

QUALITY VOCATIONAL EDUCATION AND TRAINING AND SKILLS IN SERBIA

A REVIEW OF INSTITUTIONAL
COOPERATION AND
COORDINATION MECHANISMS

**VET GOVERNANCE
IN SERBIA**

Report prepared by Ivana Aleksić, in collaboration with the ETF and the Vojvodina ICT cluster.

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PREFACE

ICT has the capacity to drive innovation in business and the public sector. In its economic strategy, Serbia has prioritised ICT and the overall digitalisation of the economy and public services. Achieving this requires understanding its impact on future skills demand and making swift and resolute changes in lifelong education and training provision, including efficient partnerships with businesses, to address emerging skills shortages.

Understanding skills needs requires a continuous flow of information between businesses, public authorities and education and training providers. Organising this at territorial and sectoral levels, within a national framework, can help bridge the gap between skills demand and supply. How the national, territorial and sectoral levels interact has an impact on the quality of skills assessment and development.

To explore this further, the Vojvodina ICT cluster and the Serbian Ministry of Education, Science and Technological Development launched a skills needs assessment and an analysis of institutional cooperation in the ICT sector in Vojvodina in June 2016.

The two-part analysis was completed and presented in Novi Sad, Serbia, in April 2017. The European Training Foundation (ETF) helped to design the methodology with two aims in mind:

- to obtain comparable data on skills needs by using a questionnaire for employers and employees modelled on existing international examples; and,
- to examine the interaction between the national, regional and sectoral levels in skills development through an analysis of institutional cooperation.

This report presents the analysis of institutional cooperation and coordination. The ICT skills needs assessment is presented in a separate report.

Learning takes place in educational institutions, in training centres, in workplaces and on digital platforms. Enterprises know about skills needs and skills shortages; they recruit and train their employees, provide coaching and on-the-job learning; they develop business strategies to maximise competitive advantage building also on the human capital of their employees. Territories may specialise economically via cross-sectoral collaboration and innovation; enterprises may cluster together based on proximity, inter-dependence, or complementarity in product and service innovation.

Ascertaining skills needs at territorial level may be a way of kick-starting dialogue and alliances between actors in education, business and economic development. Areas of cooperation can include work-based learning for smoother school-to-work transition; adjustments and flexibility for relevant and good quality skills development; the involvement of enterprise staff in teaching and assessment in schools, among other issues. In the way it cooperates with the region's public authorities and education providers, the Vojvodina ICT cluster is an instructive example of supply and demand side interaction in making the best of the region's ICT growth potential.

Good quality lifelong learning provision contributes to competitiveness and employment, and skills development needs to be embedded in regional and local development strategies. Multilevel governance offers a framework and approach to develop and manage the multi-actor and inter-institutional cooperation that good quality VET and skills require. Labour market assessment, occupational classification and standards, qualifications and assessment standards call upon the knowledge and practical experience of many different actors. Agreement on what role and responsibilities to assign to which stakeholder at which level is key to a good quality VET system.

The Serbian authorities and business stakeholders in VET together with the ETF are translating these findings into action for effective and good quality skill development in ITC and other leading sectors in the country.

Siria Taurelli, VET Governance Strategic Project Leader, ETF

Acknowledgements

This report is a result of the ETF's work on VET governance in Serbia. The analysis was carried out by national expert Ivana Aleksić, in collaboration with the ETF and the Vojvodina ICT cluster (VOICT). The research concept was developed by ETF expert Siria Taurelli, and the methodology by national expert Ivana Aleksić, in cooperation with ETF experts Cristina Mereuta, Shawn Mendes and Siria Taurelli. Pirita Vuorinen and Daniela Clara of the ETF also contributed and supported the implementation and dissemination phase.

The Ministry of Education, Science and Technological Development, the Ministry of Labour, Employment, Veteran and Social Affairs, the Vojvodina ICT cluster and the Institute for the Improvement of Education played an active role during the report's preparation. The Provincial Secretariat for Education, Administration and National Communities, the Council for Vocational and Adult Education, the Provincial Secretariat for Economy and Tourism, the branch office of the National Employment Service in Novi Sad also provided valuable input.

Thanks are due to the Public Policy Secretariat, employers and trade union representatives, and schools and companies staff members who dedicated time and expertise in the interviews.

The main results of this report were discussed at the stakeholder workshop held on 26 April 2017 in Novi Sad. Participants' feedback was integrated into the final report, which was edited by ETF.

1. BACKGROUND

As a part of the ETF VET Governance Strategic Project, this report was prepared in response to the assignment focused on assessing cooperation mechanisms in the VET multilevel governance in Serbia. The assignment was complementary to the ICT sector skills needs analysis in Vojvodina in a multilevel governance perspective, which was conducted in parallel (Ognjenović and Vasić, 2017).

The report presents a review of the existing mechanisms and processes that are used by those concerned with VET demand (principally employers and employee representatives) and VET supply (educational bodies in charge of defining VET qualifications and curricula) to coordinate the skills needs assessment and the revision of the VET content. Coordination of their respective inputs is needed in order to smoothly implement these two fundamental functions of VET. Using the example of the Vojvodina ICT Cluster (VOICT), the report also focuses on the specific position of information and communication technologies (ICT) as an economic sector in the Autonomous Province of Vojvodina and the rest of Serbia in the context of the global market, the experiences of VOICT in collaborating with the education authorities and the benefits of sector-specific approaches to skills needs identification.

Serbia's ambition in the medium term is linked to the design and implementation of new governance mechanisms to guide skills development. Skill needs assessment and fluid communication of needs into VET content should find an institutional home and become sustainable. As this involves closer cooperation between the education and labour market institutions, and the private sector, the governance arrangements should cater for the active role of all the sides. The country is moving decisively towards finalising closely related aspects of the same reform, which also call for collaborative governance: the adoption of a national qualifications framework (NQF) and the implementation of a national qualifications system. Prompted by Serbia's commitment to the priorities set by the Riga Conclusions (2015), at the time of preparation of this report, VET stakeholders were working on new approaches to promoting elements of dual education in secondary VET with greater involvement of local-level stakeholders.

Nevertheless, as confirmed by the interviewees in this survey, VET governance arrangements in Serbia are still highly centralised. The report reflects this finding. It also includes a focused discussion about the challenges and opportunities associated with a higher degree of involvement of regional and local actors in the VET governance arrangements.

The report is organised in four main sections. Following the introductory section (Section I), Section II presents the concept and methodology used for data collection and analysis. The findings are presented in Section III, which is structured around the process leading from skills needs identification to the preparation of learning-outcomes-based VET curricula and education programmes. Each subsection of Section III starts with a description of the specific stage of the process; for each step, the report identifies the institutions with formal or informal roles and responsibilities within a given stage of the process and discusses the main challenges and opportunities for improvement. The report concludes with Section IV and recommendations for improving the observed VET governance arrangements.

2. OVERALL APPROACH

2.1 Concept

Serbia is simultaneously engaged on a number of VET reform activities that have a shared objective, namely improving the learning and labour market outcomes of its students and adult learners in order to increase the country's competitiveness in the global and regional markets. The government strategic priorities and action plan are coherent in this respect. The EU and Serbia reform progress monitoring, however, shows the need of completing the reform design and formulation, and moving to the implementation phase. The EU further refers to inter-governmental coordination and social dialogue as somehow insufficient, which is cause and at the same time effect of the delayed implementation (European Commission, 2016).

In this context, the overall approach of the ETF assignment was to map the current institutional coordination and cooperation between actors and levels in VET, and highlight areas for improvement. For the purpose of the study, two basic VET functions were selected, namely skill needs assessment and use of it for updating the content of provision, in one economic sector (ICT) and one geographical area (Vojvodina).

The assignment and present report are based on the following assumptions.

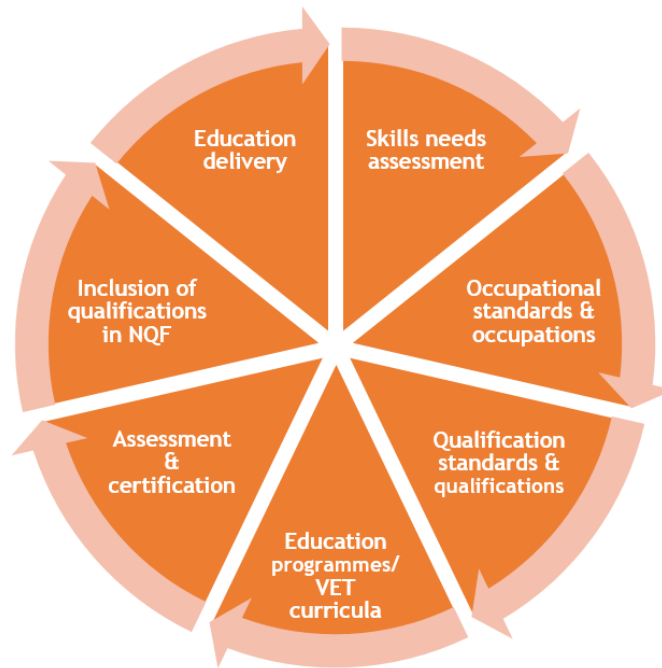
Clear governance arrangements make the VET system more efficient.

VET is a multi-actor system with numerous institutional and individual stakeholders who need to have a shared view about the purpose of VET governance arrangements, the aims of the process (ensuring the relevance of VET and the increased employability), the steps and mechanisms that it includes, and the roles and responsibilities of different stakeholders. **FIGURE 2.1** illustrates the full cycle of qualifications development, on which this report focuses. The process that starts with skills needs assessment and ends with the teaching and learning phase, i.e. education delivery that is designed to support students' learning and future career and life success.

The chart emphasises the cyclical and circular character of this process and suggests the need for regular scanning of the labour market and skills trends, their transposition into occupational and qualification standards and into the educational offer, and the continuous assessment of both the learning and labour market outcomes of end beneficiaries.

This process involves and affects numerous stakeholders operating in different sectors of public administration (ministries in charge of employment and those in charge of education, other public institutions operating centrally and locally, including the National Employment Service (NES) and its branch offices, regional school administrations of the Ministry of Education, Science and Technical Development (MoESTD) and its two technical institutes); stakeholders from both national and sub-national governance levels, such as local self-governments (LSGs) and Vojvodina's provincial authorities; social partners such as employers and their associations and trade unions; and various education and training providers in formal and non-formal education.

FIGURE 2.1 THE CYCLE OF QUALIFICATIONS DEVELOPMENT



Source: ETF (adapted for this report).

Effective employers' involvement in sector skills identification and in education and training provision is required by the fast pace of technological change.

An assessment of skills needs seems to require new approaches to skills forecasting, with an emphasis on the skills needs of specific economic sectors. Furthermore, the challenge is not confined to devising new methodologies. It also relates to the need for new governance arrangements for VET in which employers' and workers' representatives take part in a structured dialogue with education authorities through a new type of public body, sector (skills) councils (SCs or SSCs) sector groups to be established in the near future.

FIGURE 2.2 is a visual representation of the meeting points between the demand and supply sides, that is, employers who are in search of skilled employees, on the one hand, and the education system authorities and providers¹, on the other. The demand-side language of employers (occupational standards and occupations) and the supply-side language of the education system (qualification standards and qualifications) have a clear meeting point, namely the competences of a learner or employee. In this chart, competences are divided into three categories: (1) basic competences, such as literacy and numeracy; (2) core competences, with an emphasis on 'soft' or 'transversal' skills²; and (3) technical, vocational and professional skills and competences, which typically differ from one sector of the economy or occupational field to another.

The third category of competences – technical/vocational/professional – are the type of competences affected the most by technological changes³. Because they are fully 'owned' by the sectors of the economy, and by both employers and skilled employees working in those sectors, understanding when and how they change is crucial for the continuous refreshment and revision of existing

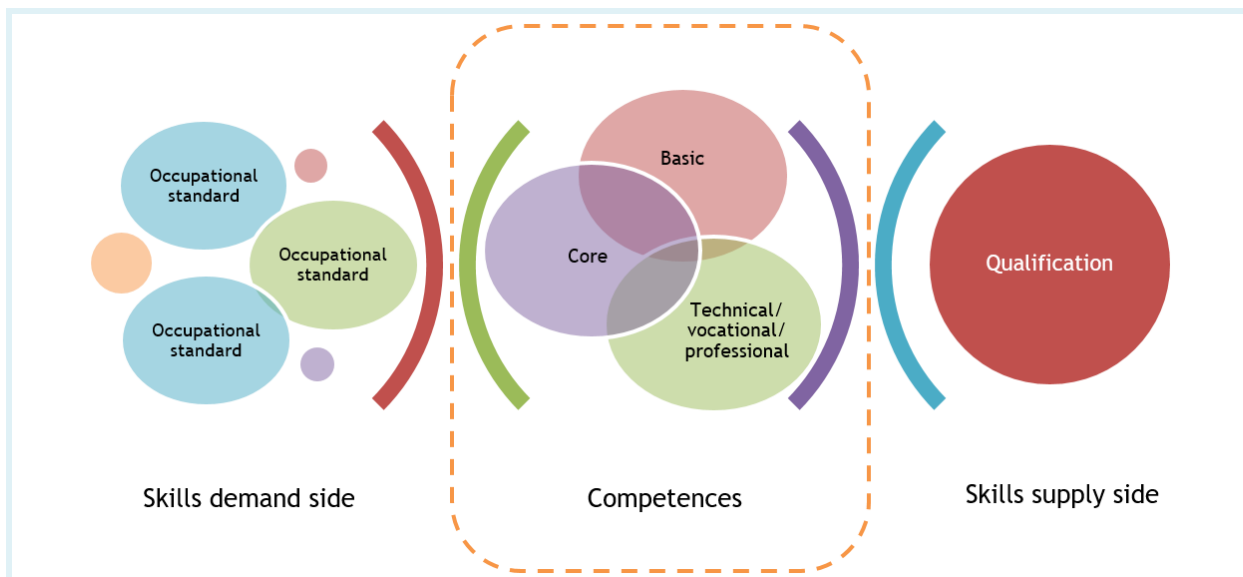
¹ In this report the term 'provider' is used for both formal and non-formal education providers, operating in both initial and continuing education and training.

² The EU's key competences for lifelong learning are here covered by basic and core competences, in order to differentiate and emphasise the increasing relevance and demand for 'soft skills'.

³ This paper focuses on technical/vocational/professional competences, while recognising the need for balanced development of key competences and technical/vocational/professional competences.

qualifications and the preparation of new ones. It is from here that the education authorities and providers themselves can take over the identified competences required by changing occupations and turn them into the learning outcomes that will become part of the qualification standards and new curricula, ensuring the alignment between the demands of the economy and the educational content.

FIGURE 2.2 COMPETENCES: A LINK BETWEEN OCCUPATIONAL AND QUALIFICATION STANDARDS



VET governance arrangements can lead to better results if sub-national VET actors have roles and responsibilities in the observed processes.

Serbia’s education system is still fairly centralised, and this poses numerous challenges. Critical for this report is the capacity of public institutions at national level to respond to increased demand for the revision of existing qualifications and the preparation of new ones across different economic sectors. Numerous stages of the process leading to relevant VET qualifications are performed by a small number of national-level ministries and their most immediate technical agencies, with very little, if any, formal involvement of sub-national actors. An increase in the involvement of employers’ organisations has been observed in recent months. As the report will show, some of the critical stages of this process do not have clear institutional ownership⁴.

2.2 Methodology

The data and information collection and the analysis both followed the steps required by the terms of reference:

- mapping the processes relating to skills needs assessments and the updating of qualifications and curricula, including the different stages and milestones of the two functions. Main question for the analysis:
- what is the current practice used in skills needs assessment in Serbia?
- mapping the relevant actors and their specific roles in these processes, including formal requirements and the informal arrangements that are currently in place. Main question for the analysis:

⁴ For detailed overview of the institutional involvement in the observed process, see Tables 3.1 and 4.1.

- what main actors at national, sub-national and sectoral levels?
- listing the coordination mechanism linked to the above processes, including formal and informal arrangements. Main question for the analysis:
- what channels of communication and mechanisms are in place to ensure that the skills needs identified trigger changes in qualifications and VET curricula?
- identifying the strengths and bottlenecks that are enabling or blocking the processes, respectively;
- identifying the possible first next steps and potential mechanisms that could help to advance the current state of play, with special focus on the experience of VOICT as a regional ICT cluster.
Main question:
- what would be a feasible mechanism for ensuring that demand-side actors have a voice in initiating, formulating and approving the relevant standards and the education and training offer in order to meet the needs of different economic sectors?

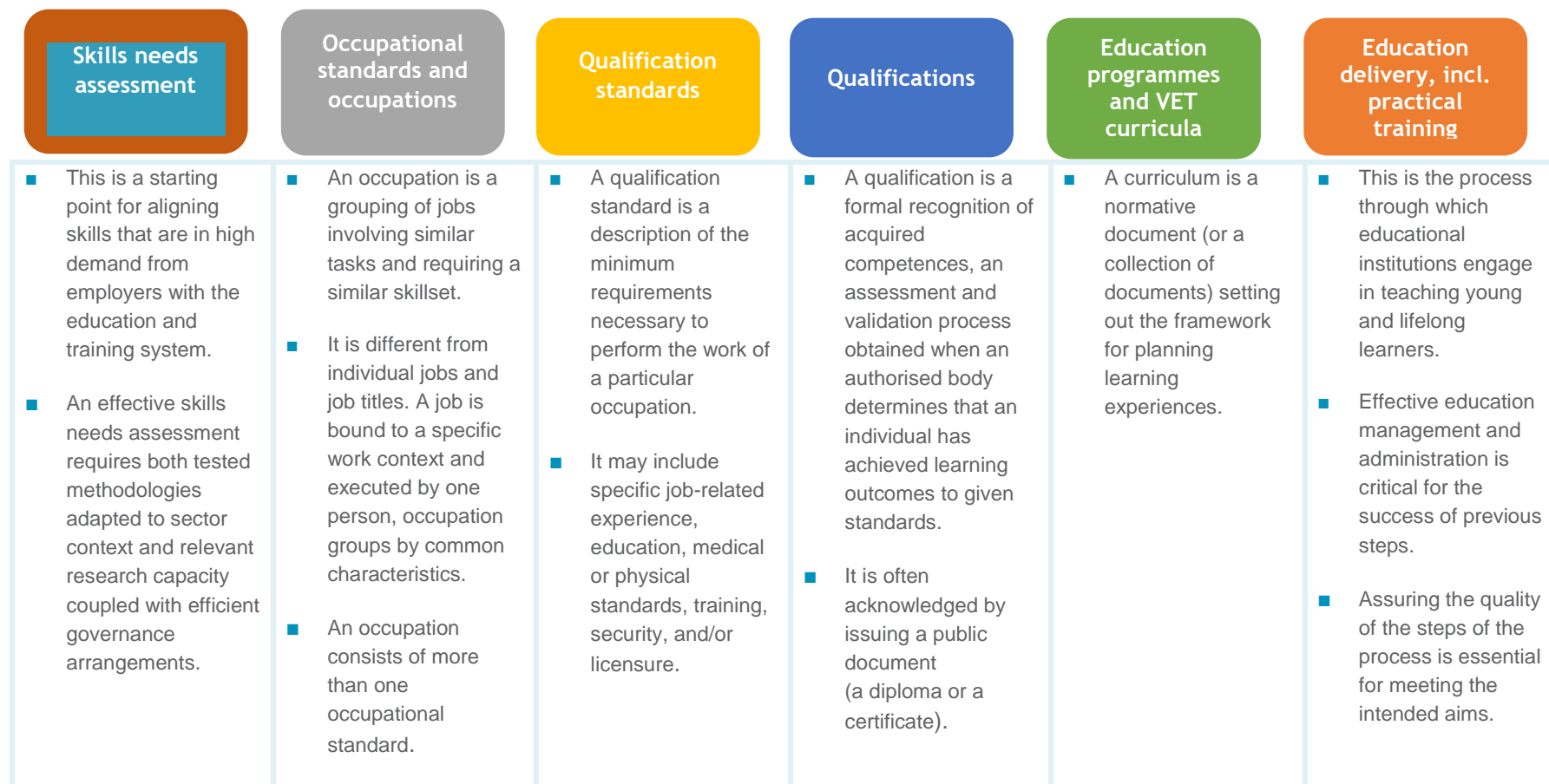
Semi-structured in-depth interviews with key resource individuals were undertaken, the interviewees being from selected public institutions, including line ministries and referent agencies (institutes) and education councils, where feasible; education and training providers at central, provincial and local level, including VET schools and universities; and representatives of the private sector, businesses and employers, with the emphasis on the VOICT companies as members⁵.

In order to ‘unpack’ the VET cyclical process and address the two functions that are the subject of this report (the identification of skills needs and the updating of VET supply), the process is simplified and presented in **FIGURE 2.3**⁶. As a result, there are stages of the observed process that are not given space in this report, in line with the terms of reference. These include the placement of new qualifications in Serbia’s NQF, once it is implemented; the assessment and certification phases of the learning outcomes; the underpinning quality assurance; the organisation and funding of teachers’ professional development in the delivery of VET subjects, including practical training, for all new VET curricula; and the acquisition of school equipment that is relevant for the delivery of specific VET programmes.

⁵ A list of the institutions consulted is provided in Annex. The author of the report also benefited from the three focus group discussions on skills needs of the ICT sector in Vojvodina, which were led by national experts Kosovka Ognjenović and Vladimir Vasić, in Novi Sad in December 2016.

⁶ Figure 2.3 was used as the basis for interviews. Its primary purpose was to ensure that interviewees related their own experience to the process. Reflecting on the entire process, they had an opportunity to share information and views and to highlight weaknesses in the process as well as identify possible opportunities for improvement.

FIGURE 2.3 FROM SKILLS NEEDS ASSESSMENT TO SKILLED LABOUR FORCE: MAIN STAGES



Source: *European Skills/Competences, Qualifications and Occupations (ESCO)*; adjusted for the purposes of this report.

The key questions discussed during the interviews included the following.

- How can information on the new knowledge, skills, competences and behaviours be collected? What type of approach is best suited to skills needs assessment in Serbia, and what is needed to secure a sectoral approach to skills building?
- What channels of communication or mechanisms exist for a more direct exchange between the stakeholders on the demand and supply sides? What roles could be played by regional and local-level stakeholders?
- What should be the role of education authorities, private sector stakeholders, social partners, and education and training providers, compared with their current roles? How can stakeholders be incentivised to take an active role in strengthening human capital, employability and competitiveness across the private and public sectors and across different levels of governance?
- What options exist for rapidly growing regional actors such as VOICT to engage with education authorities?

The semi-structured in-depth interviews were undertaken between 25 December 2016 and 15 February 2017. This approach was supplemented by desk research to collect the latest information on the subject of the report, as well as to identify critical institutions and key resource persons.

The collected data was analysed and preliminary findings discussed with a selected group of stakeholders. The first version of the report was commented on by the ETF VET Governance team and the final report was prepared by the end of March 2017. The report benefited from feedback and was endorsed at the stakeholder workshop held on 26 April 2017 in Novi Sad.

3. MAIN FINDINGS: CHALLENGES AND OPPORTUNITIES FOR INSTITUTIONAL COOPERATION AND COORDINATION IN VET

3.1 General findings

The information exchange between skills needs assessment and the update of VET standards and provision is insufficient. Coordination and cooperation between actors in VET should improve, in line with the efforts to increase the quality and relevance, as well as the effectiveness and efficiency, of VET. This would moreover help linking the large building blocks of the ongoing national VET reform, and recognising the ‘big picture’ and the way in which different reform activities and actors involved are related to each other.

Some of the critical stages of the VET and skills development process do not have clear institutional ownership, i.e. leadership and accountability arrangements. This is the case, for instance, with the development and updating of occupational standards and the National Classification of Occupations (NCO). Other elements of the system are currently being developed and have yet to be put into practice. These include an integrated and fully implemented NQF and the establishment of effective SCs. As a result, the processes of developing and updating qualifications and skills are not always taking place continuously and in a timely way. The fast pace of technological change, however, requires regular scanning of the labour market and skills trends, translating these into occupational and qualification standards and into the educational offer, and continuously assessing both learning and labour market outcomes.

The VET governance arrangements affect both the flow and the outcomes of the processes of qualifications and skills development. There is a need for more explicit cooperation mechanisms among stakeholders who are leading the different stages of qualifications and skills development. Notably, among governmental institutions and between these and the non-governmental side, including employers and employees organisations. Clarifying the roles and responsibilities of key stakeholders and simplifying the protocols for mutual collaboration are achievable steps given Serbia’s VET reform advance and high expertise level. Moreover, skills development is most often discussed only in relation to secondary VET, while post-secondary, higher and continuing education have yet to be included in either the analytical work or the actual implementation.

The VET functions relating to skills needs assessment and the updating of VET content are run centrally, with relatively modest participation from VET actors operating at sub-national levels. TABLE 3.1 summarises the distribution of roles of the VET actors involved in qualifications and skills development from the national, provincial⁷ and local levels. Opportunities seem to be opening up with the recent initiative to involve LSGs and other local-level actors in aligning the formal VET offer at secondary level and the needs of local economic actors. At the same time, the increased interest in the provision of work-based learning (WBL) and practical training in companies narrows the distance between economic actors and education stakeholders, and promotes the involvement of local-level actors in skills development. This may be a time for a new discussion on the role of VET schools in the process and the opportunities for increased school autonomy, which needs to be accompanied by strong accountability mechanisms.

⁷ Relates to the Autonomous Province of Vojvodina.

TABLE 3.1 INSTITUTIONAL ROLES AT DIFFERENT GOVERNANCE LEVELS: SKILLS NEEDS ASSESSMENT AND UPDATING THE VET CONTENT

Level at which the institution or actor operates	Institution/actors	Leads on skills needs assessment	Leads on the design of new or revision of existing occupational standards	Takes part in the design of new or revision of existing occupational standards	Can formally initiate the revision of occupational standards**	Leads on the design of new or revision of existing qualification standards	Takes part in the design of new or revision of existing qualification standards	Can formally initiate the revision of qualification standards	Preparation of curricula/ education programmes
National level	MoESTD with Institute for Improvement of Education and Institute for Education Quality and Evaluation	▲****	(▲)	(▲)		▲	▲	▲	▲
	Education Councils: National Education Council, Council for VET and Adult Education, and National Council for Higher Education							▲	▲
	MoLEVSA	▲	(▲)	(▲)					
	NES	▲							
	Non-state run recruitment agencies								
	Ministry of Economy								
	Employers' organisations and chambers	▲			▲			▲***	
	Trade unions				▲			▲***	
Republic Statistical Office				(▲)					
Provincial level	Provincial Secretariat in charge of education								
	Provincial Secretariat in charge of labour								
	Recruitment agencies, including the NES Provincial Authority	▲*							
	VOICT/Clusters								

Local level	LSGs	▲▲		
	NES branch offices	▲*		
	Deconcentrated offices of the line ministries, including of education and labour			
	Various local councils: for employment, socioeconomic and other	▲▲		
	Training providers, including schools at secondary and higher level, public and private training providers		▲	▲
	Individual students, both those in initial education and adult learners			
	Individual companies		(▲)	▲

Legend:

- ▲ Institutional roles
- ▲▲ Effects of the recent initiative on new LSGs' role
- (▲) Previous practice; not clear if the future arrangement will be the same

Notes:

* While not leading, provincial and local-level NES branch offices take an active role in the annual employers' survey.

** Not clear which institution is mandated to formally initiate the revision of the occupational standards.

*** More often included as individual companies rather than as representatives of employers' organisations or trade unions themselves.

**** On a smaller scale and as a result of the application of the Developing a Curriculum (DACUM) methodology for development of VET curricula.

The detailed presentation of the VET functions that follows reflects the main findings already described and shows how the focus is placed on the central- and national-level institutions, in the current distribution of the roles and responsibilities in the VET system. The example of VOICT is used in the report to illustrate opportunities that could be used as lessons for other economic sectors and actors in increasing the involvement of local-level stakeholders in qualifications and skills building.

BOX 3.1 ABOUT VOICT

Based in the city of Novi Sad, VOICT is a business association founded through a bottom-up initiative of ICT companies and several supporting institutions. It provides a single point of contact for successful companies in Serbia, with a total workforce of more than 3 500 experienced IT professionals working in member companies. Over 90% of VOICT's member businesses are tied to foreign markets in the EU, North America and the Middle East. The companies from this cluster have exhibited strong growth in recent years, in spite of the global recession.

Serbian IT companies in general have made a noticeable breakthrough into the world's markets, putting Serbia on the map as an interesting alternative location for the development of sophisticated software. VOICT gives institutional support to this trend by mobilising players operating across the business, education and government realms, with strong support from the University of Novi Sad in particular.

The strategic objective of VOICT is to increase the visibility of Serbian ICT and put Novi Sad on the regional and European map as the hotbed for ICT in this part of the world. Activities directed towards this objective include building a strong network of international contacts, creating new business opportunities for its members, compiling and delivering sets of services to members and third parties, lobbying for improvements in the business environment in Serbia, and the popularisation of ICT in terms of both educating more ICT professionals and enabling the penetration of ICT into other sectors of the Serbian economy.

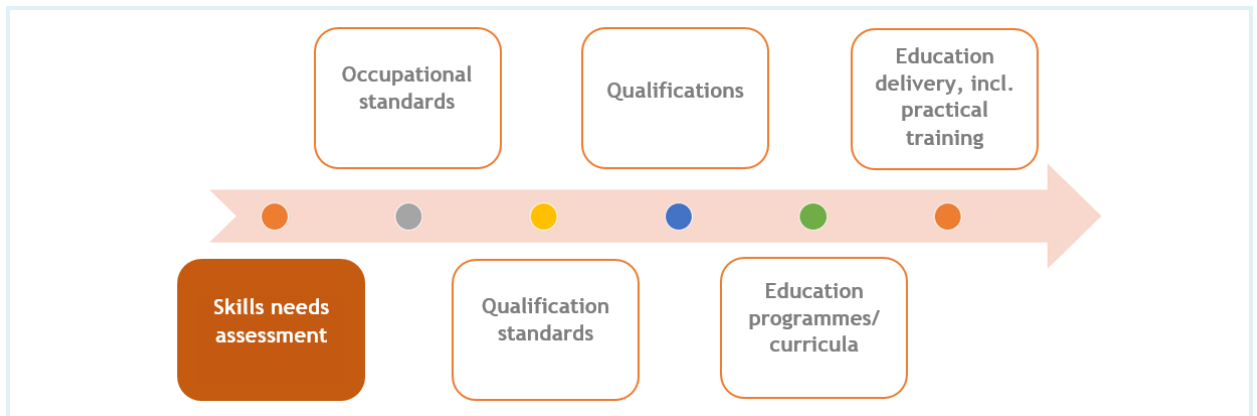
VOICT runs its own academy, organising courses, presentations and lectures according to its member companies' needs. The academy's goals are to increase the competitiveness of companies by improving their employees' capacities, and to increase the number of employable IT professionals. Its primary target group is VOICT member companies, but its activities also benefit individuals, universities, high schools, other associations, non-governmental organisations, public bodies and non-members. Partners of VOICT in these activities are international donors, educational institutions – primarily the University of Novi Sad and its Faculty of Technical Sciences – and other public and governmental institutions. The academy's services are also available to non-members on commercial terms.

3.2 Findings: skills needs assessment

Serbia does not have an effective mechanism for sector skills needs assessment with a clear funding allocation. The country aims to use EU's Instrument for Pre-Accession Assistance (IPA II) funds and, by 2020, to develop a new mechanism for sector skills needs assessment, as part of the work of the future SCs/SSCs. MoESTD is expected to be the beneficiary institution, along with the Council for Vocational and Adult Education (CVAE), and will be in charge of designing the new sector skills assessment methodology as well as setting up the new governance arrangements and structure. The provisional outline is already in place, as Serbia piloted the first SCs in 2012. Current discussions include ideas on the stronger role of the Serbian Chamber of Commerce in setting up and supporting the work of the future SCs⁸. It is likely that the new concept of SCs or sector groups will entail greater representation of employers.

⁸ In line with the 2015 Law on Chambers, as of January 2017, Article 10 on membership and Article 33 on the financing of the Serbian Chamber of Commerce (SCC/PKS) apply. Mandatory membership of SCC/PKS for all economic subjects could represent a basis for a stronger involvement of the SCC/PKS in the work of future SSCs.

FIGURE 3.1 STAGES OF THE PROCESS: SKILLS NEEDS ASSESSMENT



In the Law on Ministries, no ministry is given the explicit task of regularly carrying out skills needs assessments. However, the Ministry of Labour, Employment, Veteran and Social Affairs (MoLEVSA) is responsible for ‘monitoring the status of and trends in the labour market in the country and abroad, maintaining the registry in the area of employment, advancing and stimulating employment, strategies, programmes and measures of active and passive employment policy’⁹.

MoLEVSA and the NES undertake the only regular national-scale survey that focuses on the identification of the skills needed by Serbia’s economy. It is an annual exercise that uses methodology developed in 2006 and improved over the years. This sample-based survey was carried out for the first time by the NES alone in 2016; it involves data collection by NES employees during the fourth quarter of the calendar year¹⁰. Initial input for the design and regular administration of the employers’ survey was given to MoLEVSA and the NES from EU CARDS funds. As already mentioned, with the support of IPA the methodology has subsequently been refined.

Currently, the employers’ survey of the NES has limited use. It was designed to support the mandates of the NES and MoLEVSA, which cover mediation between employers and unemployed people, including supporting unemployed individuals to gain new skills through active labour market measures, i.e. the provision of additional training and retraining for specific groups and profiles of those who are registered unemployed. In other words, the survey’s methodology is tailored to the short-term needs of the NES’s main beneficiaries and is designed to support the provision of continuous training and upskilling (ETF, 2016c). According to the stakeholders interviewed, this is why the NES’s employers’ survey – although a rare attempt to understand the changes in skills demand over time – has not been widely used.

As a part of the curriculum development process, the Centre for VET and Adult Education of the Institute for Improvement of Education (IIE) uses the DACUM methodology, which includes mechanisms for the identification of labour market needs (MoESTD, 2008)¹¹. Under this methodology, skills needs assessments are carried out as required, that is, irregularly, usually in the context of the preparation of new qualifications in a given sector. DACUM requires the mobilisation of employers for participation in focus groups, where they join educational specialists and representatives of workers

⁹ Law on Ministries, Article 16, paragraph 2.

¹⁰ The preparation of the survey starts by mid-September of a particular year, the fieldwork is carried out in the second half of September and the first half of October, and the results are released by the end of the year.

¹¹ This methodology was developed as a part of the EU-supported Programme of VET Reform, CARDS Phase II.

from the relevant occupation(s) on the task of occupational analysis and the analysis of occupational standards, i.e. identifying the requirements of new occupations¹².

There is anecdotal evidence of skills needs analysis being carried out by schools at secondary and higher education level. In order to maintain a competitive edge and attract students, schools at different educational levels have engaged in some type of review of skills needs. While methodologies vary, some schools carry out content analysis of the job descriptions provided as a part of job advertisements. Using such information as an input, they partially adjust curricula in order to reflect the demand for new skills. Occasionally, employers' organisations also undertake employers' surveys, as in the case of the Serbian Chamber of Commerce and the Employers' Union of Serbia. Employers' organisations perform smaller-scale assessments of the changes in the demand for skills, although they typically use them for internal purposes only.

There are virtually no examples of sector skills assessments, with the exception of small-scale one-off initiatives within projects supported by external funds.

Main challenges

1. There is no consolidated methodology for sector skills assessments that are appropriate for Serbia's economic and labour market context, and there have been delays in setting up fully functioning SCs. Serbia is at an early stage of addressing arrangements for carrying out regular skills assessments that would complement the existing research on skills demand by the NES. In addition to formally establishing SCs as a new type of public-private body, there will be a need to design a new methodology for assessing skills. Judging by the experience of Western Balkan countries that are more advanced in this respect, new methodologies are less complex, and have a medium-term forecasting horizon. In the view of many of the interviewees, skills assessments should be assessed on a sectoral basis and, if possible, led by employers themselves. In clarifying roles, there should be an emphasis on the different contributions to be made by employers and trade unions on the one hand, and the education sector on the other. While employers can serve as a source of information on occupations and competences associated with them, education stakeholders have technical expertise and knowledge of methodologies and procedures, and this can ensure that information provided by employers and trade unions is framed in such way as to support the process of VET curricula updating.
2. There is currently uncertainty about the institutional hub, and the funding and management of SCs as new governance arrangements. The CVAE, mandated to set up SCs in line with the Adult Education Law, needs to be supported in terms of a steady funding allocation as well as administrative and technical capacity. Current discussions include the reassessment of the current institutional setup with the possibility of a new role for the Serbian Chamber of Commerce (SCC/PKS) in support of this process. It is likely that both the social partners who are engaged in the work of future SCs and the education and other VET stakeholders will be faced with significant capacity constraints, at least during the initial phase of the implementation of the new arrangements.

Main opportunities

1. **SCs/SSCs provide an opportunity for a fresh start.** It is important that the new 'social contract' between education and labour market stakeholders takes off within sectors that have a higher capacity to perform the new tasks. However, regardless of the initial selection of the sectors, capacity building of all stakeholders on the new arrangements needs to be provided. Most of all, leadership and accountability arrangements must be unambiguous.

¹² For more about the use of DACUM, see sub-section III.III.

2. **Building on the lessons learnt from the SCs pilot from 2012, it will be critical to secure sustainable funding and sufficient technical and administrative capacity for the new public bodies.** The upcoming human resources development project to be funded from IPA II will be used to fund SCs, among other activities. In the interim, the establishment of two so-called sector groups is being discussed, with the SCC/PKS as a lead.
3. **The creation and use of an integrated set of different methods to forecast short- to long-term skills demand will be a positive development.** Given that no single methodology can provide a reliable picture of skills demand, the establishment of SCs could be the right time to discuss the use of a mix of methods, including employers' surveys, sector profiling, job advertisement content analysis, and qualitative methods such as DACUM and others. A more comprehensive skills assessment will be a sound basis for establishing the actual skills profile of emerging occupations and for ensuring that they are used for qualifications and curricula updating.

BOX 3.2 VOICT: AN APPROACH TO SKILLS DEVELOPMENT

Unlike some other economic sectors, the ICT sector is characterised by a high level of clarity when it comes to the competences required in the labour market. According to the member companies of VOICT, digital/ICT competences are easy to assess at all levels, from basic to complex.

Occupational standards and occupations in this sector are set globally, and are often defined and prescribed by the leading multi-national corporations that are shaping the development of the sector. This is one of the reasons why VOICT does not have an interest in or see the benefit of national certification and validation, but relies instead on corporate training and certificates.

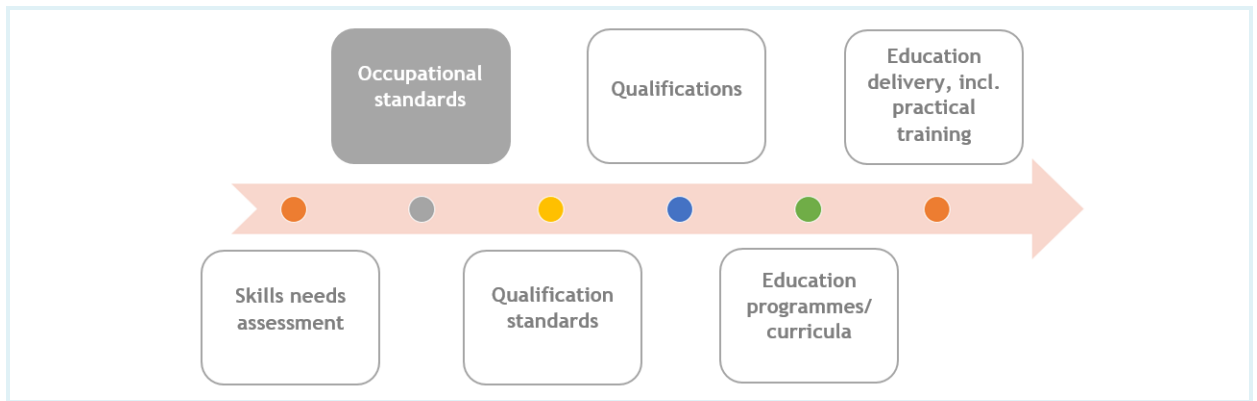
The speed of innovation in the ICT sector requires continuous learning, which typically takes place in parallel with (that is, outside) initial education. However, while ICT companies have little doubt about the technical/vocational/professional skills of their workers, VOICT member companies emphasise the need for more work on the development of transversal and managerial skills.

3.3 Findings: occupational standards and occupations

Agreement on the institutional mandate for the development of occupational standards and the maintenance of the NCO in Serbia should be addressed as a matter of urgency. The Law on Ministries is not sufficiently clear on the division of labour between MoLEVSA and MoESTD¹³. In addition to the two ministries, within the group of special organisations, the Law on Ministries mentions the Republic Statistical Office (RSO), which is in charge of 'the maintenance and use of the Republic's administrative and statistical registers'.

¹³ The Law on Ministries, for instance, does not contain the word 'occupation', while the word 'qualification' is mentioned once, in Article 16, which defines the mandate of MoLEVSA. Aside from the general description of its mandate in Article 14, the mandate of MoESTD does not discuss either occupations or qualifications. However, Article 16 mentions that MoLEVSA, among other matters, is mandated to 'prepare the national standard (sic) of qualification and propose measures for the improvement of the adult education system' (paragraph 2, Article 16).

FIGURE 3.2 STAGES OF THE PROCESS: OCCUPATIONAL STANDARDS AND OCCUPATIONS



For statistical purposes, the RSO is tasked with maintaining the NCO. In practice, this classification is not used for the purpose of reviewing and updating occupational standards and occupations, nor is it used as an input for the development of new qualifications. According to the 2015 Decision of the National Assembly of the Republic of Serbia on Official Statistics over the Period 2016–2020¹⁴, the NCO is to be maintained by the RSO. In 2011, for the purpose of organising a national census data collection, the RSO translated and published the International Standard Classification of Occupations (ISCO 08). This translation was expanded by adding occupations from the Unique Classification of Occupations (Jedinstvena nomenklatura zanimanja, JNZ), which dates from the 1990s (Official Gazette of the Federal Republic of Yugoslavia, No 9/98).

The latest large-scale effort to revise the NCO and harmonise it with ISCO 08 was completed in 2014. Unfortunately, the final product is still only a proposal and has not yet found an institutional home. Recommendations of the project team included continued efforts to complete the classification by adding missing occupations, and the identification of the institution whose mandate would include the management of classification and its continuous updating in line with the needs of the labour market and the need for a political decision by the ministries with portfolios in labour and employment, education and the economy on how to ensure the sustainability of the NCO in Serbia (more details are provided in **BOX 3.3**).

As a result of an accelerated effort to finalise the work on the integrated NQF in Serbia and to create conditions for regular updates of the occupational standards, in 2016 a special working group was formed and tasked with working on the new NCO. The group is co-chaired by MoESTD and MoLEVSA and its tasks include the preparation of an overview of occupations and agreement on the list of national occupations, and the harmonisation of the NCO with ISCO 08 and with the Serbian NQF. The working group's task does not include the revision of occupational standards and occupations themselves, and it appears that the decision on the institutional placement of the NCO will remain open following the conclusion of the work of this group.

¹⁴ The Decision on Official Statistics over the Period 2016–2020 of the National Assembly of the Republic of Serbia, made at the 10th Extraordinary Session in 2015, 24 June 2015.

BOX 3.3 THE NATIONAL CLASSIFICATION OF OCCUPATIONS IN SERBIA: STATE OF PLAY

The project 'Support to Evidence-Based Employment Policy Making' was concluded in December 2014 with the proposal for the NCO in Serbia, harmonised with ISCO 08¹⁵. The proposal included 1 877 occupations, each containing the following elements: occupation title, code according to ISCO 08 classification, level of education/qualification, jobs and tasks performed within the occupation, tools, recommended educational profile/study programme and specific requirements for the occupation, if any.

The main recommendations of the project team, which were not followed through, were as follows.

- The team recognised the need for continued work on the completion of the classification, as the final product was incomplete owing to the sheer size of the exercise. Despite the fact that the employers' survey was used as a basis for the NCO, there was still a need to further consult those employers and also experts in specific fields who were not consulted during the project, for a variety of reasons.
- The team recommended that one institution be given a mandate for the continuous evaluation and updating of the NCO. Even during the project implementation, one of the main challenges was that the institutional responsibility for the NCO was not allocated
- A previous document with the same purpose, the Unique Classification of Occupations, was published in 1990 and amended in an ad hoc manner, and only marginally, for the needs of the NES. As noted, another project on the same topic led by the RSO in 2008–2011 produced results that were never put to use.
- Finally, the team recommended that the ministries in charge of labour and employment, education and the economy agree on a governance arrangement that would make possible continued efforts on the NCO.

Main challenges

1. Serbia has been struggling with identifying an appropriate institutional home for the development and regular updating of occupational standards. Given that this activity cuts across the interests and mandates of at least two ministries, the efforts invested in the activities of the working group co-chaired by MoLEVSA and MoESTD must be institutionalised and sustained.

Main opportunities

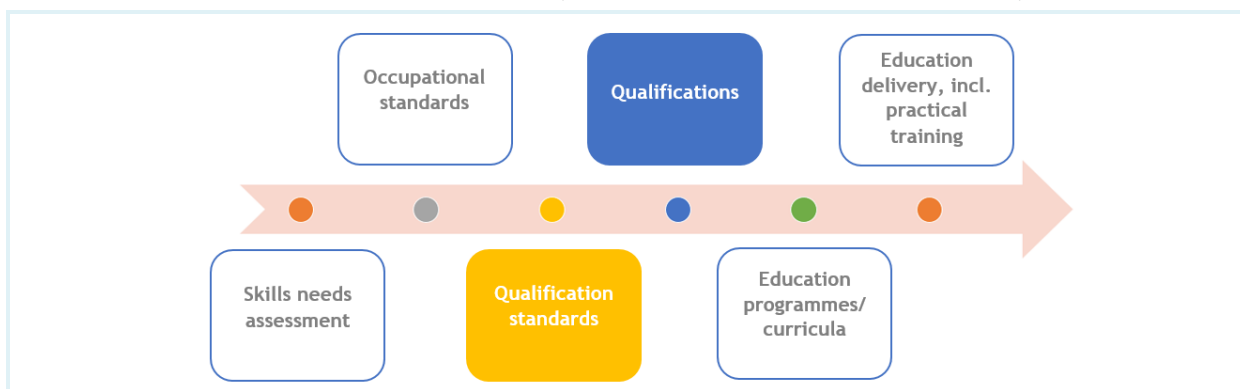
1. Serbia has benefited from a set of externally funded projects that have resulted in the preparation of a series of high-quality technical documents that are still relevant. For this reason, there is no need to start from scratch. The results of the latest IPA-funded project on harmonisation of the NCO with the standard ISCO 08 is used as a basis for future work. Attention should be given to the design of institutional arrangements to ensure sustainability. One element of this should be clear procedures relating to the maintenance and regularity of updates of the NCO and a starting point for the finalisation of the consultations with relevant actors on reclassified occupations, a step that should come following the conclusion of the work of the working group co-chaired by MoESTD and MoLEVSA.
2. Following agreement on the national list of occupations, attention should be given to revision of the descriptions of occupations, i.e. their actual content. This process should be driven by the demand for actual occupations and the NCO should remain open to the continuous refreshment of occupational standards and occupations in the future.

¹⁵ The project team worked on implementation along with the working group consisting of the representatives of MoLEVSA, MoESTD, NES, SCC/PKS, Employers' Union of Serbia, IIE, Institute for Education Quality and Evaluation, TUC 'Nezavisnost', Union of Independent Trade Unions of Serbia and the RSO.

3.4 Findings: qualification standards and qualifications

The preparation of qualification standards, qualifications and curricula for secondary VET in Serbia falls under the mandate of the Centre for VET and Adult Education of the IIE. In practice, such preparation is organised as a single process that is founded on a comprehensive approach and a qualitative methodology for curriculum development – DACUM. The ultimate objective of this methodology is the development of the VET curriculum for a specific qualification or qualifications in formal education at secondary level¹⁶.

FIGURE 3.3 STAGES OF THE PROCESS: QUALIFICATION STANDARDS AND QUALIFICATIONS



Although the procedure for the development of qualification standards and qualifications is clearly prescribed, the identification of the need for new qualifications is not currently defined by legislation. Other aspects of the development and implementation of new qualifications are specified by the Law on Foundations of the Education System, the Law on High Education and the Law on Adult Education, along with their respective bylaws (ETF, 2016b). In other words, stakeholders operating outside the education system have no formal channel to communicate the need for a change to an existing qualification or the preparation of new ones. In practice, using informal channels, individual employers approach VET schools with specific requests and it is up to the school principals to decide whether and how the school can respond to such requests. In this case, options for action range from changing the way in which practical training is organised to accessing higher level authorities and prompting the MoESTD and the CVAE to formally initiate the preparation of new qualifications. In order to request a new or revised qualification, employers also access the CVAE via SCC/PKS or the Employers' Union¹⁷.

Once the MoESTD decides on the development of new qualifications, it submits a request to the Centre for VET and Adult Education of the IIE. Following the agreed methodology, the centre sets up a working group for the preparation of qualifications and leads the process throughout. In line with the requirements of the DACUM methodology, in the section on the description of occupations and competences associated with tasks within a given occupation, the centre involves social partners and VET provider representatives in the preparation of qualifications. Draft qualification standards and qualifications are sent to the CVAE and, once agreed and approved by the council, the qualification is ready for the final Ministry of Education's sign-off.

An agreement was recently reached to simplify terminology and make the term 'qualification' central to the ongoing reforms linked to Serbia's NQF. As a result of advanced technical work by the MoESTD and the VET Centre of the IIE, in 2016 the term 'qualification' officially replaced the use

¹⁶ Note that in this report, we separate this process analytically into smaller steps in order to discuss it in more detail.

¹⁷ According to the most recent EU Progress Report (2016), about 60 qualifications that are based on learning outcomes have been produced in recent years, most of which were funded through the EU pre-accession funds.

of a set of different terms that were previously used interchangeably within both the educational and employment spheres¹⁸.

The development of an integrated national qualifications system for Serbia is high on the government's agenda. Its Economic Reform Programme for 2016–2018 (ERP) discusses the current situation regarding human capital and skills in Serbia and concludes that these do not meet the social and economic needs of the country. For this reason, the ERP identifies the establishment of an integrated NQF as one of its priority structural reforms¹⁹. As in other countries, in Serbia many of the qualifications populating the NQF will only be revised or newly developed in the years to come.

Despite delays, the governance arrangements for the planning, development, implementation and monitoring of the preparation of the NQF are expected to be operationalised during 2017. MoESTD's Group for Qualifications is formally in charge of this process. Its other tasks include the provision of advisory support to various social partners involved in the NQF preparations (the IIE, the CVAE, the National Council for Higher Education, other public institutions from this area), coordination of the activities of the team working on the NQF, coordination of activities linked to the establishment of SCs, preparation of legislation in this field, preparation of and participation in projects in this field, and acting as the national coordination point for referencing the NQF to the European Qualifications Framework (EQF) (MoESTD, 2017 p. 18).

The ERP Action Plan for the finalisation of the work on the NQF sets demanding targets for the country that are to be reached by the end of 2018. The Serbian authorities are working on the draft Law on the NQF, which is expected to define the institutional responsibilities and processes that will govern the development of qualifications and the quality assurance system associated with the NQF. This reform entails the establishment of the National Qualifications Registry and the SCs, which will be tasked with determining the occupations needed by the economy and the competences for each of them in a given sector. In this way, the SCs will have a direct influence on the qualification standards that are to be used as a basis for the preparation of education and training programmes for all educational levels. The key benefit expected from the new mechanism (NQF) and the governance structure responsible for it is the positive effect on the country's economic competitiveness. In line with ERP 2016–2018, once adopted, the NQF will be referenced to the EQF, while the Register of Qualifications will be linked with the EU's qualifications database. In addition to the new Law on the NQF, the initial plan includes the establishment of two SCs or sector groups on the basis of the current Law on Adult Education. According to the Action Plan for ERP 2016–2018, Serbia is aiming to set up a total of 12 SCs by the end of 2018. In parallel, a total of 70 qualifications are expected to be revised or new ones developed.

¹⁸ The term 'qualification'/kvalifikacija replaced a set of various different terms in the Serbian language, including zvanje, stručni naziv, naziv obrazovnog programa, stručna sprema – according to 'Nivoi i opisi kvalifikacija u NOK-u u Srbiji i razvrstavanje kvalifikacija prema nivoima NOK-a u Srbiji', www.mpn.rs

¹⁹ Following Recommendation 6 of the Joint Conclusions of the Economic and Financial Dialogue between the EU and the Western Balkans and Turkey (from May 2015), www.mfin.gov.rs/UserFiles/File/dokumenti/2016/Economic%20Reform%20Program%202016%202018.pdf

BOX 3.4 QUALIFICATIONS AND QUALIFICATION STANDARDS IN SERBIA

A qualification is a formal recognition of acquired competences. An individual obtains the qualification when the authorised body determines that they have achieved the learning outcomes prescribed by the qualification standard, a fact acknowledged by the issuing of a public document – diploma or certificate (definition of ‘qualification’ in Serbia NQF document).

The NQF is based on qualification standards that represent the content of a specific qualification defined according to the following elements: qualification name; code from the National Qualifications Registry; code for the occupational group to which the qualification is connected according to the NCO system; qualification level according to the NQF/EQF; qualification type; qualification sector; work description (competences and competence units); prerequisites for the acquisition of the qualification; mobility in the qualifications system; qualification scope (the minimum duration of education or training, the minimum number of credits); learning outcomes (outcomes of knowledge, skills, abilities and attitudes); method of assessing the achievement of learning outcomes (examination type); type of public document and the competent body in charge of issuing the document; and qualification reference data (the body responsible for approval, the date of approval, the qualification audit date, the date of entry into the registry) (ETF, 2016b; MoESTD and IIE, 2013).

Main challenges

1. Legislative changes relating to the NQF and the setting up of the first SCs have been delayed.
2. Setting up the Agency for Qualifications/Agency for Education as a new public body in charge of managing qualifications-related processes across different levels of education will be an important task. Although still the subject of discussion among Serbia’s education professionals, it appears that the new public body is expected to act as a technical focal point for all aspects of administration of the preparation of qualifications. According to the representatives consulted for this report, critical to the effectiveness of the future institutional arrangements seem to be the relationships that the new agency or agencies will have with the SCs.
3. There is a need to increase capacity for the upcoming work on the development of qualification standards and qualifications beyond secondary education.

Main opportunities

1. Initial funding is available from the EU’s IPA II for the work on NQF integration and on the development of new qualifications, as the NQF is one of the government’s reform priorities.
2. Timely mobilisation of the right technical expertise will be critical for resolving the challenge of redesigning the roles and responsibilities of different institutions in support of the management of NQF-related processes. This is also an opportunity to address the issue of how the education system collects information about the need for new qualifications.

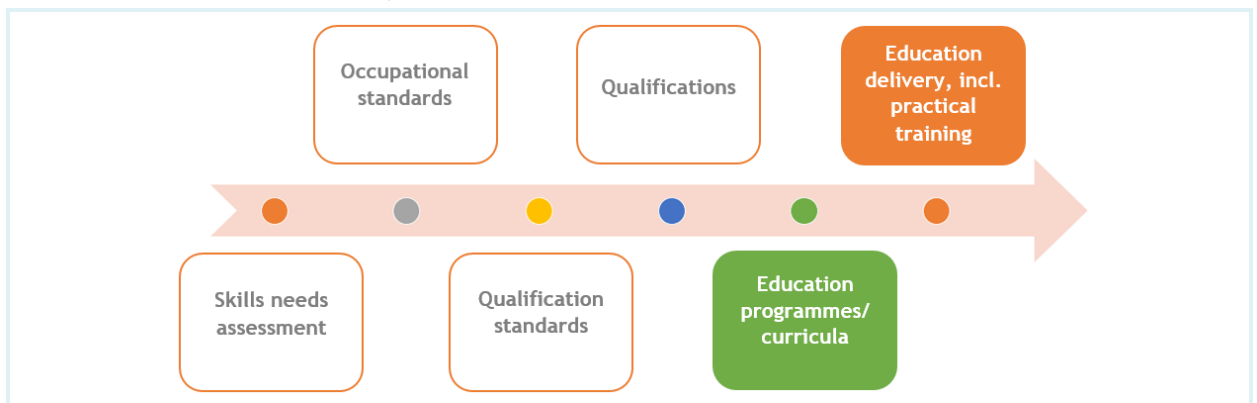
BOX 3.5 GLOBAL STANDARDS OF THE ICT SECTOR: OPERATING OUTSIDE THE NATIONAL EDUCATION SYSTEMS?

- Because ICT knowledge and skills are easy to test, certification and validation in the ICT sector are somewhat different than in other sectors. The most sought-after certificates are the corporate ones, which are not a part of the national system of certification, and there is little interest on the part of the ICT sector to formally link those to national qualifications.
- Many corporate training providers have no interest in registering as non-formal training providers. As noted by VOICT member companies, in this sector, industry-specific and corporate certificates are more important than formal education diplomas.
- Examples from other countries suggest that corporate certification could be directly integrated into the NQF without additional formal adjustments. This approach may be the only available option, given the speed at which standards in the ICT sector change and new requirements are created.

3.5 Findings: education programmes, curricula and education delivery, including provision of practical training

The Centre for VET and Adult Education of the IIE has the institutional mandate for the preparation of VET curricula. The centre deals with various tasks, including the preparation of the standards within its mandate, of the relevant part of curricula for initial VET at secondary level, and for adult education and continuous VET. Within the centre, the Sector for Qualifications Development and School Network is tasked with the preparation of the NQF for levels I to V (IIE, 2017). The centre does not have a mandate for the preparation of curricula for academic/general subjects, which are part of the full VET curricula; these remain subject to approval by the National Education Council.

FIGURE 3.4 STAGES OF THE PROCESS: VETPROGRAMMES/CURRICULA AND DELIVERY OF EDUCATION PROGRAMMES, INCLUDING PRACTICAL TRAINING



Currently, the initiative for curricular changes can formally come from the central education authorities. Given the length of the procedures for making such changes, it is not uncommon for students to leave school and university without the necessary professional and life skills. The inability of schools at all levels to fund the acquisition of modern equipment adds to the challenge of educational relevance. An additional challenge relates to the enrolment process, to the lack of a mechanism for effective alignment of employers' needs and the educational profiles on offer, and to insufficient career guidance services, resulting in both new skills mismatches (where students complete education in profiles that are no longer needed by businesses) and in high youth unemployment rates.

In the process of VET curricula preparation, the social partners, including employers' organisations (**SCC/PKS and the Employers' Union**), are involved in the work of **DACUM working groups**. These groups are temporary consultative/advisory bodies tasked with the preparation of a specific

VET curriculum. Depending on the sector, different social partners take part in DACUM working groups, with a focus on providing relevant input on the occupational requirements and the skills that are needed in the sectors in which they operate. These groups, as a rule, include representatives of education and training providers, most commonly secondary VET teachers from the field of interest.

Once a VET curriculum has been designed, it is sent for consideration to the CVAE, which is legally in a position to approve VET curricula for the secondary education level. The final stage of the approval process remains with the Minister of Education.

Main challenges

For curricular changes and delivery:

1. **Procedures for introducing innovations in education curricula are lengthy, complex and costly.** For instance, accreditation of higher education programmes takes place only every five years, although there is some flexibility within the accredited curricula to introduce smaller-scale updates (up to 30% of curricula can be changed in agreement with the Commission for Accreditation and Quality Assurance (CAQA) at higher education. In contrast, secondary VET schools have little autonomy when it comes to the 'localisation' of curricula and their alignment with the needs of the regional and local labour markets.
2. **Curricular reform in VET is associated with high financial costs and there is no procedure in place for an ex-ante financial or other type of impact assessment of such reform (GIZ/Government of Serbia/SCC/PKS, 2016).** Investment in VET is also needed for the provision of adequate facilities and equipment. In addition, there is a need to fund continuous professional development for teachers or hire new teaching staff for the delivery of new VET curricula. However, even if resources were available, securing a sufficient number of qualified teachers for the delivery of new curricula might be difficult in the short run. No less important is the impact of VET curricular reforms on the demand for specific teaching profiles. This is why the management of change and an agreement with those teaching staff who could become redundant as a result of the reform process are critical for the success of the reforms.
3. With only a handful of professional staff working on VET curricular development, the Centre for VET and Adult Education of the IIE faces capacity constraints. Creating arrangements for the mobilisation of additional capacity in line with the workload would prevent the creation of bottlenecks during curricular reform.
4. While DACUM methodology requires consultations with social partners, the results of this exercise are highly dependent on the selection of companies, trade union representatives and other categories of stakeholders commonly involved in this process. Despite significant efforts invested in securing the right representation, the DACUM working groups are, by definition, small and might not always be in a position to provide comprehensive information about sector needs; rather, they might rely on the specific perspectives or commercial interests of the individual companies taking part.

BOX 3.6 A PERMANENT LACK OF QUALIFIED ICT TEACHERS

- As recognised by the interviewees, private companies operating in the ICT sector take the ‘best’ people out of the public education system, and this has repercussions for the economy because it results in a lack of qualified teaching staff for ICT subjects across different levels of education. As lecturers in pre-university education, for instance, ICT professionals are severely underpaid compared with their peers working in private sector companies. This is why the public sector has difficulty in both attracting and retaining highly skilled ICT professionals.
- As an interim solution, additional teaching staff could be outsourced from the pool of domestic and international lecturers. Longer-term solutions could be sought by creating a legal foundation for the part-time engagement of external lecturers from the private sector both in VET schools and at university. This option is envisaged in the current (2017) draft Law on Higher Education.

For the provision of practical training:

1. For many companies, especially small and medium-sized enterprises, practical training provision represents a burden and poses a risk to their ability to maintain a competitive edge. It requires significant investment, including the allocation of mentoring time, equipment and other resources for student placements.
2. Serbia’s Labour Code does not currently recognise vocational practice or practical training outside school settings as a form of work engagement. This is why companies use scholarships as a form of compensation for the time that students spend in vocational practice.
3. Quality assurance of practical training/WBL remains a challenge. Given the speed at which the new initiative of the government was carried out, little time was available to address the challenge of quality assurance of practical training/WBL. At the next stage, efforts should be invested in working with education authorities in Serbia on developing different elements of quality assurance of WBL by working with both school staff and the companies that host students for WBL.

Main opportunities

For curriculum development and delivery:

1. **Modularisation of curricula will make them more flexible while assuring increased quality.** In order to shorten the process of curricular change, a strategic direction of the reform should be to include more decisive work on VET curricula modularisation. If done properly, this could improve the quality assurance of curricula and ensure much-needed flexibility and openness with regard to the introduction of innovations, for example, making smaller changes by replacing outdated modules of the VET curricula rather than changing entire programmes.
2. **VET schools should be empowered by allowing a degree of ‘localisation’ of VET curricula, so that VET content is in line with local and regional skills demands.**
3. **In terms of both VET curricula delivery and accelerated teacher training for new VET curricula, serious consideration should be given to online teaching and the increased use of digital technologies for teaching and learning.** Publishing companies have vested interests in textbook policies and create barriers to the increased use of digital content in initial VET. This part of the political economy of the VET reform also needs to be addressed.

For provision of practical training:

1. **The new initiative of MoESTD should allow greater involvement of LSGs in defining enrolment quotas for secondary VET schools.** One of the key challenges in aligning education programmes with the needs of the economy relates to student enrolment quotas for secondary schools and universities. In secondary VET, enrolments are typically driven by schools’ decisions

and often by the ability of the existing VET school teaching staff to deliver specific VET programmes. No local-level mechanisms have been used to relate the proposed enrolment quotas to regional labour market needs nor to students' employment prospects. In the absence of an effective information system and because of the tight schedule of enrolment planning, central education authorities usually adopt the proposed plans.

The ongoing initiative 'The role of LSGs in new enrolment policies', which will affect enrolments to VET schools in the school year 2017/18, is a step towards decentralisation. It is aimed at including LSGs in decisions on enrolment quotas for specific VET profiles and qualifications in VET schools operating in their local communities.

Under this initiative, there are no curricular changes. The primary focus is on better distribution of existing VET programmes across the schools in the country in line with the needs of regional and local companies and industries. The initiative is a result of proactivity and, at this stage, does not represent a new systemic solution. Specifically, LSGs and municipal authorities have no mandate to decide on enrolment quotas; under this initiative, they are instructed by central education authorities to distribute instruments for this exercise to local-level institutions, collect information from them and analyse it, and take an active role in making decisions on which profiles should be selected in schools within the territory of their municipalities. In the Autonomous Province of Vojvodina, local authorities are also required to consult on the enrolment plans with the Provincial Secretariat for Education and Child Protection²⁰.

- 2. The government is committed to establishing a national model of dual education in Serbia that will involve the mobilisation of local stakeholders for student placements in companies for the purpose of practical training/WBL.** As part of the above-mentioned initiative, local businesses are invited to express an interest in hosting practical training for students attending VET schools within the territory of their municipalities. For their part, schools are given an option to choose whether they want practical training to be provided in the school setting or following the dual education model. While this is not a new mechanism for engagement of employers for the purpose of practical training provision, this is the first time that this activity has been given a high national profile. In line with the Action Plan of the Government of Serbia, the official target for the number of VET schools operating under the dual model is 20% for the school year 2017/18.

Legislative changes leading to the introduction of the national model of dual education are ongoing. The draft Law on Dual Education is currently being prepared and will regulate the future arrangements for practical training provision in companies in Serbia²¹. In parallel, the Law on Secondary Education and the Law on Adult Education will need to be amended for legal alignment purposes. Finally, a dedicated working group in MoLEVSA is working on changes to the Labour Code in order to create a legal basis for the remuneration of students for the time spent in practical training or work placements with companies.

- 3. The ongoing MoESTD initiative could give impetus to more research and advisory work about practical training more broadly.** In addition to WBL arrangements, which are at the heart of the dual education system, school-based practical training will continue to constitute the majority of practice in VET secondary schools. The current reform context suggests the need for

²⁰ The decision of MoESTD on the number of student placements and the enrolment quotas for specific VET profiles in schools across the country was scheduled for the end of March 2017.

²¹ The new Law on Dual Education, to be adopted in 2017, will address this challenge; the draft law includes the option of stronger involvement of the SCC/PKS in this process.

advisory services work that would assist the education authorities and prepare the ground for a systemic development of practical training in VET education, irrespective of the place of learning.

4. The provision of practical training in the company setting represents an opportunity for early identification of potential employees.

BOX 3.7 VOICT'S APPROACH TO COLLABORATION WITH LOCAL AND AUTONOMOUS PROVINCE OF VOJVODINA'S VET STAKEHOLDERS

In order to address the challenge of identifying new employees with the right skills, one of the motives for establishing VOICT was to ensure closer links and effective collaboration with educational institutions, primarily those belonging to higher education. The cluster's associate and honorary members include the Faculty of Technical Sciences of the University of Novi Sad, the Higher Education School for Professional Studies in Novi Sad, secondary VET school for engineering 'Mihajlo Pupin' (known as ETS) and the secondary-level comprehensive school 'Jovan Jovanovic Zmaj' or 'Jovina gimnazija'.

More ICT professionals who are hired by companies within VOICT come from universities than from secondary VET schools as, in the view of VOICT member companies, at secondary level there are not many education programmes that train the type of ICT professionals that the cluster needs. Yet in 2016 the VOICT member companies reported that almost a quarter of all workers that they are currently seeking would be those with completed secondary and post-secondary VET education (18.7% from secondary VET and 4.9% from post-secondary VET) (Ognjenović and Vasić, 2017).

VOICT is involved in the provision of non-formal training and has a good track record of collaboration with the Novi Sad office of the NES. Registered unemployed individuals selected by the NES take part in the training programmes delivered by VOICT, with financial support from the City Council of Novi Sad.

BOX 3.8 OPPORTUNITIES FOR COLLABORATION BETWEEN ICT COMPANIES AND THE EDUCATION SECTOR

According to the member companies of VOICT, there are numerous opportunities for collaboration between ICT companies and the education stakeholders.

At national level:

- The private sector could collaborate with the formal education system on the development and continuous updating of teachers' ICT competences through both initial teacher education and professional development/in-service training.
- ICT companies could be mobilised for the development of Serbian-language educational software, which is currently lacking.
- The ICT sector in Serbia could contribute significantly to the provision of good-quality, free-of-charge online textbooks and other digital educational content.
- IT developers could be mobilised to create the conditions for the delivery of online and blended learning at national level.
- Tax breaks or other incentives could be introduced for those ICT companies that take part in collaborative efforts and activities for skills development.
- ICT companies could contribute technical skills and knowledge to the continuous refreshment of the subjects related to their field, such as the introduction of informatics/computing, the newly introduced subject in the second cycle of primary education (5th to 8th grades).

At local level:

- Successful ICT professionals, practitioners and experts could deliver lectures in VET schools and at universities; the legal basis for this option could be developed in the future.
- IT developers could be mobilised to create the conditions for the delivery of online and blended learning at school level.
- Professional development/in-service training could be provided to ICT teachers in VET schools and at universities.
- Non-formal training could be provided to unemployed individuals as well as to a broad range of other interested individuals.
- Companies could host students for WBL, practical training in the work setting, and dual education.
- Joint career counselling and professional development events could be organised collaboratively by VET schools and universities, the NES office and the local and provincial authorities.

4. CONCLUDING REMARKS

As the main findings have shown, there is no clear process linking the identification of the demand for new skills and the development and updating of qualifications and VET curricula.

This results in delayed action, or no action at all. Inaction and delays tend to lead to new skills mismatches and challenge further the relevance of VET curricula. This has been recognised by education, labour market and private sector stakeholders and, at this time, Serbia is accelerating work on a set of interlinked reform activities in order to address it. The cycle of qualifications and skills development requires organised monitoring of skills needs trends as well as consistent work on the integration of innovations into VET curricula. Such an approach ensures that the system receives regular feedback in order to activate improvement measures.

Along with the process, the mandates, leadership and accountability mechanisms as well as relationships between different stakeholder institutions remain to be clarified. In the same way, new mechanisms and bodies that are set up in the future should be founded on clear descriptions of roles and responsibilities. It will also be critical to establish well-functioning and effective mechanisms for inter-institutional cooperation that are defined by protocols. As a part of the emerging governing structure, the roles and responsibilities of social partners in it should also be defined. A starting point for such action could be the results of the mapping outlined in **TABLE 4.1**. As the findings have highlighted, the key challenges at national level relate to the need for closer cooperation and coordination between public institutions operating in the education and employment sectors. The emphasis in the short-term should be on attributing the institutional mandate for operation of the NCO, and on reinforcing the institutional capacity to work on occupational standards and descriptions of occupations themselves.

There is a lack of engagement on the part of the VET stakeholders who are operating at regional and local level in the development of qualifications and skills. In addition to the commendable efforts to advance the provision of practical training in secondary VET by engaging local-level stakeholders, future efforts should be invested in fine-tuning the emerging national dual education model, along with further analytical work and public dialogue on the need for decentralisation of education more broadly. However, it should also be recognised that local-level stakeholders are finding modalities for mutual cooperation and coordination using informal channels; it may be that some of these experiences could be explored and the best practices formalised and incorporated into the formal education system. Following the implementation of the NQF for Serbia and the introduction of the recognition of prior learning, it is also expected that non-formal education will be consolidated and new training providers will take a more prominent role.

Continuous improvements and VET stakeholders' participation should be made key features of the reformed VET. As a result of the high profile recently given to skills development reforms, reform targets are clearly defined and linked to specific delivery dates. They are subject to monitoring by the government (the Annual Work Plan of the Government)²², the Ministry of Finance (the Economic and Reform Programme) and the VET stakeholders themselves (national strategic and project documents). However, what needs to be recognised is the scope of the challenge and the fact that the VET reforms constitute a lengthy and gradual process. Its ultimate objective is a skills development system that is open and that is able to perpetually adjust to the changing environment.

²² The Government of the Republic of Serbia's strategic priority number 1 for 2017 is the further development of human capital, per Annual Work Plan of the Government for 2017 (Godišnji Plan Rada Vlade za 2017. godinu).

TABLE 4.1 MAPPING OF THE ROLES, RESPONSIBILITIES AND COORDINATION MECHANISMS FOR SKILLS NEEDS ASSESSMENT AND VET CURRICULA DEVELOPMENT

Action	Roles	Responsibility	Coordination mechanisms
Skill needs assessment			
Deciding to assess skills needs in a sector, or more sectors	<p>Co-decision, when a given sector or company signals the need for a specific qualification and submits a request to the CVETAE or/and MoESTD; skills needs assessed for a given qualification using DACUM methodology.</p> <p>Large-scale skills needs assessment for the purposes of harmonising Serbia's NCO with ISCO 08.</p> <p>A decision by the NES to launch a skills needs survey; for the first time funded and administered by NES in 2016.</p> <p>A decision by an employers' organisation to assess skills needs, usually with the support of a donor organisation.</p>	<p>MoESTD responds to CVETAE request or acts upon a direct request, within its mandate to reform qualifications.</p> <p>One-time IPA-funded national-scale project that included an extensive survey of employers and established the foundation for a modern NSO.</p> <p>NES under MoLEVSA administers employers' survey across all economic sectors on an annual basis.</p> <p>The Chamber of Commerce and the Employers' Union, at the request of its member companies. Other employers' associations, such as clusters, occasionally perform similar exercises.</p>	<p>No formal coordination mechanisms in place; expected to be set up as a result of the work of the working group co-chaired by MoESTD and MoLEVSA.</p> <p>Short-term coordination mechanisms successfully formed for each need identified (i.e. cross-ministerial working groups for project implementation); informal consultations are common practice.</p> <p>SCs piloted in 2012, though not sustained. Their future operating model to include an approach to sector profiling and medium-term skills needs assessment.</p>
Allocating resources	<p>NES/MoLEVSA and donors for the annual employers' survey.</p> <p>MoESTD for the preparation of qualifications and new VET curricula.</p>	<p>There are few examples of skills needs assessments funded from the national budget (NES employers' survey in 2016, some assessments as a part of preparations of qualifications).</p>	<p>National budget allocated irregularly, with most funds coming from the EU IPA, i.e. an external source.</p> <p>No coordination mechanism in place.</p>
Design of the survey/skills needs assessment	<p>The NES uses an agreed methodology that has been subject to continuous improvement since it was designed in 2006 (sampling, questionnaires, etc.).</p> <p>Technical specialists/consultants (organised in sector groups) are mobilised through large-scale projects or for qualifications development, as required.</p>	<p>NES and MoESTD's IIE.</p>	<p>Skills surveys conducted occasionally for specific sectors; typically outsourced; no dedicated unit for such tasks.</p> <p>Coordination between sectors, ministries and the NES takes place as required.</p> <p>No mechanism in place for continuous consultations and coordination. High expectations of the future SCs and new approaches.</p>

Action	Roles	Responsibility	Coordination mechanisms
Implementing the skills assessment	NES/MoLEVSA: in 2016, NES administered the employers' survey without external assistance and using its own staff. Employers' organisations typically have external assistance with such assessments. MoESTD's IIE employs specialists who have technical knowledge and carry out skills assessments in the context of qualifications preparations (DACUM).	NES and IIE's VET Centre.	No formal mechanism in place, but informal consultations take place regularly.
Disseminating and discussing the results	Each year, NES organises presentations of the employers' survey results. Employers' organisations present surveys when undertaken; this happens only occasionally.	Beneficiary of the skills assessment/survey, at its own discretion.	NES's surveys are widely distributed to partners and stakeholders. Also available online.
Developing and updating VET content			
Deciding to review or create new occupational standards	Subject of the ongoing work of the working group co-chaired by MoLEVSA and MoESTD. Currently no clarity in institutional mandates.	No clear mandate.	No formal coordination mechanism in place.
Implementing the revision or creation of new occupational standards	Irregularly performed. Subject of the ongoing work of the working group co-chaired by MoLEVSA and MoESTD.	Mandate to be defined during 2017.	No formal coordination mechanism in place.
Deciding to review or create new qualification standards	CVETAE can initiate the review or request the development of a new qualification standard. MoESTD can initiate the review or request the development of a new qualification standard. Other stakeholders commonly act through CVETAE or MoESTD, or through international development partners. Following a positive decision by CVETAE, MoESTD makes a final decision, taking fiscal and other impacts into consideration.	CVETAE and MoESTD.	Once initiated, the process of review or development of new qualification standards is clear. There is a clear division of roles among educational institutions in this process, as well as the plan for stakeholder engagement during implementation of DACUM methodology. The decision is centralised because of its impact on the use of resources (funds, teaching and other staff, or both). Regular consultations take place, for instance on the design of short-term active labour market measures.
Implementing the revision or creation of new qualification standards	MoESTD through the IIE's VET Centre The revised or new qualification standards are subject to approval by CVETAE and MoESTD.	IIE's VET Centre, usually at the request of CVETAE or MoESTD.	Clear division of roles and a mechanism of coordination among educational institutions. There are certain limitations to the use of DACUM methodology owing to the narrow selection of stakeholders consulted.

Action	Roles	Responsibility	Coordination mechanisms
Adapting the VET curricula based on previous steps	<p>IIE has an exclusive mandate to develop VET curricula for secondary VET.</p> <p>The VET curricula developed are subject to approval by CVETAE and MoESTD; for academic/general subjects, the National Education Council is also involved in the approval process.</p>	IIE's VET Centre.	<p>A highly technical process that is well coordinated and typically involves various categories of stakeholders, including VET teachers and social partners. It would benefit from the use of a mix of skills needs assessment methodologies and from an agreement on occupational standards for Serbia.</p> <p>Likely to require additional attention and closer cooperation with social partners in the context of the introduction of dual education, i.e. linked to provision of practical training, particularly WBL.</p>

ANNEXE: LIST OF INSTITUTIONS, ORGANISATIONS AND COMPANIES CONSULTED

Stakeholder institution, organisation or company	Number of representatives consulted
Trade union	1
CVAE	2
Employers' associations	1
MoLEVSA	1
MoESTD	2
VET Centre of IIE	1
Companies	3
Schools	3
NES	2
Autonomous Province of Vojvodina's representatives	2
Public Policy Secretariat	1

ABBREVIATIONS

CVAE	Council for Vocational and Adult Education
ERP	Economic Reform Programme
ETF	European Training Foundation
EU	European Union
ICTs	Information and communication technologies
IIE	Institute for Improvement of Education
IPA	Instrument for Pre-Accession Assistance
ISCO	International Standard Classification of Occupations
IT	Information technology
LSG	(Unit of) local self-government
MoESTD	Ministry of Education, Science and Technological Development
MoLEVSA	Ministry of Labour, Employment, Veteran and Social Affairs
NCO	National Classification of Occupations
NES	National Employment Service
NQF	National qualifications framework
RSO	Republic Statistical Office
SC	Sector council
SCC/PKS	Serbian Chamber of Commerce/Privredna komora Srbije
SSC	Sector skills council
VET	Vocational education and training
VOICT	Vojvodina ICT cluster
WBL	Work-based learning

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