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Project full title: DEVELOPING GUIDELINES FOR THE IMPLEMENTATION OF MICRO-CREDENTIALS
IN HIGHER EDUCATION

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ANALYSIS OF THE LEGAL FRAMEWORK FOR MICRO-CREDENTIALS IN SERBIA

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THE FOUNDER

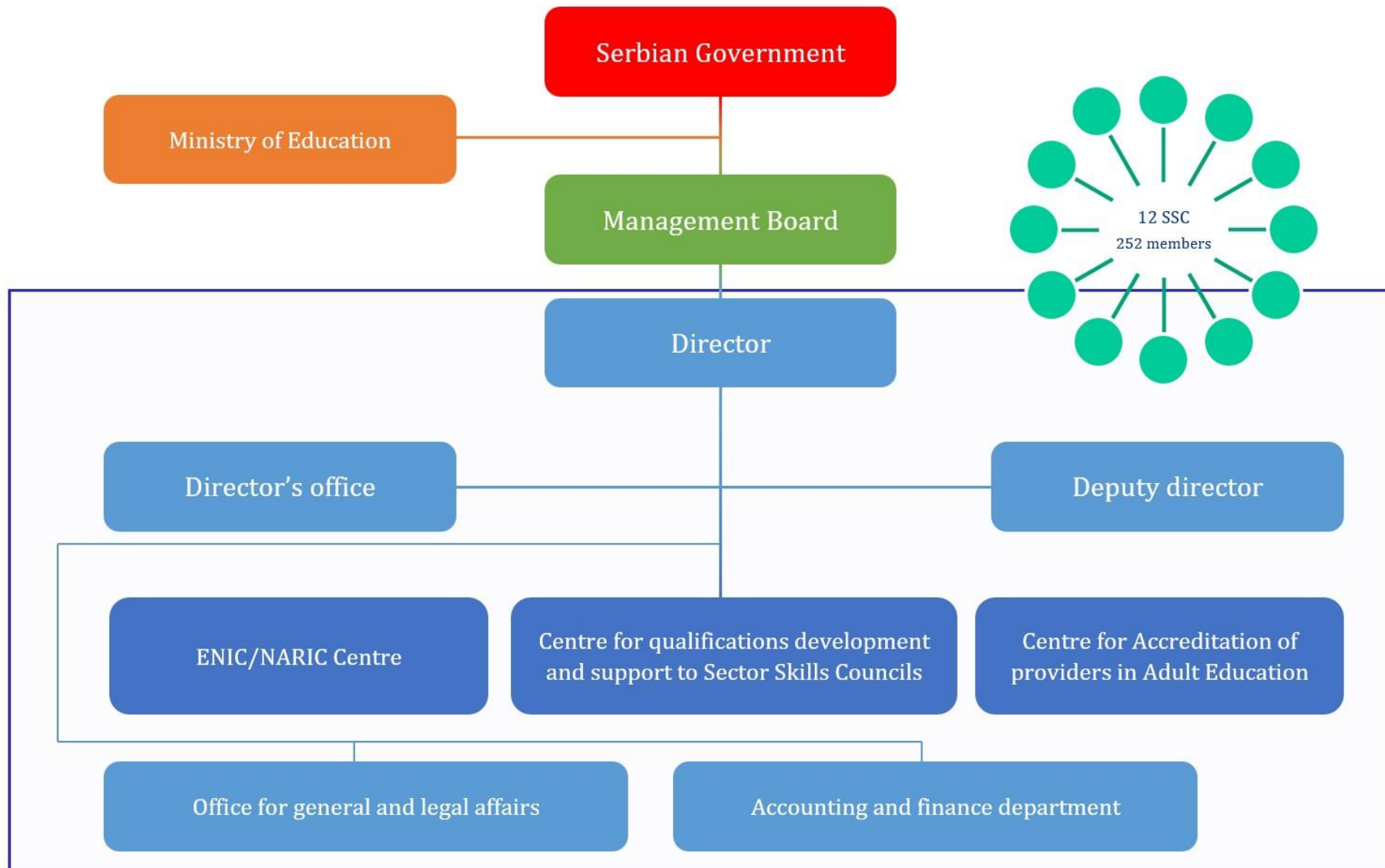
Government of the Republic of Serbia (the Law on the National Framework of Qualifications of the Republic of Serbia)

JURISDICTION

Providing expertise and professional support in the process of **developing qualifications** and ensuring quality in the **implementation** of the **National Qualifications Framework** of the Republic of Serbia and **connecting** the qualifications system with the **European Qualifications Framework**.

Main tasks

- Assessment of **initiatives** for the introduction of **new qualifications**
- Provision of expertise and administrative-technical **support to sector skills councils** (SSC), and development of **proposals for qualification standards**
- **Management** of the **NQFS Register** according to the The National Qualifications Classification System (CLASSNQFS), aligned with the International Standard Classification of Education (ISCED 13-F)
- Recognition of **foreign school qualifications** and **professional recognition (ENIC/NARIC Center)**
- **Accreditation** of providers in non-formal AE (**PROAEA**)
- External evaluation of **PROAEA**
- Monitoring the **measures and effects** of the **implementation of (new) qualifications** on employment and lifelong learning
- Preparation of developmental projects, analysis and research of importance for the development of qualifications

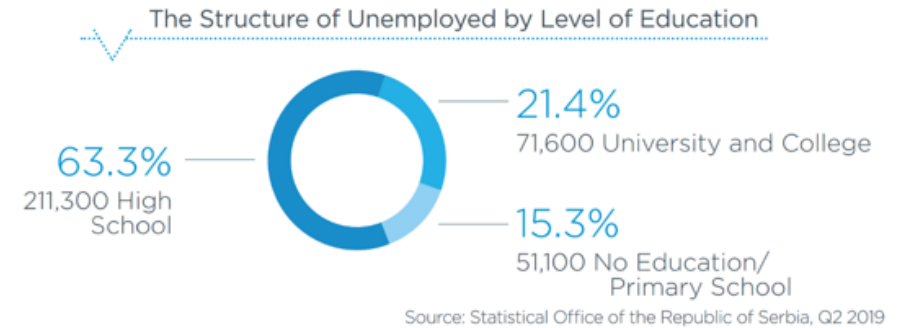
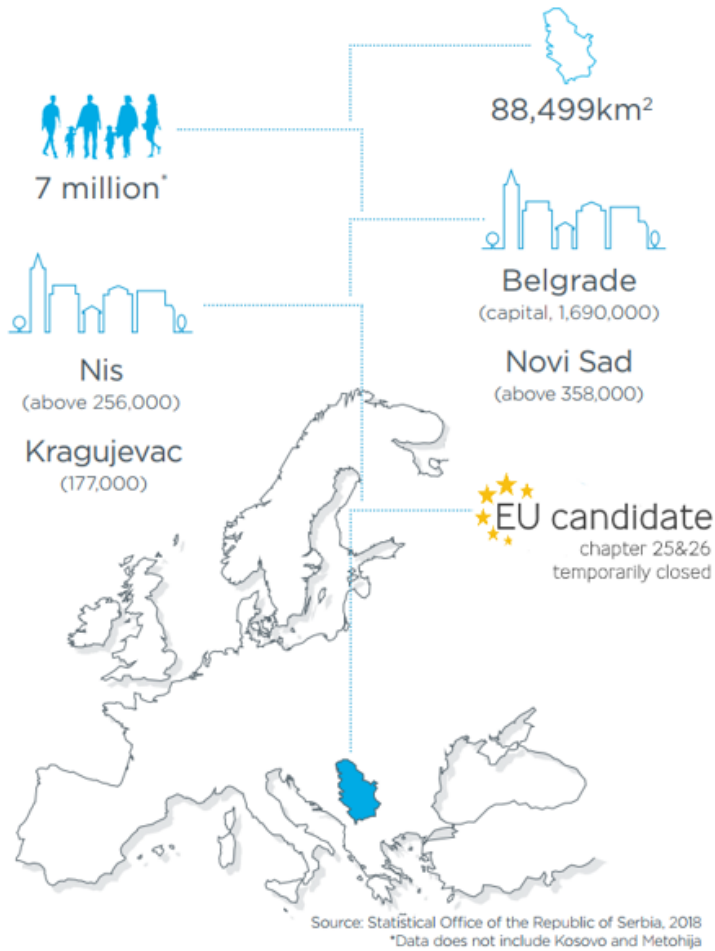


National qualification framework

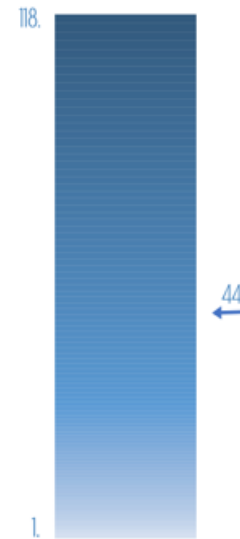
Republic of Serbia

NQFS

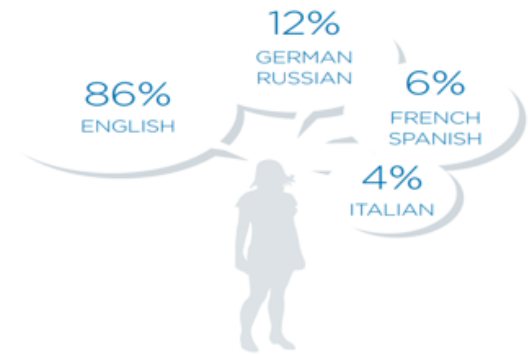
Republic of Serbia



Digital Readiness Index Rank for Serbia in 2018



Source: Cisco - Country Digital Readiness - 2018



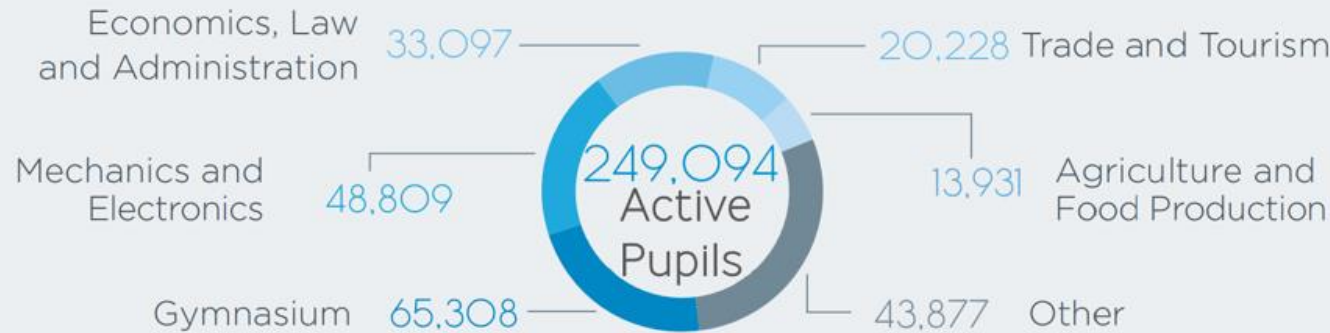
Language Proficiency

Source: InfoStud, indication of knowledge of languages, based on 100K+

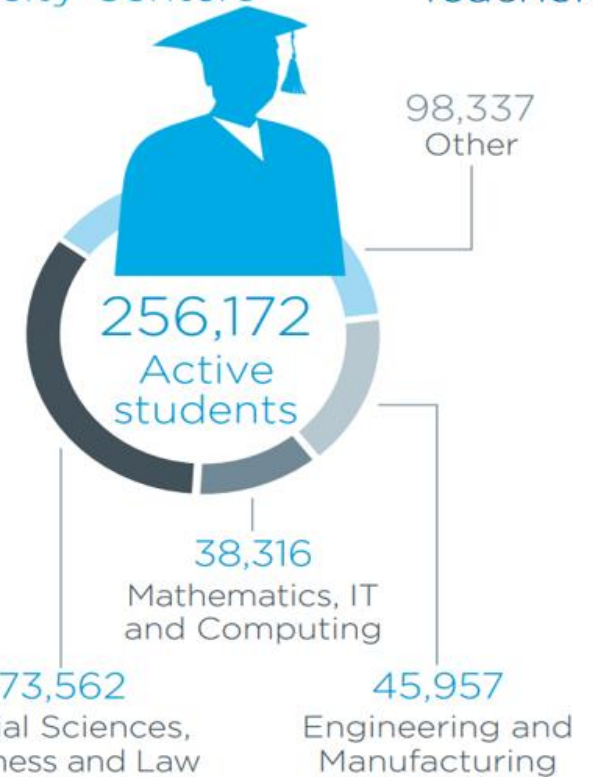
Education system in numbers

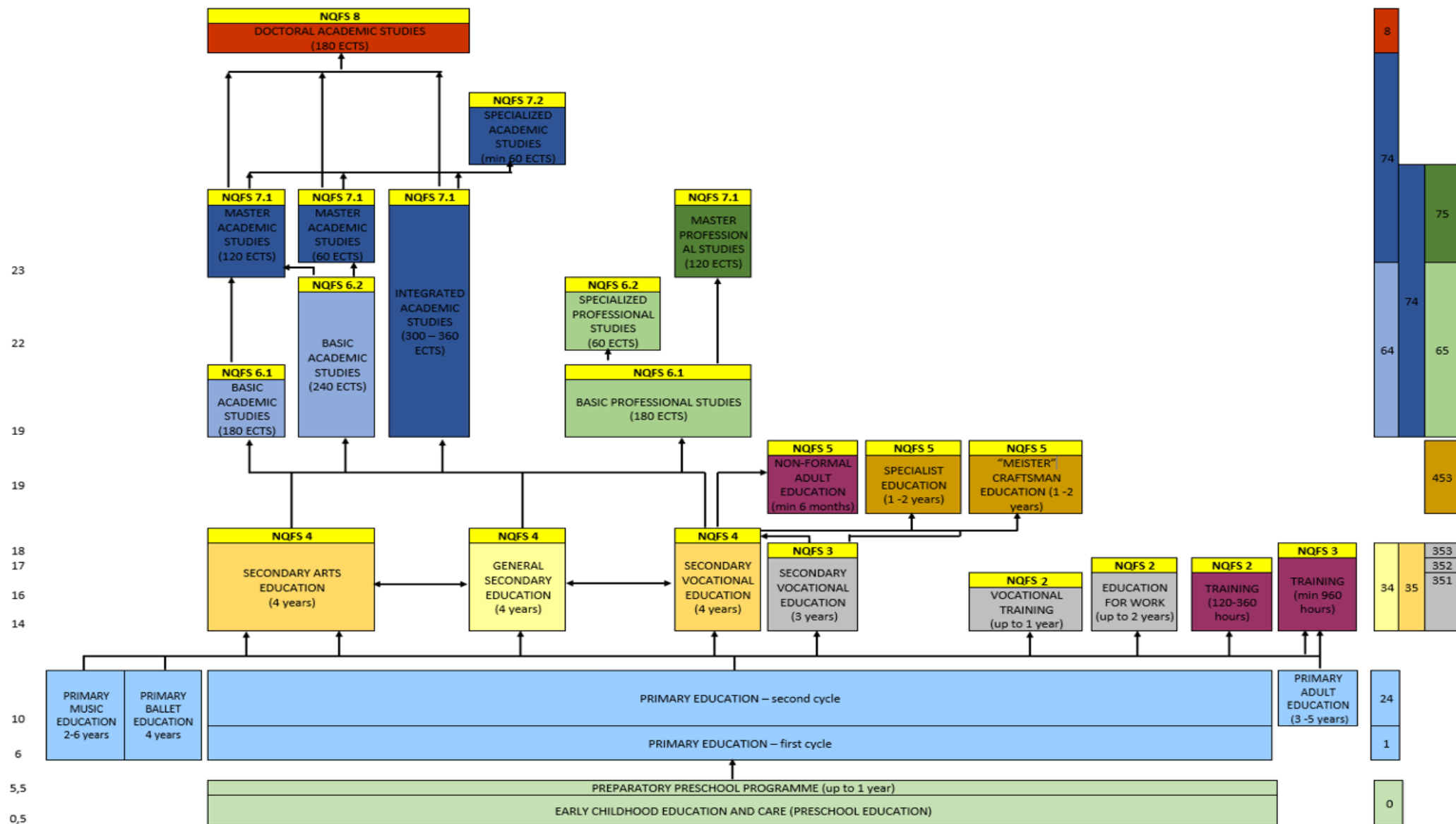
5 University Centers
19,092 Teachers

510 High Schools Teachers **29,994**



Source: Statistical Office of the Republic of Serbia, 2017/18

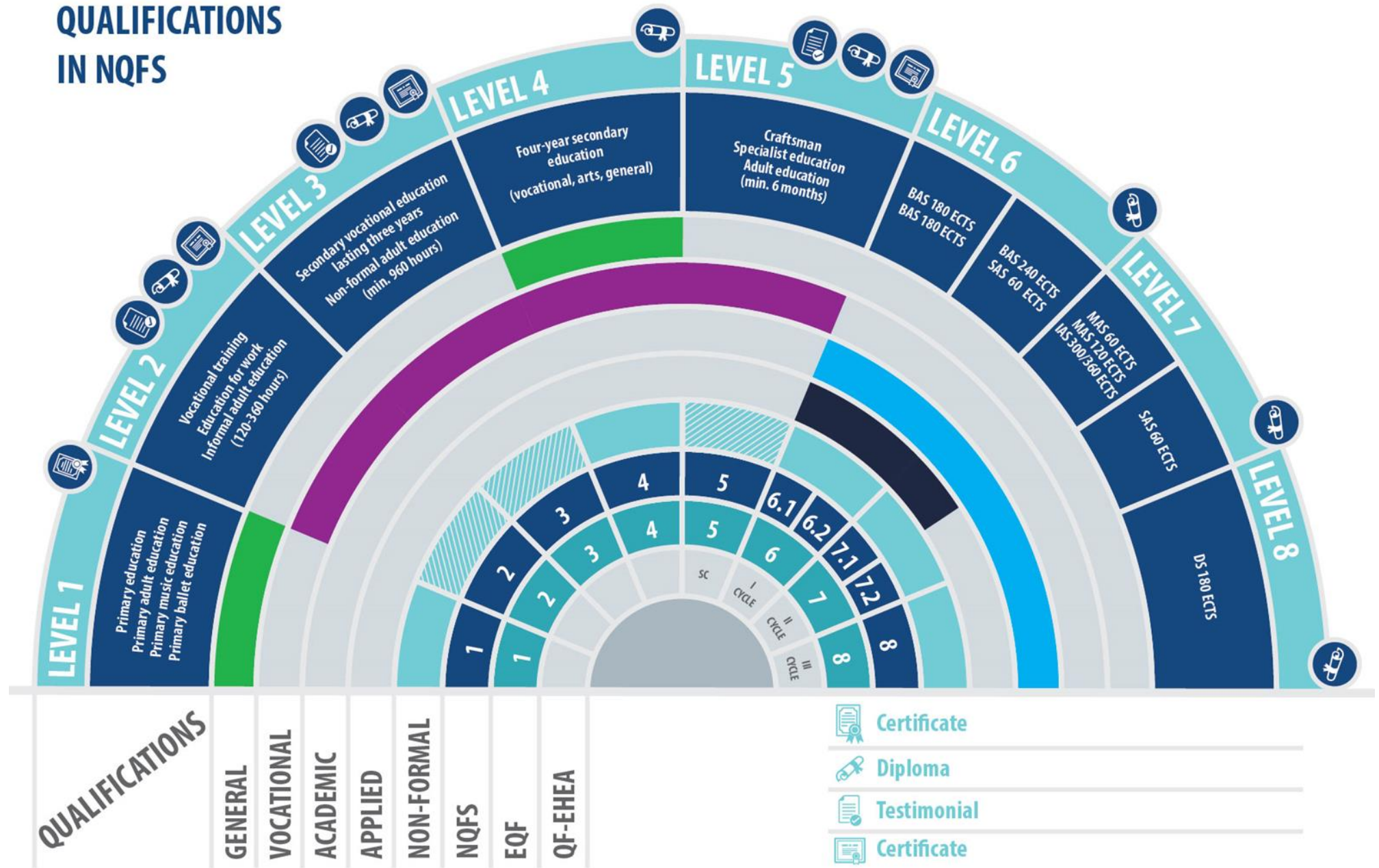




Main characteristics of NQFS

- **NQFS is the system that regulates qualifications in the Republic of Serbia;**
- It includes the number and description of qualifications, the relationships between qualifications and the paths of mobility and advancement;
- Qualifications are classified in NQFS into eight (8) levels and four (4) sub-levels;
- It serves for the development of qualification standards based on the needs of the labour market, the individual and society as a whole;
- It contributes to the improvement of cooperation between relevant interested parties, i.e. social partners: educational institutions, institutions, employers and trade unions -SSC;
- NQFS enables improvement of access, transparency, flexibility of paths and permeability in the education system, and recognition/validation of non-formal and informal learning (competencies acquired through work experience);
- It ensures comparability and recognition of qualifications obtained in the Republic of Serbia with qualifications obtained in other countries.

QUALIFICATIONS IN NQFS



NQFS-EQF

Comparability and recognition of qualifications at the national and international level

EQF	NQFS
1	1
2	2
3	3
4	4
5	5
6	6.1
	6.2
7	7.1
	7.2
8	8

- Serbia completed referencing of the NQFS to the EQF in February 2020
- National qualifications **in the Register have the EQF level**
- It is possible to compare national qualifications with European ones and facilitate the recognition of qualifications
- **The international mobility of pupils, students and workforce** is facilitated
- The plan is to connect the NFQS register to the Europass platform, to harmonize it with digital databases (EDCI), and to change the public documents as well

Specific NQFS attributes

Two sublevels at level 6 and 7 as result of national context and stakeholders acceptance of qualifications in new framework

The skills descriptions in the NQFS have been extended to other aspects such as 'complexity of problems', 'communication', 'use of equipment'

Abilities and attitudes - apart from the main determinants (responsibility and autonomy) for description of outcomes per levels, contain other criteria, for example “demonstrating entrepreneurialism”

3, 4 and 5 are slightly demanding than EQF levels (international experts observation)

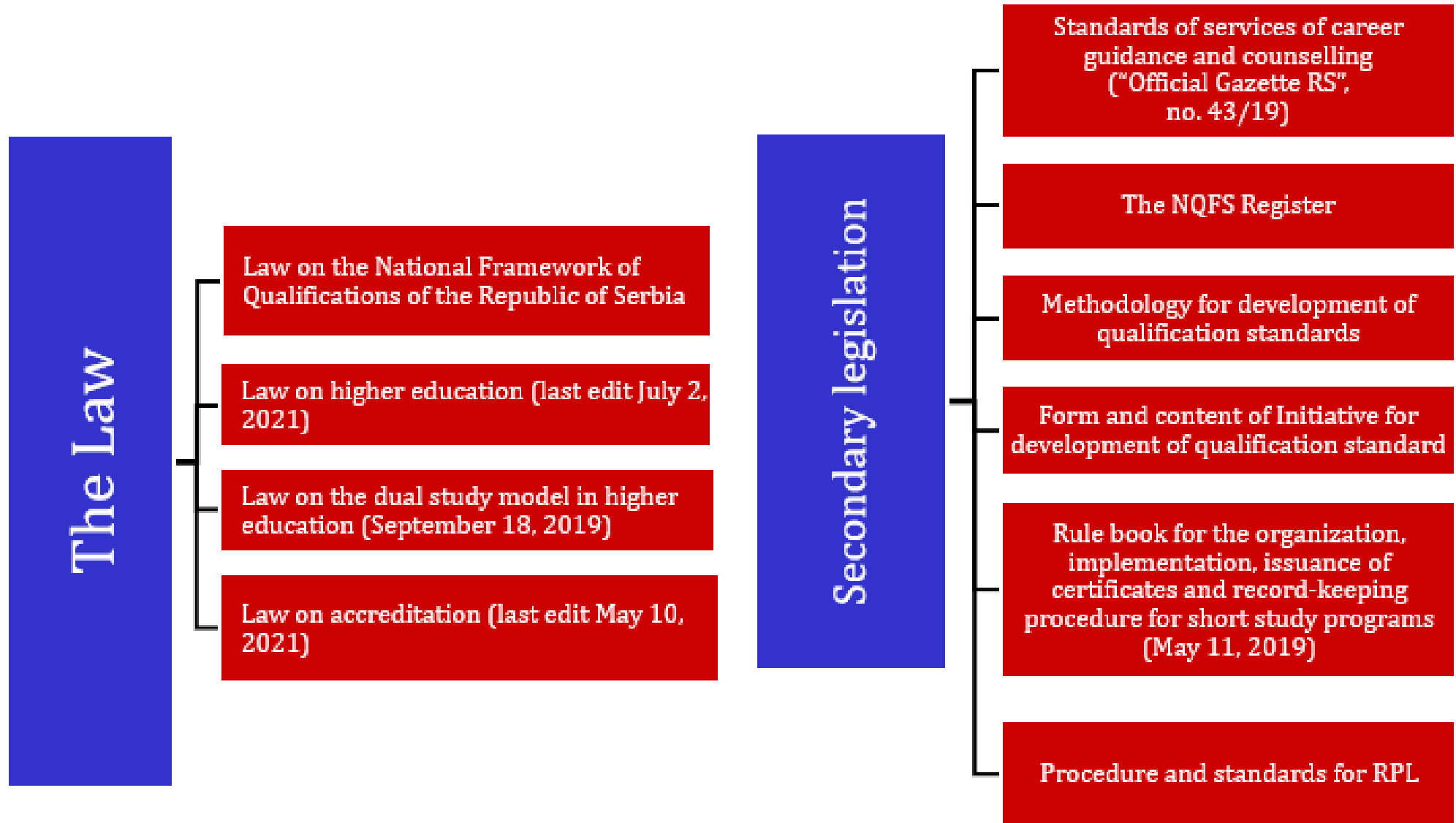
NQFS Institutional Framework

Institution	Key responsibilities
Ministry of Education, Science (MoE)	<p>Monitoring the implementation of NQF law and coordination of institutions and bodies</p> <p>Adoption of Methodology for development of qualifications standards</p> <p>Adoption of qualification standards</p> <p>Adoption of standards for self-evaluation and external assessment of accredited adult education providers</p>
NQFS Council (NQFSC)	<p>Advising on the quality of the NQFS implementation and referencing to EQF</p> <p>Adoption of qualifications standards proposal</p> <p>Recommendation on SSC establishment</p> <p>Monitoring SSC operation</p>
Qualifications Agency (QA)	<p>Providing professional support to referencing process and implementation of NQFS</p> <p>Providing professional and technical support to NQFS Council and SSC</p> <p>Development of qualification standards proposals</p> <p>Management of the NQFS Register</p> <p>Accreditation of providers in Adult Education</p> <p>Recognition of foreign qualifications</p>
Sectoral Skills Councils (SSC)	<p>Decision making on initiatives for qualification standard development</p> <p>Mapping and identifying relevant qualifications within the Sector</p> <p>Identifies qualification that are outdated</p> <p>Proposes list of qualification that are suitable for RPL</p>

Bodies and institutions:

- National accreditation body
- Universities
- NQF Council
- NQF Agency
- Sector Skills Councils,
- Ministry responsible for education

NQFS Legislation framework



Qualification standard

- Serves to **harmonize education policy and employment policy**
- Document that contains **description of learning outcomes**, as well as **qualification data** on the basis of which levels are determined, classified and evaluated (Act on NQFS)
- Document on the basis of which the **teaching and learning plan and program** is drawn up, i.e. **study program** and **training program in Adult education**
- Structure, elements and concept of learning outcomes are determined by the **Methodology** for the development of qualification standards

Qualification standard - development

- **88 standards** were developed in accordance with the prescribed national **Methodology** for the development of qualification standards
- **Data** in the standard **important for the individual**: NQFS/EQF level, a clear brief description of the qualification, competences, descriptions of knowledge, skills, abilities and attitudes, prerequisites, forms of learning and accessibility, as well as occupations that can be performed with the acquired qualification
- Qualification standards were developed for the needs of **modernizing education programs**, as well as ensuring the **quality of exams** (state matura and final exams) and a significant number of new qualifications **relevant to employment** (initiatives of employers, sector councils and organizers of Adult education activities)
- There is a plan to develop standards in **higher education**, within which activities have already begun at the level of sector skills councils in accordance with the 2030 Strategy for education development in Serbia

Qualification standard - participation of employers

- Participation of **employers** in the process of development of qualification standards
 - ✓ Data on the needs for qualifications on the *labor market*
 - ✓ The possibility of submitting *Initiatives* for the development of new qualifications
 - ✓ Participation in the creation of *job descriptions*
 - ✓ *Feedback on quality* of qualification standards
 - ✓ Participation in *committees* at the final exam

Qualification standard - dual education

- **Qualification standard as a guarantee of quality** in dual education
 - On the basis of a qualification standard the *teaching and learning plans and programs* are being developed, as well as the *plan for the practical part of the curriculum* (work-based learning)
 - *Competency-based assessment for the final examination* (also developed based on qualification standards)
- Qualification standard contains information about *occupations* that can be performed with a certain qualification
- Most of the qualifications for which the qualification standard has been developed are acquired through dual education
 - Electrician, Baker, Cook, Carpenter, Installer of Telecommunication Networks, Metal fitting, turning and machining Operater, Industrial Mechanic (NQFS 3)
 - Aircraft Mechatronics Technician, Multimedia Technician, Logistics and Freight Forwarding Technician, Press Technician (NQFS 4)
- No specific qualification standards are being developed for dual education (Dual model of education is integrated into educational policy, dual education as a model of curriculum implementation)
- Developing qualification standards on the basis of which study programs for dual studies in higher education will be created - *in progress*

Qualification standard elements

QUALIFICATION STANDARD	
Title of the qualification:	
Code of the qualification	
BASIC QUALIFICATION CHARACTERISTICS	RELEVANCE OF QUALIFICATION FOR EMPLOYMENT AND FURTHER LEARNING
CLASSNQFS / ISCED-F 2013	Permeability within the qualifications system
NQFS LEVEL	Occupation(s) to which qualification is related
EQF level	Occupational standard ^[1]
Type of the qualification	Duties and tasks / only if there is no occupational standard
Scope of the qualification (in credits or duration of programme)	LEARNING OUTCOMES
Preconditions for the acquisition of the qualification	General description of the qualification
Form of learning/education	Knowledge
Type of public document	Skills
	Abilities and attitudes
	Type of assessment of the achievement of learning outcomes
QUALIFICATION STANDARD REFERENCE DATA	QUALIFICATION QUALITY ASSURANCE
Effective Date	Qualifications of programme organizers/teachers
Revision date	The body competent for issuing the document
End date	

^[1] Article 50, paragraph 3. of the Law on NQFS stipulates that until the adoption of occupational standards in accordance with the regulations relevant to employment, the link between qualification standards and the labour market will be based on the data on occupations determined in accordance with labour and employment regulations.

Qualification standard – COOK

QUALIFICATION STANDARD	
Qualification name	COOK
BASIC CHARACTERISTICS OF THE QUALIFICATION	
CLASSNQFS/ ISCED-F in 2013	1013 Hotels, restaurants and catering
NQFS level ²	3
EQF level ³	3
Type of qualification	Vocational
Scope of qualification	3 years
Prerequisites for obtaining the qualification	NQFS level 1 - basic education and upbringing, elementary education of adults, elementary ballet education and upbringing and elementary music education and upbringing
Forms of learning	- Formal education ; - Non-formal adult education lasting at least 960 hours of training ; - Recognition of prior learning.
Type of public document	- Diploma ; - Certificate of passed exams within the mastered program for the educational profile ; - Certificate on the achieved qualification standard as a whole.
RELEVANCE OF THE QUALIFICATION FOR EMPLOYMENT AND CONTINUATION OF EDUCATION	
Mobility in the qualifications system	Level 4 of NQFS Level 5 of NQFS
Occupation	5120.01 Ship's Cook 5120.02 Dietary Cook 5120.03 Cook 5120.04 Pastry cook 5120.05 Canning condiments and sauces cook 5120.06 Special dishes cook 5120.07 Assistant cook 5120.08 Grill-master
Occupational standard ⁴	-

¹The system according to which qualifications are classified and coded in NQFS, harmonized with International standard classification of education ISCED 13-F.

²National qualifications framework of the Republic of Serbia (NQFS)

³European Qualifications Framework (EQF)

⁴Until the adoption of occupational standards, the connection to the qualification standard Cook with the labor market is based on data on occupations determined on the basis of regulations in the field of work and employment (according to Law on NQFS, Article 50), as well as on the description of the work from the initial proposal of qualification standard within the Initiative for the development and adoption of the qualification standard Cook.

LEARNING OUTCOMES	
General description of the qualification	<p>The cook independently prepares and serves dishes and other kitchen products in accordance with internal procedures, established product descriptions, norms, aesthetic elements and all quality parameters of prepared dishes/culinary products with the application of valid standards in the production process in the kitchen.</p> <p>Trained to independently receive, store, prepare and thermal treat food, as well as to keep records in the kitchen.</p> <p>Independently implements hygienic-technical protection measures and hygienic standards in the kitchen departments and their associated equipment, devices and work inventory, according to the rules and principles of the HACCP food safety system.</p> <p>Effectively and clearly communicates and cooperates with superiors and colleagues when performing tasks and actively contributes to a culture of respect and cooperation.</p> <p>Continuously follows the innovations in cooking and trains for the purpose of his own entrepreneurial business and/or meeting the demands of employers.</p> <p>Purposefully applies technical information, information and communication technologies (ICT) and improves their application through learning and training.</p> <p>The level of general and professional knowledge, skills, abilities and attitudes within the framework of acquired competences primarily enables the cook to get employment and continue education in the given professional field.</p>
Competencies	<ul style="list-style-type: none"> - Organizing personal work and independent preparation and arrangement of the storage, food processing, heat treatment and food service workplace; - Food storage and processing; - Preparation and serving of meals; - Ensuring quality, hygienic-technical and safety protection at the level of personal workplace; - Key competencies ⁵(in particular: entrepreneurship and orientation towards entrepreneurship, cooperation, responsible attitude towards health and responsible attitude towards the environment).

⁵On the basis of: Rulebook on general achievement standards at the end of general secondary education and secondary vocational education in the field of general education subject ("Official gazette RS", no. 117/13).

After the acquired qualification, the person will be able to:	
Knowledge	<ul style="list-style-type: none"> - list the systems of work organization in the kitchen; - distinguish types of foodstuffs, food semi-products and products used as food, and evaluates all parameters of their quality; - explain safety risks, ways of storing and preserving foodstuffs, food semi-products and products; - differentiate methods of food processing and the specifics of certain procedures in the preparation of meals; - explain methods of preparing dishes from international cuisines and traditional Serbian dishes; - describe the composition of dishes and other kitchen products, respecting the recipes and standards for the preparation of various types of: soups and stews, ready meals, roasts, stews, cold and hot appetizers, fish, crabs, shellfish, dishes made to order, grilled dishes, fondues and sauces, salads and simple desserts and pastries; - explain the purpose, characteristics and rules of safe handling and maintenance of the equipment functionality, devices and tools for food preparation in accordance with the established procedure and instructions; - explain the basic principles of a balanced diet and the importance of nutrients in the composition of meals, as well as the characteristics of special diets; - specify norms for the preparation of certain dishes and other kitchen products; - explain the ways and rules of writing menus and menu items and the price calculation procedure; - list the types of records in the kitchen and describe the recording methods; - explain the importance of the food safety system and state the standards related to safety, food quality and minimum technical conditions for catering activities; - identify various labels and safety instructions used in the workplace; - list the possible fire outbreak causes and explain fire prevention methods and procedures.

Qualification standard METAL FITTING, TURNING AND MACHINING OPERATOR

QUALIFICATION STANDARD	
Qualification name	METAL FITTING, TURNING AND MACHINING OPERATER
BASIC CHARACTERISTICS OF THE QUALIFICATION	
CLASSNQFS ^{1/} / ISCED-F2013	0715 Mechanical engineering and metalworking
NQFS level ²	3
EQF level ³	3
Type of qualification	Vocational
Scope of qualification	- 3 years ; - At least 960 hours of training in non-formal education.
Prerequisites for obtaining the qualification	NQFS level 1 - basic education and upbringing, elementary education of adults, elementary ballet education and upbringing and elementary music education and upbringing
Forms of learning	- Formal education; - Non-formal education; - Recognition of prior learning.
Type of public document	- Diploma; - Certificate of passed exams within the mastered program for the educational profile; - Certificate on the achieved qualification standard as a whole.
RELEVANCE OF THE QUALIFICATION FOR EMPLOYMENT AND CONTINUATION OF EDUCATION	
Mobility in the qualifications system	Level 4 of NQFS Level 5 of NQFS
Occupation	7223.07 Computer Numerical Control Machine Operator 7224.01 Grinder operator 7223.05 Router operator 7223.06 Lathe operator 7223.04 Punch operator 7223.09 Adjuster of metal cutting machines 7223.10 Server of adjusted grinders/drills/mills/lathes 7223.11 Machine tool operator 7223.15 Metal drilling machine operator
Occupational standard ⁴	-

¹The system according to which qualifications are classified and coded in NQFS, harmonized with the International Standard Classification of Education ISCED 13-F.

²National Qualifications Framework of the Republic of Serbia (NQFS)

³European Qualifications Framework (EQF)

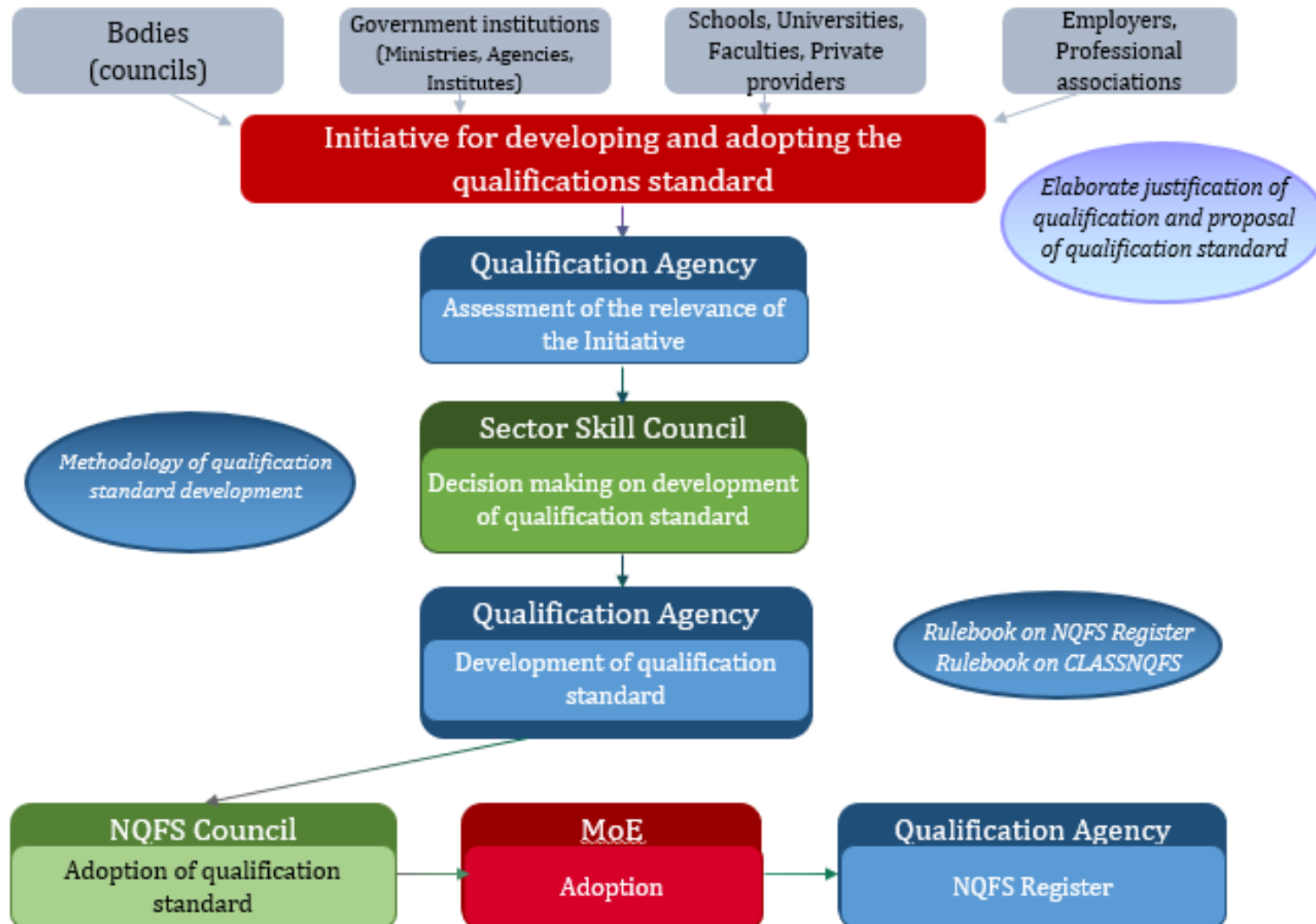
⁴Until the adoption of occupational standards, the connection of the qualification standard *Metal fitting, turning and machining Operator* with the labor market is based on data on occupations determined on the basis of regulations in the field of work and employment (according to: Law on NQFS, Article 50), as well as on the description of the work from the initial proposal of qualification standard within the Initiative for the development and adoption of the qualification standard *Metal fitting, turning and machining Operator*.

LEARNING OUTCOMES	
General description of the qualification	<p>A Metal fitting, turning and machining Operator creates a workpiece by cutting materials (turning, milling, grinding and drilling) on conventional machine tools and on a computer-controlled (CNC) machine.</p> <p>Trained to: choose accessories and cutting tools, and adjust the machine for processing by cutting in accordance with the technical and technological documentation; create, measure and control workpieces on conventional machines, as well as workpieces on CNC machines; applies quality standards, as well as safety and health at work and environmental protection measures in the field of metal processing industry, i.e. metal machining.</p> <p>Effectively communicates and cooperates with superiors and colleagues when performing tasks and actively contributes to a culture of respect and cooperation.</p> <p>Continuously follows the news in mechanical engineering, i.e. in the field of mechanical metal processing, and improves himself for the purpose of his own entrepreneurial business and/or meeting the demands of employers.</p> <p>Purposefully applies technical information, information and communication technologies (ICT) and improves their application through learning and training.</p> <p>The level of general and professional knowledge, skills, abilities and attitudes within the framework of the acquired competences of the Metal fitting, turning and machining Operator primarily enables employment and continuing education in the given professional field.</p>
Competencies	<ul style="list-style-type: none"> - Adjusting the cutting machine; - Production of the workpiece by cutting on conventional machine tools; - Production of the workpiece by cutting on CNC machines; - Key competences⁵ (in particular: digital competence, entrepreneurship and entrepreneurial competence, responsible attitude towards health and responsible attitude towards the environment).

⁵On the basis of: Rulebook on general achievement standards at the end of general secondary education and secondary vocational education in the field of general education subjects ("Official Gazette of RS", no. 117/13).

After the acquired qualification, the person will be able to:	
Knowledge	<ul style="list-style-type: none"> - distinguish elements of technical and technological documentation; - list the basic types and characteristics of materials for processing by cutting; - list the basic parts of conventional and CNC machines (electrical, pneumatic, hydraulic and mechanical circuits) and explain how they function; - list tools for different types of cutting, clamping accessories, devices and accessories for adjusting and positioning tools for conventional and CNC machines, and describe the way of their application in the processing process - differentiate processing mode parameters; - describe the procedures for processing external and internal surfaces, angled surfaces, openings, grooves, spiral grooves, serrations; - describe the ways of programming and operating CNC machines in relation to the modes of operation of the control unit (manual, automatic, incremental, reference point, operation of the control unit in buffer memory); - list the types and application of measuring and control accessories during cutting; - describe the methods and procedure of control, testing and determining the accuracy of production on different machine tools and CNC machines during cutting processing; - differentiate the causes of defective pieces in the manufacturing process; - list the procedures for cleaning and preventive maintenance of machine tools; - specify procedures for cleaning and preventive maintenance of machine tools; - specify the measures and procedures for protection at work, as well as the procedure in the event of an accident and injury at work in accordance with the prescribed procedure.

Procedure for inclusion of qualification in NQFS



NQFS Register

NQFS Register is a **public database** in which qualifications are classified and which contains relevant information on qualifications.



Role of the NQFS Register:

- **Transparent integration** of the data on nationally recognized qualifications at all levels
- Comparability of learning outcomes achieved at different levels, within different types and different forms of learning
- Linking data on qualifications to occupations
- Comparability of qualification levels in Serbia with EQF and QF-EHEA levels

- The [NQF Register](#) has been **established and is available to citizens through the NQFS Portal**
- Functional connection with Unique information system in education registers and other registers such as Central Register of Compulsory Social Insurance and National Employment Service is enabled
- Includes a sub-register of **national qualifications**, a sub-register of **qualification standards** and a sub-register of **publicly recognized organizers of adult education activities** with employers where publicly recognized organizers of adult education activities organize practical work
- In the process of connecting to the European Qualification Database (Europass)
- The plan is to improve the NQFS Portal as a **unique national system** for information and support to interested parties
- Electronic submission of the Initiative for the development and adoption of qualification standards is enabled

Sub-registers	Content - data
National Qualifications ✓ 4654 national qualifications	<p><u>New qualifications</u> <u>Active qualifications:</u></p> <ul style="list-style-type: none"> - level NQFS 1 - qualifications on level 2-5 NQFS from 1987. - levels 6.1 to 8 NQFS from Bologna process introduction, 2005. <p>Register has Archive which contains qualifications made before active qualifications, because they are mostly represented in working population</p>
Qualification standards	<p><u>Standards of qualifications</u> - defined in line with Qualifications development Methodology</p>
Publicly Recognized Organizers of Adult Education Activities (PROAEA)	<p><u>Accredited PROAEA</u> - approved adult education programs/activities and employers with whom PROAEA realize practical work.</p>

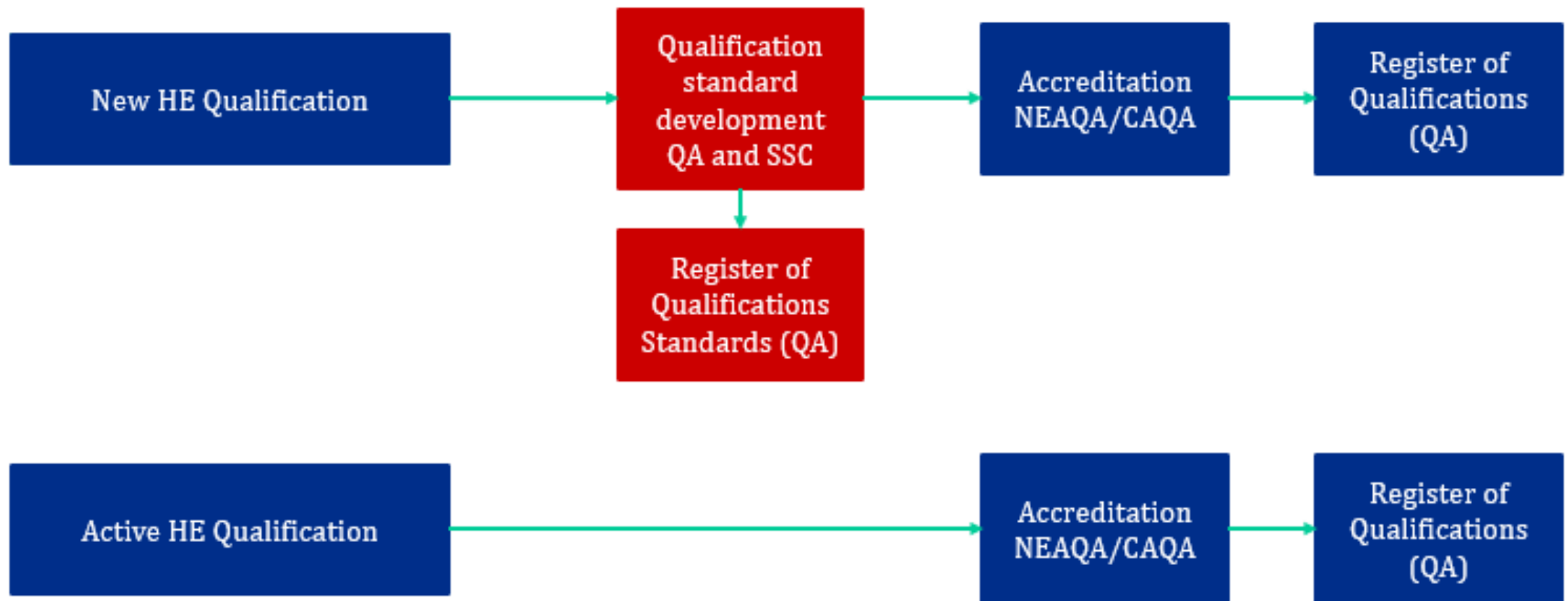
Quality assurance in HE

STANDARD	PROCESS	COMPETENT INSTITUTIONS/ BODIES
qualification	development	Qualifications Agency Sector skills council NQFS Council
	adoption	Ministry of Education, Science and Technological Development
programmes	accreditation of programmes and higher education institutions	National Council for Higher Education (standards) National Entity for Accreditation and Quality Assurance
	issuing a work permit	Ministry of Education, Science and Technological Development
student achievements / certification	grading final thesis	Higher education institution
quality of work of the institution	external evaluation	National Entity for Accreditation and Quality Assurance
	self-evaluation	Higher education institution

Quality assurance:

- qualification standard processes
(Initiative for development, drafting the proposal and adoption of qualification standard)
- registration of the qualifications
- referencing the NQF to EQF;

Procedures for inclusion of qualifications in the national framework are transparent



Recognition of prior learning (VNFIL)

- an AE activity which is achieved through the assessment of knowledge, skills, abilities and attitudes acquired through education, life or work experience, which enables further learning and increases competitiveness in the labour market; the term is equated with the term VNFIL, in line with the European guidelines for validating non-formal and informal learning (NQFS Law)
- 2014. Concept of RPL
- 2019. with the IPA project support Concept is revised and in this moment bylaw on RPL is in implementation
- List of qualifications for RPL (levels 2,3 and 5) is proposed by SSC
- Competency based assessment will be applied in process of recognition based on qualification standards

Credit System

- ECTS is based on the principle that the sum of 60 ECTS points corresponds to the overall average student engagement during a 40-hour workweek in an academic year.
- Student workload - about 1500-1800 hours per year - **1 ECTS** credit is awarded for about **25-30** working hours.
- The student workload expressed through ECTS credits implies the time required to complete **learning activities**: attending classes, seminars, consultations, independent research and learning, project preparation, exams, practical classes, etc.
- **Transfer of ECTS** credits is possible **between different study programs**, within the same cycle and type of studies, while in international mobility programmes transfer of ECTS credits is possible also between different cycles and types of studies
- Implementation of the system ECVET is foreseen in the Strategy, but neither decision nor regulation has been adopted.

Future plans

- Qualification standards
 - **Effective development** of new qualification standards
- Labor market and employers engagement
 - Improvement of databases based on **needs of the labor market**
 - Identifying **occupations** that are relevant to the labor market

Possibilities for changes to the law in segments related to short cycles:

Law on Higher Education

Types of studies

Article 34.

.... “For the professional training of persons with acquired secondary* education for inclusion in the work process, a short study program is carried out that has a clearly defined structure, purpose and learning outcomes and for which a certificate is issued on the completion of the short study program and acquired competencies.”

Scope of study

Article 39.

.... „A short study program can be carried out in the range of 30 to 60 ECTS points.“

Qualification standard in higher education and work-based learning