e.g. where a third party decides it no longer wishes SCQF credit rating for its learners for various reasons (including financial).

The following extract for a qualification credit-rated by the Scottish Fire and Rescue Service – TED, illustrates the dataset shown to the public. Further details of qualifications can be found by following web links to the CRB and the qualification (programme) owner.

¹ <http://scqf.org.uk/the-framework/search-database/>

² One SCQF credit represents a notional 10 hours of learning. Credit points provide a way for learners, employers and learning providers to describe and compare the amount of learning that has been achieved or is required to achieve, a qualification or learning programme at a given level of the SCQF

³ The SCQF uses the terms 'learning programmes' when speaking about learning which is assessed, quality assured and assigned SCQF Level and Credit. The term 'learning programmes' is often used to describe certificated learning which is not part of the suite of mainstream (i.e. from formal education) qualifications. However, in EQF terms, 'qualification' is used to describe all such certificated learning. For the avoidance of doubt, the term 'qualification' is used in this chapter to describe all assessed, quality assured and certificated learning, regardless of the context in which that learning took place.



⁴ The process of allocating the SCQF level and credit to a qualification.

⁵ The bodies approved to allocate the SCQF level and number of credits to qualifications.

⁶ <https://scqf.org.uk/support/support-for-credit-rating-bodies/support-for-existing-credit-rating-bodies/>

Figure 1: Extract from SCQF Database for qualification credit rated by Scottish Fire and Rescue Service

Breathing Apparatus Instructor

SCQF Level 	8
SCQF Credits	10
Programme Aims	This 10 day course prepares candidates to undertake Breathing Apparatus Instructor duties within SFRS. To enable instructors to provide an appropriate level of technical and practical BA training against specific criteria, utilising recognised procedures, suitable venues and equipment to enhance Firefighter safety.
Subject Area(s)	Public Services
Programme Owner	Scottish Fire and Rescue Service
Credit Rating Body	Scottish Fire and Rescue Service - TED
Target Audience	Competent Breathing Apparatus Wearers
Skills Gained	At the end of this course students will be able to: <ol style="list-style-type: none"> 1. Deliver training & instruction on BA set & ancillary equipment 2. Comply with BA Training / Instruction Safety Standards 3. Recognise the signs of physiological & psychological stress 4. Facilitate appropriate BA Training 5. Plan BA practical training 6. Conduct post training event learning & development
Approval Date	16 March 2017
EQF Level 	5

It is important to note that the SCQF database records the **outcomes** of the credit rating process and is not a tool for the submission or processing of applications for credit rating and inclusion. The process of credit rating is performed separately and independently by CRBs working in accordance with the SCQF Principles⁷.

THE HISTORY OF THE REGISTER

The database was originally developed as a spreadsheet submitted to SCQF by Credit Rating Bodies prior to 2011. The database was re-launched in 2011 as

a database with CRBs directly entering data, but there was no facility to quality assure the entries prior to them being available for public viewing. This version of the database was not seen as particularly user-friendly or predictive in terms of the search function. The data entry function for CRBs was also cumbersome. As a result, this meant that the production of statistics and the ability to analyse the contents of the framework was limited and errors were sometimes viewable by the public.

It was decided to undertake work to re-launch and further develop the SCQF database assisted by funding and support from the European Commission in 2014 and again in 2016. The database fields were reviewed and amended to provide the information required by Annex VI of the EU Recommendation⁸.

Much of the work was around how to include information relating to learning outcomes. Prior to this work, the database had a simple description of each qualification. This was further developed to include fields on qualification (programme) aims, target audience and skills gained. It was felt that this would represent learning outcome information. However, it is important to note that whilst this development has been completed, filling in these fields is an ongoing project for CRBs which may take a number of years to fully complete. This is expanded on later in the chapter.

The database is now HTML5 Browser compatible and uses AJAX/JSON Serialisation and User Interface Frameworks: JQuery, Infragistics and Bootstrap.

LEGAL REGULATIONS GOVERNING THE REGISTER

As with the SCQF itself, there is no legislation governing the SCQF Database in Scotland. However CRBs must adhere to the 25 principles in the SCQF Handbook⁹. Principle 11 states 'Credit Rating Bodies are responsible for uploading the details of all credit rated qualifications/learning programmes to the SCQF database' and qualifications must comply with the principles and criteria required for inclusion on the Framework.

⁷ https://scqf.org.uk/media/1125/scqf_handbook_web_final_2015.pdf, pp. 2–5.

⁸ Council recommendation of 22 May 2017 on the European Qualifications Framework for lifelong learning and repealing the recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning

⁹ https://scqf.org.uk/media/1125/scqf_handbook_web_final_2015.pdf

THE ROLE OF THE REGISTER'S MANAGING INSTITUTION

The SCQFP oversees and manages the SCQF Database. The role is one of monitoring entries made by CRBs. The role does not involve any 'approval' or 'validation' of the SCQF level or credit value.

The CRBs directly enter the qualifications through the closed portal. They can store the qualification as 'draft' until they are ready to be submitted. Once submitted, the status of the qualification changes to 'submitted'. At this point, the SCQFP is alerted by email in a dedicated email inbox that a qualification has been submitted to the database. The SCQFP Officers can then access the qualification and check for basic information. The officers will check that the title does not contravene any nomenclature guidelines; that the information does not contain any inconsistencies and that there are no typographical errors. At this point the SCQFP Officers can 'publish' the qualification or can send back a query email to the CRB for any clarification required.

Once published, the qualification is viewable on the public portal. If a qualification is of a sensitive nature or there are specific commercial or security reasons, a CRB can mark a learning programme as 'private' and this will not appear on the public view. The learning programme will still be seen on the closed portal by the CRB and the SCQFP. This may be used for qualifications of a sensitive nature such as some of those delivered by the emergency services or by some organisations where there are commercial sensitivities.

The SCQFP also monitors the review dates of the qualifications. An automatic reminder is sent to the CRB 6 months before the date of review from the system to allow CRBs to schedule this into their work plans. On the closed portal, an entry will turn to 'orange' if the review date passes. If no update of information has taken place, the SCQFP will follow up on this with the CRB.

The SCQFP can also provide a range of datasets for other stakeholders from the data held on the database allowing key statistics to be provided.

THE QUALIFICATIONS THAT ARE COLLECTED IN THE REGISTER

All qualifications that are credit rated are entered onto the SCQF Database. These qualifications can be formal or non-formal. At the time of writing there are over 11,500 qualifications on the database with over 850 of these considered to be non-formal.

These qualifications may be directly owned by the Credit Rating Bodies or they may be owned by a third party. Qualification owners include universities, colleges, employers, professional bodies, public bodies, community organisations, charities, trade unions, youth organisations and many more from a wide range of sectors.

RULES FOR INCLUDING THE QUALIFICATIONS IN THE REGISTER

For a qualification to be credit rated and therefore eligible to be entered onto the Database, the following 4 criteria must be met. Qualifications must be:

- Written in learning outcomes
- A minimum of 10 notional learning hours
- Formally assessed
- Quality assured

A qualification must have gone through the quality assured process of SCQF credit rating, this process can only be conducted by SCQF Credit Rating Bodies, and CRBs must follow the guidelines as laid out in the SCQF Handbook.

A minimum set of information is required and these are mandatory fields in the database. These are:

- Name of the organisation which owns the qualification (programme owner)
- The title of the programme
- Name of the Credit Rating Body
- One subject area
- SCQF Level
- SCQF Credit Points (a prescribed format is required)¹⁰

A further set of optional fields are included and CRBs are encouraged to complete this additional information. This includes:

- Programme aims
- Target audience
- Skills gained
- An additional subject area

¹⁰ Credit Points must be included in the following formats: X, at least X, between X and Y or n/a. Not applicable applies only to research degrees.

These fields together represent the information relating to learning outcomes. The learning outcomes for qualifications in Scotland will differ in format and number for different types of qualifications and for some larger qualifications, such as degrees or Scottish Vocational Qualifications, they may number in the hundreds. This volume of data is too large to capture and much of it currently is not held in an easily transferable electronic format¹¹.

Learning outcome information was not originally part of the database. The inclusion of this information was considered as a result of the funded work to link the SCQF to the European Portal and the additional three data fields (programme aims, target audience, skills gained) were then included. CRBs are now filling in these fields as qualifications are reviewed at the end of their current credit rating period, and for some CRBs this will require further investigation as to how this information can be uploaded electronically¹². As a result, these fields are not currently mandatory to allow qualifications to continue to be included while this update work is being conducted.

There is a set of guidelines for the titling of awards. Some titles of particular qualifications are protected and can only be used by specific bodies in relation to specific types of qualifications, such as Bachelor of Science or Higher National Diploma. In addition, some types of qualifications have particular levels and volume of credit required by a sector which must be adhered to.

RULES FOR VERIFYING ENTITIES

Only approved SCQF CRBs may perform credit rating and include qualifications on the SCQF and the database. All universities, colleges and the Scottish Qualifications Authority (SQA) were automatically approved as CRBs in the early days of the framework. Any other body wishing to become a CRB must meet the criteria set forth in the Quality Assurance Model¹³ and be subject to a robust approval process.

Those CRBs are also subject to ongoing quality monitoring of their credit rating activities on an annual basis and are also subject to a larger quality review every 4 years. All colleges are subject to regular review by Education Scotland and by SCQFP, and universities are regularly reviewed by the Quality Assurance Agency

in Scotland. The quality assurance of credit rated qualifications (programmes) is part of these reviews.

Each CRB must nominate at least one person responsible for uploading information to the database. Nominated persons must register and are given a unique password for access. When a CRB has multiple users, a key contact at that CRB is also identified to receive reminder emails from the database when programmes are due for review. This key contact is the point for any queries about the content of the database for that CRB.

AVAILABLE APPLICATIONS TO SUPPORT STAKEHOLDERS

The public portal allows the public to access a limited data set. There is no password required for access. A search function allows searching by Credit Rating Body, qualification owner, SCQF level or range of level, subject, and keyword. The database archive can also be searched.

The SCQF Partnership is able to monitor the number of engagements with the database and the details of searches to identify key areas or subjects that are being searched. However, as there is no password required, it is not possible to identify who uses the database.

The closed portal for CRBs allows the data entry by single learning programme and by bulk upload using an XML file where a CRB has a large number of programmes to upload in a single update. The portal also provides the CRB a secure area to upload any accompanying documentation regarding the credit rating outcomes of the qualification. A set of guidance¹⁴ was developed for CRB users explaining both the public portal and the closed portal with useful screenshots. This was also developed as part of the funding received from the European Commission.

The closed portal also includes the functionality for CRB to export their own data sets to Excel for further use. Officers from the SCQF Partnership can export full and filtered datasets to Excel for further extrapolation and analysis. This function allows the Partnership to provide useful datasets and statistics to other stakeholders. Discussions have taken place with a range of key bodies including the Scottish Government.

¹¹ In some cases, individuals will have to contact the owners directly for the learning outcomes.

¹² For example, some programme owners do not keep information in electronic format or in formats that are easily uploaded to the system.

¹³ <https://scqf.org.uk/media/1133/scqf-qam-updated-nov-2014.pdf>

¹⁴ <https://scqf.org.uk/media/1451/scqf-database-explained-guidance-document-updated-may18-final.pdf>

The closed portal also provides the SCQFP Executive with a detailed history of activity for each qualification record. This allows tracking of the changes made by each user.

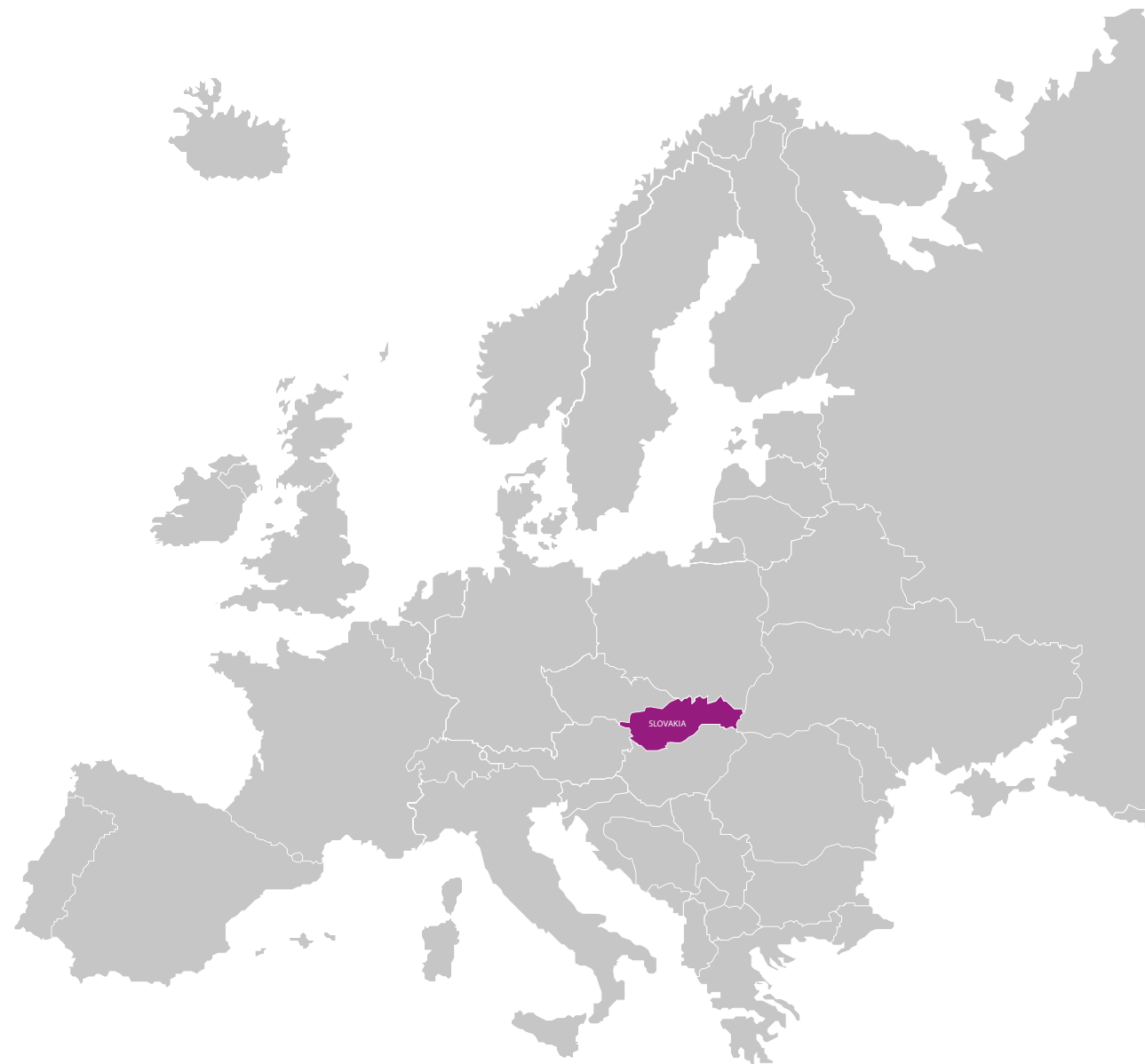
PLANS FOR THE FUTURE

Work will continue to complete the new data fields to assist in linking to the Learning Opportunities and Qualifications in Europe Portal (LOQ). This work started a number of years ago, funded by the European Commission, as described in section 2 above, and resulted in the development of the fields on qualification (programme) aims, target audience and skills gained to represent learning outcomes. As described above, the difficulty preventing the final linking to LOQ was the issue of the providing information for these fields by CRBs as this was not held in an easily captured format. This will involve the exploration of transferring this information to a suitable electronic format, performing bulk uploads and automated data capture. In some cases, this will have to be completed manually and will be updated on a qualification by qualification basis at the next date of review.

During the European funded projects, a Database User Group was established and this group will continue to explore enhancements to the database, including the provision of information to the additional data fields and the expansion of supplying data and providing links to other national initiatives.

Work is currently ongoing to allow the CRBs and SCQFP to be able to 'tag' qualifications if they meet the needs of particular government initiatives or if they are appropriate to a particular target group of learners. This will allow some statistical analysis by national agencies and the provision of information on those initiatives. It is also envisaged that some of these may appear in the public search function where this is deemed useful.

Further information about the SCQF and the SCQF Partnership can be found on the SCQF website¹⁵. Wider information about SCQF and Scottish education as well as the referencing to the EQF can be found in the 2019 version of the SCQF-EQF Referencing document¹⁶.



¹⁵ <https://scqf.org.uk/>

¹⁶ <https://scqf.org.uk/media/1695/eqf-re-referencing-report-final-may-2019.pdf>

NATIONAL QUALIFICATIONS DATABASE IN SLOVAKIA

www.kvalifikacie.sk

SCHEME OF THE DATABASE

Slovakia has one of the youngest qualifications system in Europe. The Slovak National Qualifications Database – Národná sústava kvalifikácií (NSK) – is a public register available online at www.kvalifikacie.sk. It currently contains 1,000 occupational qualifications that were selected as the most important ones from the employers' perspective in the first phase of NSK development. The NSK's main objective was to translate the needs and requirements of the labour market into the description of qualifications and their assessment and to transfer them back to the education system. The NSK also represents a signal of the systemic changes that its existence should introduce – the comparability and recognition of learning outcomes irrespective of the educational pathway used to achieve them. Last but not least, NSK also has an information function – not only in the domestic environment, but also in the European context.

HISTORY OF THE REGISTER

Although the idea of introducing the National Qualifications Framework and the National Qualifications Database arose shortly after adoption of the Recommendation on the European Qualifications Framework in 2008, the practical steps to introduce these instruments were not taken until 2013–2015. NSK was created as a result of a large ESF project implemented by the State Vocational Education Institute, an organisation of the Ministry of Education, Science, Research and Sport of the Slovak Republic (MESRS SR).

The original objective was to create a database of all qualifications validated, recognised and awarded in the Slovak Republic¹. During the development of NSK, the focus narrowed to qualifications that directly relate to the performance of a profession – *occupational qualifications*. The motivation to develop the National Qualifications Database was an effort to enable the validation of qualifications attained through non-formal education and informal learning, the comparability with qualifications in other EU countries, the incorporation of the needs and requirements of the labour market and employers, and the greater transparency of the qualification system in Slovakia. In order to achieve these goals, it was necessary to make subsequent changes to the legislation and also to establish terminological consistency of the key terms relating to the qualifications system. These changes, as well as the further development of NSK, were expected as a result of the first phase implemented in the form of the aforementioned national project. For various reasons, they were not adopted until the second half of 2019, when the amendment to the Lifelong Learning Act was expected, as well as the commencement of the second phase of NSK development and of a new ESF-funded project for introducing the system of validation in Slovakia.

The National Qualifications Database was developed almost in parallel with the revised version of the Slovak Qualifications Framework (SKKR). Although the first version of SKKR was created in 2011, in 2013 the qualifications framework was revised to its current form. SKKR has 8 levels and includes all qualifications awarded in the Slovak Republic that are categorised in four sub-frameworks of qualifications – general, vocational, higher education and occupational qualifications. Each sub-framework relates to a respective part of the education system and is governed by the respective legislation.

LEGAL REGULATIONS GOVERNING THE DATABASE

In terms of legislation, NSK has its basis in two acts – the Act on Lifelong Learning² and the Act on Employment Services³. The Lifelong Learning Act defines NSK as “a public register containing descriptions of partial and full qualifications recognised and distinguished in the Slovak Republic, required for the performance of working activities for a given profession in the form of qualification standards and assessment standards”.

¹ Proposal for implementation of the European Qualifications Framework for Lifelong Learning in the Slovak Republic, 2009, <https://www.minedu.sk/data/att/2327.pdf>

² Act No. 568/2009 Coll. on lifelong learning.

³ Act No. 5/2004 Coll. on employment services.

Act no. 5/2004 Coll. on Employment Services stipulates that *“the basic system framework for creating a systemic solution for the transfer of labour market needs to the system of lifelong learning based on the national qualifications system”* is the National Occupations System, which *“determines the requirements for professional knowledge, skills and competences needed for working activities within jobs in the labour market”*.

THE ROLE OF THE REGISTER'S MANAGING INSTITUTIONS

These two norms were reflected in the establishment of the National Qualifications Database and its governance. The development of these instruments brought a new form of cross-sector cooperation. As stated in the Act on Employment Services, the Ministry of Social Affairs and Family of the Slovak Republic establishes the *Alliance of Sectoral councils* and Sectoral councils for individual economic sectors that are working on the National Occupations System development. Sectoral councils are voluntary groups of professionals from a respective sector, who define professional prerequisites of an individual for the pursuit of an occupation – occupational standards. Sectoral councils are also a key player in defining qualification standards and developing NSK. They are composed of representatives of national and regional institutions, pedagogical experts, trade unions and, in particular, employers and employers' associations. Hence, the Sectoral councils are simultaneously involved both in the development of NSK as well as the National Occupations System, and the occupational standards included in it are a key starting point for the development of NSK's occupational qualifications.

The National Qualifications Database is managed and supervised by the Ministry of Education, Science, Research and Sport of the Slovak Republic, which is also the highest approval body for qualifications. Due to the close link with the National System of Occupations managed by the Ministry of Labour, Social Affairs and Family of the Slovak Republic, the two institutions closely cooperate and they have officially confirmed this cooperation by the Amendment to the Memorandum of Cooperation in 2017.

TYPES OF QUALIFICATIONS IN THE NATIONAL DATABASE

Before the NSK was established, the interpretation of the term “qualification” was not uniform. In 2009, the Act on Lifelong Learning introduced the concept of

full and partial qualifications, which was later used in the development of NSK. As stated in the Referencing Report of the Slovak Qualifications Framework to the European Qualifications Framework, *“in order to overcome the terminological diversity associated with the definition of the term ‘qualification’”*, experts and stakeholders agreed to adopt the definition from the EQF Recommendation. Consequently, this definition was included in the draft amendment to the Lifelong Learning Act (August 2019). NSK contains full and partial qualifications described in the form of learning outcomes.

Full qualifications are mainly those acquired in formal education, i.e. they are achieved by completing the relevant full educational program as an initial qualification and confirmed by the relevant type of certificate specified by the legislation. Full qualification defines *“the ability of the workforce to properly perform all work activities in a particular profession”*.

Partial qualifications define *“the ability of workforce to properly perform a work or a set of work activities in a particular occupation”* and the way to acquire them is non-formal education. The condition for obtaining a partial qualification is to pass the final exam after completing an accredited in-service training course or demonstrating experience in front of an examination board in accordance with the requirements of the assessment standard.

The logic used to sort qualifications as full and partial was based on the fact that full qualifications contain several partial qualifications, or that several partial qualifications constitute a full qualification, and, at the same time, may exist separately. Thus, partial qualifications have represented the element which should introduce flexibility to the education system called for by employers – they should enable the necessary knowledge and skills to be acquired more quickly, where the formal system cannot provide the required changes with sufficient flexibility, as well as introduce flexible changes into the educational content. However, this requires further systemic change, which would introduce mechanisms for the validation and recognition of qualifications at the national level.

The experts' opinions on the established classification of qualifications have objected to naming these qualifications as partial, because *“they lack nothing in terms of expertise – they are therefore full in terms of performance, but compared to other qualifications ... ‘smaller’”*⁴. This classification has been removed in the draft amendment to the Lifelong Learning Act and replaced by the term “occupational qualification” introduced by the Referencing Report of the Slovak Qualifications Framework to the EQF, which defined this group of qualifications

4 V. Burjan et al. (2017). Learning Slovakia. https://www.minedu.sk/data/files/6987_uciace_sa_slovensko.pdf

as qualifications acquired outside formal education – in adult education, continuing education or by achieving learning outcomes in other ways and which are usually adapted to the needs of the labour market:

“Occupational qualification is the formal outcome of the process of assessing and verifying knowledge, skills and competences whereby an eligible educational institution confirms that a natural person has achieved the learning outcomes necessary to undertake a particular professional activity or set of professional activities in a particular profession to the extent determined by a qualification and assessment standard.”

57% of qualifications in NSK are partial, which can be an indication of the focus on qualifications relating to the performance of an occupation. The most numerous are the qualifications on levels 3, 4, 6 and 7 of the Slovak Qualifications Framework and, at the same time those acquired in non-formal education⁵.

RULES FOR INCLUDING QUALIFICATIONS IN THE REGISTER

Selection of qualifications to be included in the register is based on the decision of Sectoral councils. This decision should be informed by an analysis of the labour market requirements in the respective sector. Each qualification is included in the database in the form of a qualification card. The qualification card consists of three main parts. The first includes general information, such as the name and code, SKKR level, the training path for obtaining the qualification, relationship to the profession and the name of the awarded document for the qualification. A key part of the qualification card is the qualification standard, in which the learning outcomes express the content of what the learner should know to obtain the relevant certificate. Learning outcomes are defined by Sectoral councils in accordance with the Methodology for Creating Qualification Standards in the categories of knowledge (general and professional), skills (cognitive and practical) and competences (responsibility, independence and social competences), which are in line with the descriptors of the Slovak Qualifications Framework. The last part of the qualification card is the assessment standard, which outlines assessment criteria, methods and tools as well as the organisational requirements for the examination.

5 Rehúš M. (2017). Comparative Analysis of Aligning Qualifications at the Levels of the Slovak Qualifications Framework and National Qualifications Frameworks in Selected EU Countries.

The process of assigning qualifications to individual SKKR levels has been guided by the criteria of the referencing process set forth in the EQF Recommendation. The qualifications described in NSK were assigned to the relevant SKKR level before being published in the register, based on the so-called best-fit method. All learning outcomes in the qualification standard were assessed individually by an expert group, compared to national descriptors, and the qualification was ranked at the prevailing level⁶.

RULES FOR CERTIFYING INSTITUTIONS

As mentioned above, Slovakia does not have a comprehensive system for the validation of prior learning. At present, only 33 qualifications can be awarded in the procedure for obtaining a trade licence by passing an exam to confirm professional competence or demonstrate experience in accordance with the LLL Act. The list of institutions authorised to offer an accredited further education programme and to perform exams after its completion is available in the Information System of Further Education managed by the MESRS SR (<http://isdv.iedu.sk>).

AVAILABLE APPLICATIONS TO SUPPORT STAKEHOLDERS

The internal portal of the national register has been used by the Sector councils' experts as a tool for developing qualification standards and the consultation process leading to the approval of a qualification. In 2018, the National Contact Point for the EQF in Slovakia performed the ESCO mapping with a view to linking NSK with Ploteus and the Learning Opportunities and Qualifications portals.

PLANS AND CHALLENGES FOR THE FUTURE

In August 2019, a draft amendment of the LLL Act was presented in order to introduce changes to support the reform of the lifelong learning system in line with the requirements of the labour market, to regulate participation of

6 Referencing Report of the Slovak Qualifications Framework to the European Qualifications Framework (2017). <https://ec.europa.eu/ploteus/en/referencing-reports-and-contacts>

employers' representatives in continuing education and extend the basic principles of the validation of learning outcomes acquired through non-formal and informal learning. The proposed changes directly relate to NSK implementation – they include the definition of the term “qualification” as well as “occupational qualification” and defines the rules, procedures and roles of the parties involved in NSK development.

The establishment of the National Qualifications Framework and Qualifications Database was the first step towards introducing the system for the validation and recognition of qualifications acquired through non-formal education and informal learning in Slovakia. It will require further legislative changes to define and make functional procedures, institutions and other elements of the system. The pilot implementation and testing of the validation system is expected to take place in the form of a national project in 2019–2024.

Sectoral councils remain the main actor in describing occupational qualifications and the further development of NSK. So far, their activities have been almost exclusively linked to national projects (including funding), without attempts to create a stable institutional base, thus following the models used in other European countries. They remain ad hoc groups composed of individual experts rather than professional bodies developing their expertise in the national and international context. The institutionalisation of Sectoral councils is a prerequisite for ensuring their stability, professionalism and financial sustainability as well as for the further quality assurance of NSK.

Additional attention must also be paid to the formulation of learning outcomes. The training of all relevant actors in this area is necessary, as well as the review and critical analysis of the recent database. Also of importance is the well informed selection of qualifications based on a thorough analysis of labour market developments and needs in the respective sectors. Although the first phase of implementing the National Qualifications Database was completed with its technical set-up, creating the methodological base and describing the first set of qualifications, it requires further development in terms of personal and institutional capacities as well as by refining procedures and developing quality content.

LLL – lifelong learning

MESRS SR – Ministry of Education, Science, Research and Sport of the Slovak Republic

NSK – National Qualifications Database (Národná sústava kvalifikácií)

SKKR – Slovak Qualifications Framework

LIST OF ABBREVIATIONS

ESCO – European Skills, Competences, Qualifications and Occupations

EQF – European Qualifications Framework

About the Authors

Jana Admine is a graduate of Asian Studies – Sinology at the University of Latvia. Since 2018, she has been working as a project expert in the Academic Information Centre in Latvia, which is responsible for the implementation of the National Qualifications Framework through the Latvian Qualifications Database. She attends different working groups on education policy at the European level. She has nearly 10 years of experience working in higher education, and since 2016 has been responsible for many IT projects on digitalisation in education.

Brigitte Bouquet is an international qualifications expert at France compétences, the new organisation in charge of the regulation of VET and the French qualifications framework. She was appointed to the Commission Nationale de la Certification Professionnelle (in charge of the National Qualifications Framework) in 2009 and worked on the web portal of the CNCP and the evolution of the two national registers of qualifications. Her former experience was with TICE in various fields (computerization in health and unemployment insurance). Brigitte Bouquet is a French expert in the EQF Advisory Group and represented this group on the ESCO Board.

Dr Marcin Będkowski is an Assistant Professor at the Institute of Polish Language of the University of Warsaw, Head of the Department of Computer Linguistics, and expert at the Educational Research Institute. His areas of scientific interest include the methodology of the humanities, analytical philosophy, logical semiotics, computer linguistics, and practical logic. He is the author of the book “Paraphrasing – Method – Analysis” and a member of the editorial team of “Philosophical Education”.

Łukasz Budzynowski has been the deputy leader of the IT department at the Educational Research Institute and supervisor of maintaining and operating the IT system and programming new solutions for the register for the project “Operating and developing the Integrated Qualifications Register” since July 2017. In 2014–2015, he was responsible for preparing the concept of the operation of the IT system for the Integrated Qualifications Register. In 2015–2017, he worked for the Polish Agency for Enterprise Development. He has been associated with the ICT industry for 20 years.

Wolfgang Denk studied political science in the Netherlands and Austria and enrolled in a teacher education programme at the University of Vienna. Since 2014, he has been working as an expert in the National Coordination Point in Austria, responsible for the implementation of the National Qualifications Framework and attends different European working groups on the European level. Furthermore, he acts as an international expert in European projects.

Sheila Dunn, Head of Quality and International Development at the Scottish Credit and Qualifications (SCQF) Partnership, is responsible for activities relating to the quality and integrity of the national qualifications framework (SCQF), the SCQF Database and a range of related capacity building activities including activities around VNIFL. She also leads on work relating to SCQF and its links to other NQFs around the world. She has worked in education in Scotland for nearly 30 years, starting her career as a researcher before moving into quality assurance in both the higher and vocational education sectors.

Lubica Gállová has been the head of the EU Policies Department at the State Vocational Education Institute since 2017, served as the national coordinator of EU policies in VET and in adult learning in Slovakia, mainly relating to the European Qualifications Framework, EQAVET, ECVET, EPALE, and the European Agenda for Adult Learning. She is a member of the EQF Advisory Group and EUROPASS Advisory Group coordinated by the European Commission, as well as various working and expert groups. She has long experience as a project manager in education and EU issues in various areas (NGOs, business, public administration).

Bartłomiej Głowacki is a graduate of political science at the University of Warsaw, who has been professionally involved in the area of education and the educational system since 2002. Since 2014, he has been an employee of the Educational Research Institute. He worked on projects relating to the development, piloting and implementation of the National Qualifications Framework in Poland. Currently, his responsibilities include receiving and formally assessing the applications submitted to the Integrated Qualifications Register, entering and updating information on qualifications, user services and the IT system in the “Operating and Developing the Integrated Qualifications Register” project.

Marek Kopyt, is the Head of the Integrated Qualifications Register, member of the ESCO Maintenance Committee at the European Commission, Leader of the Information Technology Team at the Educational Research Institute, international expert and team member of EU projects on qualifications systems, VNFIL, vocational education and adult education implemented in Poland, North Macedonia (Twinning, Erasmus+) and Barbados (ECDC).

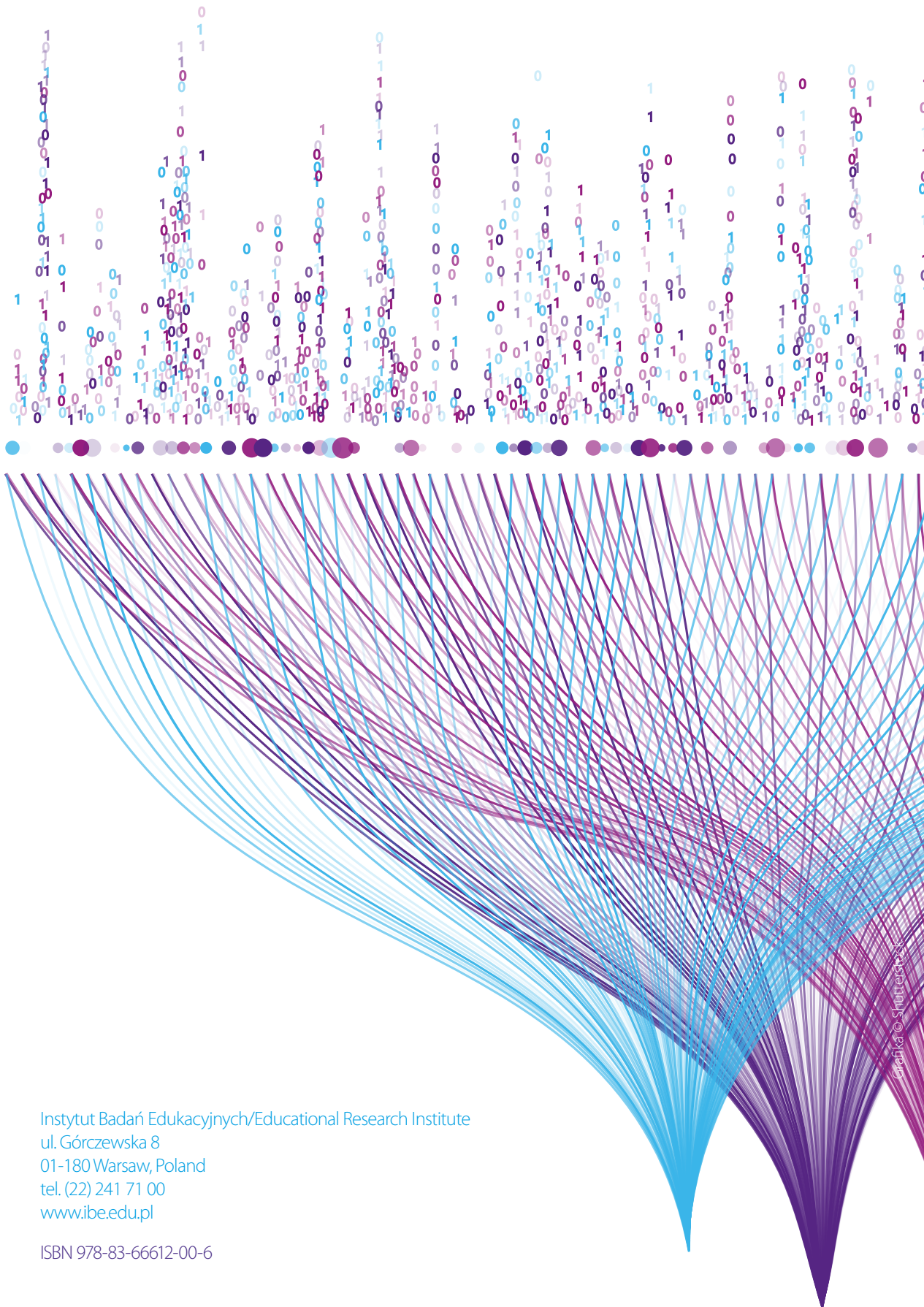
Ana Tecilazić Goršić has been the Head of Sector for the Development of Higher Education at the Ministry of Science and Education of the Republic of Croatia since 2012. She is a policy expert in the areas of higher education public policy, lifelong learning, employability, quality assurance, recognition of foreign educational and professional qualifications, performance based funding of higher education, qualifications frameworks, validation of prior learning – including non-formal and informal learning, European affairs and the internationalization of higher education. She participates in the development of strategies, public policies, legislation and development projects in the aforementioned areas. She has been the representative of Croatia in numerous bodies, groups and networks at the European level, such as the European Qualifications Framework Advisory Group, the European Commission's Working Group on Modernization of Higher Education, as well as the representative of Croatia in the Bologna Follow-up Group and the Bologna Implementation and Coordination Group. She has led the process of developing the Croatian Qualifications Framework (CROQF) at the Ministry of Science and Education and in particular, she has been responsible for further developments of the institutional framework and legislation relating to CROQF and relevant policies, in particular on recognition and quality assurance.

Wojciech Stęchły, has been an expert on the Integrated Qualifications System at the Educational Research Institute since 2011. He co-authored Poland's Referencing Report. Currently, he is a scientific/substantive consultant in the project "Operating and Developing the Integrated Qualifications Register". He has co-authored publications on formulating learning outcomes, describing qualifications, education in Poland, qualifications frameworks and assigning levels to qualifications. He is a member of the ECVET National Team of Experts and an expert in qualifications frameworks, learning outcomes and qualifications design. He is an assistant at the Warsaw School of Economics in its Centre for

the Development of Economic Studies and member of the team of the Rector's Plenipotentiary for the School's education quality management system. He led the Erasmus+ project "The quality of education in the Warsaw School of Economics", and the ConstructyVET project "Skills of middle management in the construction industry". He is involved in adjusting vocational education to the changing needs of enterprises and a member of such project teams as TRACK VET and DASCHE.

Barbi Svetec has been working at the Ministry of Science and Education of the Republic of Croatia since 2014. Her work has primarily been focused on qualifications frameworks, quality assurance in higher education and European affairs. She has been engaged in various aspects of establishing the Croatian Qualifications Framework (CROQF), including the development of the Information System of the CROQF Register. She has been representing the Republic of Croatia in various EU-level bodies and networks, including the Education Committee of the Council of the EU, the network of European Qualifications Framework national coordination points, as well as in the Member States Working Group on the European Classification of Skills/Competences, Qualifications and Occupations (ESCO).

Robert Ziółkowski is an expert on the Integrated Qualifications System, associated with the Educational Research Institute since 2014. He has worked in the projects "Operating and developing the Integrated Qualifications Register", "The inclusion of innovative and socially needed qualifications in the Integrated Qualifications System as well as reducing barriers to the development of the IQS by providing support to its national and regional stakeholders" and "Developing the national qualifications system – organising and institutionalising the Integrated Qualifications Register". In 2004–2006, he worked for the Polish Agency for Enterprise Development. He graduated from the International Business Programme in the Faculty of Management at the University of Warsaw. He completed postgraduate studies in Project Management at the Warsaw School of Economics and in the Study of European Union Funds at the Faculty of Law and Administration of the University of Łódź.



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Instytut Badań Edukacyjnych/Educational Research Institute
ul. Górczewska 8
01-180 Warsaw, Poland
tel. (22) 241 71 00
www.ibe.edu.pl

ISBN 978-83-66612-00-6