CONSTRUCTION BLUEPRINT

SEKTOROWE PODEJŚCIE STRATEGICZNE DO WSPÓŁPRACY W ZAKRESIE UMIEJĘTNOŚCI W BRANŻY BUDOWLANEJ

WP5. BADANIE PROFILI ZAWODOWYCH

Produkt 5.2 Raport krajowy Polska

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All.Construction

Skills Blueprint for the Construction Industry

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PARTNERSHIP		
VET providers	Sectorial Representatives	Country
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	BUDOWLANI(Trade union)	Poland
EU Sectorial representatives		
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INTRODUCTION

The review of occupational profiles in the construction industry in Poland, with particular emphasis on PQF/EQF levels 3-4, provided, above all, significant information about program deficiencies in the formal vocational training system. These gaps in skills related to energy efficiency, digitization and circular economy in the construction industry have been demonstrated primarily in the core curricula of education in construction schools and need to be quickly filled. In practical training, these gaps are often filled by vocational teachers, but this is not reflected in training programmes.

In the new market qualifications introduced to the Integrated Qualifications System, the needs arising from the 3 reference areas of the Construction Blueprint are already taken into account, but there are still too few qualification descriptions to achieve a qualitative effect in the training system. Training in the non-formal path, carried out outside the Integrated Qualifications System, is not covered by the systemic quality supervision. The report indicates that in order to meet the growing new skills needs in the construction industry, it is necessary to urgently adjust the core curricula in the formal training system.

METHODOLOGY

In the first stage of the study, a review of the legal sources regarding the skills in nabuwabnia in Poland was carried out, with particular emphasis on skills related to energy efficiency, digitization and circular economy in construction. Data on the sector itself (enterprises, their groups and those working in construction) were also reviewed.

The research methodology was based primarily on a review of available sources regarding descriptions of qualifications in the construction industry and education programs in terms of skills description (Desk Research). The study focused on levels 3-4 of the Polish Qualifications Framework corresponding to the EQF (PQF levels are the same as EQF levels). A comparative review of qualifications at levels 6-7 of the PQF/EQF concerning engineering studies in the construction sector (supplements and curricula) was also carried out, although this is not the subject of this report.

The next stage of the research was interviews with stakeholders, based on the Quintuple Helix adopted in the project. Contacts with construction employers, employees' representatives, vocational teachers and representatives of universities and research institutes were particularly important in this regard. The study was supported by the Sectoral Council for Competences in Construction. Throughout the duration of the Construction Blueprint, the Council was kept informed of the progress of the project. The project had a direct impact on the activities of the Council, which commissioned two studies of competence needs in construction, with particular emphasis on skills related to energy efficiency, digitization and the circular economy. Inspired by the Construction Blueprint, in consultation with the research team and the Polish Agency for Enterprise Development, the Council recommended a survey of needs in these three areas in the Industry Study of Human Capital in the construction sector.

The results of all these studies were used in the preparation of this report.

In cooperation with the Council, a survey (closed questions) was also conducted among construction employers during 10 regional seminars of the Council.

Very important from the point of view of identifying needs in terms of skills were consultations with academic lecturers regarding the state of knowledge and skills of new students (on entry) in engineering faculties in construction specializations.

Both desk research and interviews with stakeholders and experts lead to conclusions pointing to significant gaps in the system of acquiring skills related to energy efficiency, digitization and circular economy in the formal system of vocational training and education at level 3-4 of PQF/EQF.

The training process (review of training programs) of entities from the non-formal education sector was also reviewed. Most of their training (including in the 3 areas recommended in the project) takes place outside the framework of the Integrated Qualifications System in Poland.

Based on the results of the study, the most important qualifications were selected and recommendations for further action were prepared.

Presentation of national occupational profiles - Poland

The concept of 'professional profiles' is not used in Poland. The system uses the concept of qualifications (described in another part of the report). The levels of the Polish Qualifications Framework correspond to the levels of the European Qualifications Framework 1-8.

QUALIFIACTIONS LEVEL 3 AND 4 EQF/PRK

Full qualifications (professions) related to construction introduced to the vocational education system (trade schools and technical schools) are presented below. In the case of trade schools, a profession consists of one qualification (EQF/PRK 3). In the case of technical schools - 2 qualifications, one of which is usually a qualification of a related profession from the level of a trade school.

The list below describes in more detail (in English, those professions that are directly supervised by the minister responsible for construction and are crucial for the sector at EQF/PRK level 3 and some of the EQF/PRK level 4. The descriptions refer to professional tasks - i.e. primarily all skills areas.

Note: the curriculum includes sets of learning outcomes directly related to the profession, effects related to health and safety, construction basics, professional foreign language and social and personal competences. In the case of the profession of a technician, one qualification includes skills related to the organization of team work, cost estimation and knowledge of legal regulations in the construction industry.

Occupational Profile No1: Concrete fixer

No1 Occupational Profile	Concrete fixer
National Code	711402 EQF/PRK 3
Description	A graduate of a school providing training in the profession of a concrete fitter-fixer should be prepared to perform professional tasks in the field of BUD.01 qualifications. Carrying out reinforcement works and concrete: 1) preparing and assembling reinforcement and placing reinforcement in boarding or form; 2) making concrete mixes; 3) placing and compacting the concrete mix in the formwork or form and curing the fresh concrete.
Core skills	BUD.01. Execution of reinforcement and concrete works
Optional skills	N/A
Upgrading of skills	skills related to the digitization of work and the use of new materials (e.g. nanoconcrete)

https://www.ore.edu.pl/wp-content/uploads/2020/03/betoniarz-zbrojarz.pdf

Occupational Profile No2: Carpenter

No2 Occupational Profile	Carpenter
National Code	711501 EQF/PRK 3
Description	A graduate of a school providing training in the profession of a carpenter should be prepared to work professional tasks in the field of BUD.02 qualifications. Carrying out carpentry works: 1) preparation of wooden elements and wooden materials for assembly; 2) making wooden structures; 3) making formworks and forms for elements of concrete and reinforced concrete structures as well as system formworks; 4) repair, renovation and demolition of wooden structures.
Core skills	BUD.02. Carrying out carpentry works
Optional skills	N/A
Upgrading of skills	skills related to the digitization of work and the use of new materials and ecological waste management

https://www.ore.edu.pl/wp-content/uploads/2020/03/ciesla.pdf

Occupational Profile No3: Roofer

No3 Occupational Profile	Roofer
National Code	712101 EQF/PRK 3
Description	A graduate of a school providing education in the profession of a roofer should be prepared to perform professional tasks in the field of BUD.03 qualifications. Performing roofing and sheet metal works: 1) performing roofing, roofing and tinsmithing flashings and drainage of roof slopes; 2) installation of roof windows, hatches, skylights and devices for obtaining renewable energy; 3) performing repairs and demolition of roofing, roofing and tinsmithing flashings, thermal insulation of roofs and drainage of roof slopes. Optional: no Upgrading: skills related to the digitization of work and the use of new materials and work on construction sites covered by BIM (appropriate for PQF level 3)
Core skills	BUD.03. Performing roofing and sheet metal works
Optional skills	N/A
Upgrading of skills	new materials connected skills, digitalization, waste management

https://www.ore.edu.pl/wp-content/uploads/2020/03/dekarz.pdf

Occupational Profile No4: Stonemason

No4 Occupational Profile	Stonemason
National Code	711301 EQF/PRK 3
Core skills	BUD.04. Performing stone works
Optional skills	N/A
Upgrading of skills	N/A

https://www.ore.edu.pl/wp-content/uploads/2020/03/kamieniarz.pdf

Occupational Profile No5: Chimney sweep

No5 Occupational Profile	Chimney sweep

National Code	713303 EQF/PRK 3
Core skills	BUD.05. Execution of chimney sweeping works
Optional skills	N/A
Upgrading of skills	digitalization connected skills

Occupational Profile No6: Building insulation fitter

No6 Occupational Profile	**Building insulation fitter**
National Code	712401 EQF/PRK 3
Description	A graduate of a school providing training in the profession of a building insulation fitter should be prepared to perform professional tasks in the field of BUD.06 qualifications. Making building insulation: 1) making and repairing waterproofing; 2) making and repairing thermal, acoustic and anti-vibration insulation; 3) making and repairing anti-corrosion and chemical-resistant insulation.
Core skills	BUD.06. Building insulation
Optional skills	N/A
Upgrading of skills	digital tools use, BIM use, circular economy (waste management) skills

https://www.ore.edu.pl/wp-content/uploads/2020/03/monter-izolacji-budowlanych.pdf

Occupational Profile No7: Industrial insulation fitter

No7 Occupational Profile	**Industrial insulation fitter**
National Code	712403 EQF/PRK 3
Core skills	BUD.07. Making protective coats made of sheet metal, supporting and load-bearing structures and industrial insulation
Optional skills	N/A
Upgrading of skills	same as Building insulation fitter

Occupational Profile No8: Fitter of building structures

No8 Occupational Profile	**Fitter of building structures**
National Code	711102 EQF/PRK 3
Description	A graduate of a school providing training in the profession of a building construction fitter should be prepared to perform professional tasks in the field of BUD.08 qualifications. Assembly of the structure in construction: 1) preparing elements of building structures for assembly; 2) assembly of building construction elements; 3) performing works related to the demolition of building structures.
Core skills	BUD.08. Assembly of building structures
Optional skills	N/A
Upgrading of skills	use of digital tools, sustainable waste management skills

https://www.ore.edu.pl/wp-content/uploads/ksztalcenie_zawodowe/zawody/monter-konstrukcji-budowlanych-711102.pdf

Occupational Profile No9: Fitter of fair and exhibition constructions

No9 Occupational Profile	**Fitter of fair and exhibition constructions**

National Code	711906 EQF/PRK 3
Core skills	BUD.30. Performing related works with the construction and assembly of exhibition stands -exhibitions and stages
Optional skills	N/A
Upgrading of skills	digital tools related skills

Occupational Profile No10: Fitter of sanitary networks and installations

No10 Occupational Profile	**Fitter of sanitary networks and installations**
National Code	712618 EQF/PRK 3
Core skills	BUD.09. Performing works related to the construction, assembly and operation of networks and sanitary installations
Optional skills	N/A
Upgrading of skills	skills related to the use of new materials and work on construction sites covered by BIM (appropriate for PQF level 3), energy efficiency related skills

Occupational Profile No11: Joinery fitter

No11 Occupational Profile	**Joinery fitter**
National Code	**712906 EQF/PRK 3**
Description	**A graduate of a school providing training in the profession of a joinery fitter should be prepared to perform professional tasks in the field of BUD.10 qualifications. Performing related works with assembly of construction joinery:** **1) assembly, disassembly and repair of external windows and balcony doors** **2) assembly, disassembly and repair of roof windows and ceiling hatches;** **3) assembly, disassembly and repair of external and internal doors;** **4) assembly, disassembly and repair of gates;** **5) assembly, disassembly and repair of window and door guard systems.**
Core skills	**BUD.10. Performing works related to the assembly of construction joinery**
Optional skills	N/A
Upgrading of skills	new materials related skills, advanced energy efficiency skills

https://www.ore.edu.pl/wp-content/uploads/2020/03/monter-stolarki-budowlanej.pdf

Occupational Profile No12: Fitter of building and finishing works in construction

No12 Occupational Profile	Fitter of building and finishing works in construction
National Code	712905 EQF/PRK 3
Description	A graduate of a school providing training in the profession of a builder and finishing works fitter in construction should be prepared to perform professional tasks in terms of qualifications 1) installing drywall systems; 2) performing painting works; 3) performing wallpapering works; 4) performance of flooring works; 5) performing facing works.
Core skills	BUILD 11. Performing assembly, cladding and finishing works
Optional skills	N/A
Upgrading of skills	All skills related to energy efficiency in construction finishing works

https://www.ore.edu.pl/wp-content/uploads/2020/03/monter-zabudowy-i-robot-wykonczeniowych-w-budownictwie.pdf

Occupational Profile No13: Bricklayer-plasterer

No13 Occupational Profile	Bricklayer-plasterer
National Code	711204 EQF/PRK 3
Description	A graduate of a school providing education in the profession of a bricklayer and plasterer should be prepared to perform professional tasks in the field of BUD.12 qualifications. Performing masonry works and plastering: 1) making mortars, plasters and concrete mixes; 2) making brick building structures; 3) making and repairing internal and external plasters; 4) performing renovations and demolition of brick building structures.
Core skills	BUD.12. Performing bricklaying and plastering works
Optional skills	N/A
Upgrading of skills	All skills related to energy efficiency in the construction of walls and building partitions, digital tools use skills

https://www.ore.edu.pl/wp-content/uploads/2020/03/murarz-tynkarz.pdf

Occupational Profile No14: Operator of machines and equipment for earthworks and road works

No14 Occupational Profile	Operator of machines and equipment for earthworks and road works
National Code	834209 EQF/PRK 3
Core skills	BUD.13. Operation of machinery and equipment for earthworks and road works
Optional skills	N/A

Upgrading of skills	digital tools use skills

Occupational Profile No15: Construction Technician

No15 Occupational Profile	**Construction Technician**
National Code	311204 (two first alternative) EQF/PRK 4
Description	LEARNING OBJECTIVES/ CORE skills (basis BUD.01.) A graduate of a school providing education in the profession of a construction technician should be prepared to perform professional tasks: 1) in the scope of BUD.01 qualifications. Execution of reinforcement and concrete works: a) preparation and assembly of reinforcement and placing reinforcement in boarding or form, b) making concrete mixes, c) placing and compacting the concrete mix in the formwork or form and care of the fresh one concrete; 2) in the scope of BUD.14 qualifications. Organization and control of construction works and preparation of cost estimates: a) organize and control works related to the development of the construction site, b) organize and control construction and construction works in the raw state, c) organize and control construction finishing works, d) organize and control works related to the maintenance of building facilities in full technical efficiency, e) preparation of cost estimates for construction works.
Core skills	BUD.01. Performing reinforcement and concrete works, or BUD.08. Assembly of building structures or BUD.12. Performing bricklaying and plastering works BUD.14. Organization and control of construction works and preparation of cost estimates
Optional skills	N/A
Upgrading of skills	All skills related to energy efficiency in the performance of construction works, digital tools use skills and work in the BIM system (work organization), waste mangemet organization

https://www.ore.edu.pl/wp-content/uploads/2020/03/technik-budownictwa-na-podbudowie-kwalifikacji-bud.01..pdf

Occupational Profile No16:Road Construction Technician

No16 Occupational Profile	**Road Construction Technician**
National Code	311216 (three first qualifications are alternative) EQF/PRK 4
Core skills	BUD.01. Performing reinforcement and concrete works, or BUD.08. Assembly of building structures or

	BUD.12. Performing bricklaying and plastering works BUD.14. Organization and control of construction works and preparation of cost estimates
Optional skills	N/A
Upgrading of skills	All skills related to digital tools use skills and waste management organization

Occupational Profile No17: Roofing technician

No17 Occupational Profile	**Roofing technician**
National Code	311221 EQF/PRK 4
Description	A graduate of a school providing education in the profession of a roofing technician should be prepared to perform professional tasks: 1) in the scope of BUD.03 qualifications. Performing roofing and sheet metal works: a) performing roofing, roofing and tinsmithing flashings, and slope drainage roofing, b) installation of roof windows, hatches, skylights and energy generating devices renewable, c) repair and demolition of roofing, roofing and tinsmith work, thermal insulation roofs and roof slope drainage; 2) in the scope of BUD.27 qualifications. Organization and control of roofing and preparation estimates: a) use the construction design and technical documentation when organizing and controlling roofing, tinsmithing and carpentry works, b) organization and control of roofing, tinsmithing and carpentry works, c) organize works related to the maintenance of structures and roofing, d) preparation of cost estimates for roofing, tinsmithing and carpentry works, e) organization and control of installation works of devices for obtaining renewable energy on the roof
Core skills	BUD.03. Performing roofing and sheet metal works BUD.27. Organization and control of roofing and preparation of cost estimates
Optional skills	N/A
Upgrading of skills	All skills related to energy efficiency in the performance of construction works, digital tools use skills and work in the BIM system (work organization), waste management organization

https://www.ore.edu.pl/wp-content/uploads/2022/03/technik-dekarstwa-311221.pdf

Occupational Profile No18: Gas Technician

No18 Occupational Profile	Gas Technician
National Code	311913 EQF/PRK 4
Description	A graduate of a school providing training in the profession of a gas engineering technician should be prepared to perform professional tasks: 1) in the scope of BUD.16 qualifications. Performing works related to construction, assembly and operation gas networks and installations: a) recognition of gas infrastructure elements, b) performing works related to the construction of gas networks and installations, c) performing works related to the maintenance, repair and modernization of gas networks and installations; 2) in the scope of BUD.17 qualifications. Organization and documentation of works related to construction, assembly and operation of gas networks and installations: a) organize works related to the construction of gas networks and installations, b) organizing works related to the maintenance, repair and modernization of gas networks and installations, c) locating and removing failures of gas networks, connections and installations, d) developing documentation related to the construction and operation of gas networks, connections and installations
Core skills	BUD.28. Organization and performance of works related to the construction and operation of gas networks BUD.29. Organization and performance of works related to the construction and operation of gas installations
Optional skills	N/A
Upgrading of skills	Energy efficiency skills (organisation of works), digital tools use skills

https://www.ore.edu.pl/wp-content/uploads/2020/03/technik-gazownictwa.pdf

Occupational Profile No19: Surveyor technician

No19 Occupational Profile	Surveyor technician
National Code	311104 EQF/PRK 4
Core skills	BUD.18. Performing situational, height and implementation measurements and elaborating the results of these measurements BUD.19. Performing surveying works related to the cadastre and real estate management
Optional skills	N/A
Upgrading of skills	**Using advanced digital tools**

https://www.ore.edu.pl/wp-content/uploads/2020/03/technik-geodeta.pdf

Occupational Profile No20: Sanitary engineering technician

No 20 Occupational Profile	Sanitary engineering technician
National Code	311218 EQF/PRK 4
Description	A graduate of a school providing training in the profession of a sanitary engineering technician should be prepared to perform professional tasks: 1) in the scope of BUD.09 qualifications. Performing works related to the construction, assembly and operation of networks and sanitary installations: a) performing preparatory works related to the construction of municipal networks and the assembly of sanitary installations, b) performing works related to the construction of water supply, sewage and gas networks as well as heating networks and nodes, c) assembly of water supply, sewage, gas, heating, ventilation and air-conditioning systems, d) performing works related to the maintenance, renovation and modernization of sanitary networks and installations; 2) in the scope of BUD.20 qualifications. Organization of works related to the construction, assembly and operation of networks and sanitary installations: a) organizing and performing preparatory works related to the construction of the network and the assembly of sanitary installations, b) organizing and performing works related to the construction of water supply, sewage, gas and heating networks, c) organizing and performing works related to the installation of water supply, sewage, gas, heating, ventilation and air-conditioning systems, d) organize and perform works related to the operation of the network and sanitary installations
Core skills	BUD.09. Performing works related to the construction, assembly and operation of networks and sanitary installations BUD.20. Organization of works related to the construction, assembly and operation of networks and sanitary installations
Optional skills	N/A
Upgrading of skills	advanced technics related to energy efficiency, waste management organisation skills

https://www.ore.edu.pl/wp-content/uploads/2020/03/technik-inzynierii-sanitarnej.pdf

Occupational Profile No21: Environmental engineering and melioration technician

No21 Occupational Profile	Environmental engineering and melioration technician
National Code	311208 EQF/PRK 4
Core skills	BUD.21. Organization and conduct of works related to the construction of environmental engineering facilities

	BUD.22. Organization and conduct of drainage works
Optional skills	N/A
Upgrading of skills	N/A

Occupational Profile No22: Industrial Insulation Technician

No22 Occupational Profile	**Industrial Insulation Technician**
National Code	311608 EQF/PRK 4
Description	A graduate of a school providing training in the profession of an industrial insulation technician should be prepared to perform professional tasks: 1) in the scope of BUD.07 qualifications. Making protective coats made of sheet metal, supporting structures and load-bearing as well as industrial insulation: a) making protective coats of industrial insulation, b) execution of supporting structures and load-bearing industrial insulations, c) making and repairing heat-insulating and cold-insulating industrial insulations, d) making and repairing acoustic and anti-vibration industrial insulations, e) execution and repair of fireproof industrial insulation; 2) in the scope of BUD.31 qualifications. Organization and control of insulation works and preparation of cost estimates: a) organize and supervise works related to industrial insulation, b) preparation of cost estimates for insulation works of industrial installations, c) organize and carry out energy efficiency assessments of industrial installations.
Core skills	BUD.07. Making protective coats of sheet metal, supporting and load-bearing structures and industrial insulation BUD.31. Organization and control of insulation works and preparation of cost estimates
Optional skills	N/A
Upgrading of skills	advanced EE skills, new materials, waste management organisation, digital advanced tools use

https://www.ore.edu.pl/wp-content/uploads/2022/07/technik-izolacji-przemyslowych.pdf

Occupational Profile No23: 22.Joinery assembly and automation technician

No 23 Occupational Profile	**Joinery assembly and automation technician**
National Code	311222 EQF/PRK 4
Core skills	BUD.10. Performing related works with the assembly of construction joinery BUD.32. Organization and supervision of works related to the assembly and automation of building joinery

Optional skills	N/A
Upgrading of skills	N/A

Occupational Profile No24: Fair and exhibition industry service technician

No24 Occupational Profile	**Fair and exhibition industry service technician**
National Code	311223 EQF/PRK 4
Core skills	BUD.30. Performing related works with the construction and assembly of exhibition stands -exhibitions and stages BUD.33. Designing, supervising and organization of construction works and assembly of fair and exhibition stands and scenes
Optional skills	N/A
Upgrading of skills	N/A

Occupational Profile No25: Architectural Renovation Technician

No25 Occupational Profile	**Architectural Renovation Technician**
National Code	311210 EQF/PRK 4
Core skills	BUD.23. Execution and renovation of architectural details BUD.24. Carrying out renovation works of architectural elements
Optional skills	N/A
Upgrading of skills	All skills related to energy efficiency in renovation works, digital tools use skills, waste mangemet organization

Occupational Profile No26: Technician of finishing works in construction

No26 Occupational Profile	Technician of finishing works in construction
National Code	311219 EQF/PRK 4
Description	A graduate of a school providing training in the profession of a finishing works technician in construction
Core skills	BUILD 11. Performing assembly, cladding and finishing works BUD.25. Organization, control and preparation of cost estimates for finishing works in the construction industry
Optional skills	N/A
Upgrading of skills	All skills related to energy efficiency in finishing works, organization of team work in the BIM system, digital tools use skills, waste management organization

https://www.ore.edu.pl/wp-content/uploads/2020/03/technik-robot-wykonczeniowych-w-budownictwie.pdf

Occupational Profile No27: Stove fitter

No 27 Occupational	**Stove fitter**

Profile	
National Code	711203 (partially historical profession, but now reconstructed) EQF/PRK 3
Description	A graduate of a school providing training in the profession of a fitter should be prepared to perform tasks in the field of BUD.26 qualifications. Performing stove fitting works: 1) making brick heating stoves; 2) making fireplaces; 3) renovation and demolition of brick heating stoves; 4) renovation and demolition of fireplaces
Core skills	BUD.26. Performing stove fitting works
Optional skills	N/A
Upgrading of skills	Energy efficiency advanced tools (use)

https://www.ore.edu.pl/wp-content/uploads/2020/03/zdun.pdf

Depicting country: What is the national context concerning construction?

EMPLOYMENT IN CONSTRUCTION IN POLAND

Construction is one of the most important sectors of the Polish economy, generating 7-8% of GDP. At the same time, it is a sector of great importance for the labor market.
Statistical data for 2022 on those employed and working in the construction industry do not differ significantly from the data for 2021. The number of employees decreased in 2022 (from 1,030,636 in 2021 to approx. 948,000 in December 2022) due to the deteriorating economic situation in the construction industry. Statistical data from 2021 do not include workers migrating to Poland from third countries working in construction. 93% of them were employees from Ukraine. According to various sources, there were about 160-180 thousand of these workers in the construction industry. Most of them took up employment in the industry on the basis of the so-called employer's declaration on the need to employ a foreigner (procedure facilitating employment in Poland of foreigners from several third countries of Eastern Europe). Most of these people are employed on the basis of contracts other than an employment contract. Since there are no regulations regarding the recognition and recognition of their qualifications, there is also no data on their qualifications and skills.

According to the data accumulated in July 2022 (including self-employed persons, employers and foreigners), approximately 1.3 million people worked in the construction industry in Poland.

Construction (NACE/PKD F) dominant kind of activity
Employed persons in entities of the national economy with the number of employed persons

Data: As of 31 December 2021			Entities size		
		Total	49 and less	50 -249	250 +
Construction number of employed persons	**a**	**1030636**	**827232**	**125593**	**77811**
number of employees (with contract)	**b**	**728324**	**525172**	**125359**	**77793**
public sector number of employed persons	a	11419	1214	2160	8045
number of employees (with contract)	b	11419	1214	2160	8045
private sector number of employed persons	a	1019217	826018	123433	69766
number of employees (with contract)	b	716905	523958	123199	69748

Source: https://stat.gov.pl/obszary-tematyczne/rynek-pracy/pracujacy-zatrudnieni-wynagrodzenia-koszty-pracy/pracujacy-w-gospodarce-narodowej-w-2021-roku,7,19.html

ACQUIRING PROFESSIONAL SKILLS AND QUALIFICATIONS IN POLAND

On 15 January 2016, the Act of 22 December 2015 on the Integrated Qualifications System came into force. Introduction of the Integrated Qualifications System (IQS) has been long anticipated by students, employers, trade unions, trade organizations, but especially by Polish workers - both those who work in Poland and those leaving Poland to work in other countries of the European Union.

The solutions that the Integrated Qualification System is introducing are a response to the changes in the labour market and economy. As the experience of other European countries shows, the introduction of a system based on the qualifications framework will results in the growing number of people interested in formal recognition of their competences and raising their qualifications which will not only affect people's professional situation, but also their sense of security in the labour market.

In Poland, qualifications are awarded in the general education and higher education systems, but also by associations and industry organizations, functioning on the basis of various regulations. Some of the qualifications awarded outside the general education and higher education systems conform to high standards of quality, but not all.

SKILLS

In terms of skills, the basic legal document is the Integrated Skills Strategy 2030

It constitutes Resolution No. 195/2020, which was adopted by the Council of Ministers on December 31, 2020. The document takes into account the requirements of the Partnership Agreement, the recommendations of the OECD Skills Strategy: Poland report and the assumptions of the New Skills Agenda for Europe.

The document identifies eight strategic policy areas for skills development:

basic, transversal and vocational skills of children, youth and adults,

developing skills in formal education - management staff,

developing skills in formal education - teaching staff,

developing skills outside of formal education,

developing and using skills in the workplace,

career advice,

cooperation of employers with formal and non-formal education,

lifelong learning planning and skills validation.

PROFILES - QUALIFICATIONS

In Poland, the term qualification profile is not used. The Integrated Qualifications System uses the term 'qualification', 'set of learning outcomes', 'learning outcomes'.

The term 'profession' is used in the vocational education system. In this case, the descriptive document is the core curriculum.

In the system of labor market institutions, the following terms are also used: description of the profession, description of professional qualifications.

However, this difference is apparent. In fact, all qualifications in the Polish system are comparable. Since 2016, in the description of all qualifications - full and partial, the language of learning outcomes has been used to describe it.

Also those entities that do not enter profile descriptions into the IQS system use learning outcomes to describe them.

NOTE: IN THE POLISH INTEGRATED QUALIFICATION SYSTEM, 8 LEVELS ARE INCLUDED. THE POLISH QUALIFICATIONS FRAMEWORK (PQF) HAS THE SAME LEVELS AS THE EQF.

The Integrated Qualifications System (IQS) https://kwalifikacje.gov.pl/en /

In Poland, the Integrated Qualifications System has been introduced since 2016.The Integrated Qualifications System (IQS):

-Describes, systematizes and gathers various qualifications in a single register – the Integrated Qualifications Register (IQR).

-Specifies rules and standards for the acknowledgement of qualifications to ensue their quality.

With the implementation of the system:

-every individual can apply for certification of their qualifications – even if they lack profiled

-the qualification awarding process is monitored by competent ministers,

-it is easier for employers to assess the value of a candidate and for employees to present their competence in a credible manner.

THE LEGAL SYSTEM ENCOMPASSES THE FOLLOWING QUALIFICATIONS:

FULL QUALIFICATIONS

CONFERRED UNDER THE PRIMARY AND SECONDARY EDUCATION SYSTEM AS WELL AS THE HIGHER EDUCATION SYSTEM (university diplomas, a matriculation certificate and school graduation certificates).

So called full qualification is awarded exclusively under the formal general, vocational and higher education systems as a proof of completion of a particular stage of education. A full qualification is awarded exclusively under the formal general, vocational and higher education systems as a proof of completion of a particular stage of education, e.g. a matriculation certificate, a BA degree, etc. All vocational qualifications which are full qualifications have been included in the Integrated Qualifications System.

PARTIAL QUALIFICATIONS (market and regulated)

Partial qualifications refer to all qualifications included in the IQS which are not full qualifications. These can be created both within the formal general, vocational and higher education systems and outside them. Partial qualifications include, e.g., a certificate attesting to a qualification in a given profession issued by a District Examination Board (DEB), including a "bookkeeping certificate", a certificate confirming the qualification of a "chartered auditor" or a certificate confirming qualifications, e.g., a "patent agent" certificate. Partial qualifications are characterised by a narrower scope of the required learning outcomes as compared to full qualifications. The requirements depend on the type of activity, to which the given vocational qualification refers to. Partial qualifications awarded under the education system include qualifications in a given profession, i.e. qualifications confirmed with a certificate or awarded following the graduation from postgraduate studies (included in the IQS). Partial qualifications may be deemed necessary for employment on a given position. They are also complementary to full qualifications – they serve as a preparation for the performance of a given profession (e.g. physicians complete specialites and attain other vocational qualifications pertaining to the operation of specialist medical equipment). (source: IQS webpage)

NON-STATUTORY (MARKET QUALIFICATIONS)

Are included in the system at the request of various entities and awarded by bodies authorised to do so by the competent minister**.**

MARKET QUALIFICATIONS

Market qualifications are not provided for by the law. These are qualifications developed by various milieux (social organisations, associations, corporations or other market entities) based on their experience. In this case, the "market" part of the name indicates that these qualifications have emerged and operate on the "free market" of vocational qualifications. Market qualifications may refer to strictly professional activity but also to various areas of social activity, including educational and child development activities as well as recreational activities. Such qualifications have been awarded pursuant to diverse, in terms of their status, internal regulations established by particular professional corporations, industry associations, training institutions, organisations, etc. Examples of such qualifications include certificates issued by software producers (Microsoft, SAS), an ECDL B2 certificate (a computer literacy certificate) as well as the European Foundation Certificate in Banking (EFCB). Another example of market qualifications are the instructor's ranks awarded in scouting. Upon successful

fulfilment of the conditions stipulated in the Act, market qualifications may be included in the IQS. All market qualifications included in the IQS are partial qualifications. (source IQS webpage)

REGULATED QUALIFICATIONS

- awarded pursuant to other laws – outside of schools or higher education institutions, (e.g.driving licence, certificates of competence or medical specialities). Regulated qualifications may, but do not need to, be included in the IQS. The minister relevant for the given qualification decides on its inclusion in the system. All regulated vocational qualifications included in the IQS are partial qualifications. Currently, there are no regulated qualifications related to construction in the system, although a pilot description of the qualification 'construction works management - site manager' has been developed. However, qualifications for the System have not yet been introduced.

These are qualifications enacted pursuant to the law. Regulated qualifications are awarded outside of the formal general, vocational and higher education systems. From the perspective of the labour market, they are complementary to more rudimentary qualifications awarded under the formal general, vocational and higher education systems. Regulated qualifications may, but do not need to, be included in the IQS. The minister relevant for the given qualification decides on its inclusion in the system. All regulated vocational qualifications included in the IQS are partial qualifications. (source IQS webpage)

Sectoral Qualification Framework Construction

Some sectors, including construction, have prepared Sectoral Qualifications Frameworks. In 2017, the Sectoral Qualifications Framework in the Construction Industry was prepared, which became an element of the legal system based on: REGULATION OF THE MINISTER OF NATIONAL EDUCATION 1 of 12 July 2019 on the Sectoral Qualifications Framework in the construction sector. https://sip.lex.pl/akty-prawne/dzu-dziennik-ustaw/sektorowa-rama-kwalifikacji-w-sektorze-budownictwo-18880111

The Sectoral Framework is the basis for describing market qualifications in construction (levels of learning outcomes and sets of outcomes must refer to the levels of the Framework). The framework is also taken into account when creating new curricula for construction schools.

The English version of Framework presents information on the project of developing the Sectoral Qualifications Framework for the Construction Industry (SQFC).

It consists of four chapters presenting the general premises of the SQFC, a description of project implementation and methodology, the structure of the framework and recommendations on how it may be used.

English version:

https://kwalifikacje.edu.pl/sectoral-qualifications-framework-for-the-construction-industry-sqfc/?lang=en

QUALIFICATIONS IN CONSTRUCTION SECTOR

In construction, full qualifications from the EQF/PRK 3 and 4 level (corresponding to technicians and trade schools) are supervised by the Minister of Development and Technology competent for construction. Curricula and schools are supervised by the Minister of Science and Education.

Qualifications at the EQF level 6-8 (i.e. engineer, master engineer, doctor) are awarded by universities, which also have autonomy in creating curricula. In the case of architects, construction and construction works managers, qualifications are awarded by the relevant professional chambers, in accordance with the provisions of the Construction Law.

In 2019 and 2020, after the presentation of the assumptions of the Construction Blueprint project, the Sectoral Council for Competences in Construction http://srkbud.zzbudowlani.pl/eng / commissioned 2 recommendations for particularly needed skills and qualifications in construction related to the areas of digitization, energy efficiency and circular economy. The second study, adopted by the Council in 2022, contains recommendations regarding the preparation of new descriptions of market qualifications in the Integrated Qualifications System. Some of these qualifications are already being prepared at the request of the Competences Council.

Expert opinion - recommendation is available on the website of the Council for Competences in Construction:

under the link: http://srkbud.zzbudowlani.pl/wp-content/uploads/2018/12/Rekomendacja-kwalifikacji-w-budownictwie-Ekspertyza-cz.-II.pdf

The study analyzed the core curricula of vocational education in construction, National Smart Specializations (KIS), Additional Vocational Skills (DUZ), Vocational Skills Courses (KUZ), INFODORADCA+ resources, other reference materials, and interviews were conducted with experts and members of the Sectoral Council. The authors of the report are members of the Council who are also members of the NAG Construction Blueprint.

In the INFODARADCA+ resources, descriptions of professional qualifications of many construction professions are also available in English, specifying skills. An example of a paver's qualification can be found at the following link:

https://psz.praca.gov.pl/rynek-pracy/bazy-danych/infodoradca//-/InfoDoradcaPlus/zawod/711205?_occupationPlusportlet_WAR_nnkportlet_backURL=https%3A%2F%2Fpsz.praca.gov.pl%2Frynek-pracy%2Fbazy-danych%2Finfodoradca%2F%2F-%2FInfoDoradcaPlus%2Flitera%2FB&_occupationPlusportlet_WAR_nnkportlet_description=

about

Demolition worker example:

https://psz.praca.gov.pl/rynek-pracy/bazy-danych/infodoradca//-/InfoDoradcaPlus/zawod/711904?_occupationPlusportlet_WAR_nnkportlet_backURL=https%3A%2F%2Fpsz.praca.gov.pl%2Frynek-pracy%2Fbazy-danych%2Finfodoradca%2F%2F-%2FInfoDoradcaPlus%2Flitera%2FR&_occupationPlusportlet_WAR_nnkportlet_level=R&_occupationPlusportlet_WAR_nnkportlet_description=about

The description of occupations mainly concerns those which are not vocational education occupations but are included in the Classification of Occupations and Specialties.

INFOadvisor+ Information about professions (INFODORADCA+):

https://psz.praca.gov.pl/rynek-pracy/bazy-danych/infodoradca

are materials containing primarily: description of the profession, description of professional competences, reference to the situation of the profession on the labor market and opportunities for professional development, as well as employment opportunities for people with disabilities in the profession.

Descriptions of occupations were created as part of the project "Developing, supplementing and updating information on occupations and its dissemination using modern communication tools - INFODORADCA+". The project was co-financed by the European Union under the European Social Fund, Operational Program Knowledge Education Development, Priority Axis II Effective public policies for the labor market, economy and education, Measure 2.4 Modernization of public and non-public employment services and their better adaptation to the needs of the labor market.

The standards described above are created as a tool to support employers in identifying their needs in terms of employee skills and the employees themselves in the development of professional careers.

In Poland, in the vocational education system, according to information obtained from statistics and from stakeholders, in the formal system, skills and qualifications in construction at the level 3-4 of the EQF are acquired by only 20% of employees in the sector. About 80% of employees acquire skills directly in enterprises or in the informal education system, in training companies, most of which do not register training in the Integrated Qualifications System. This does not apply to regulated professions in which the award of qualifications is covered by separate, restrictive requirements.

A serious problem is the recognition and recognition of the qualifications and skills of migrant workers from third countries. The possibilities of confirming qualifications acquired in the countries of origin are very limited, which means that most of these workers (regardless of their skills) are considered unskilled workers.

Emerging Occupational Profiles

REFERENCES FOR THE DEVELOPMENT OF NECESSARY SKILLS AND QUALIFICATIONS IN THE AREAS OF ENERGY EFFICIENCY, DIGITALIZATION AND CIRCULAR ECONOMY IN CONSTRUCTION (LEVEL 3 AND 4 PRK/EQF)

RECOMMENDATIONS:

The following recommendations have been submitted to the Minister of Development and Technology and the Minister of Science and Education. They are also the basis for further work

of the Council for Competences in Construction. Recommendations marked in red are already prepared as descriptions of market qualifications.

The recommendations of the Sectoral Council for Competences in Construction include areas of:

DIGITALIZATION:

Proposals for market qualifications in the area of digitization and modern technologies:

1) Building houses in 3D printing technology.

2) Digitization of the investment and construction process.

3) Keeping a construction log in electronic form (EDB system) and a construction book in electronic form (EKOB system).

4) Exploitation of unmanned aerial vehicle systems - drones in construction.

5) Carrying out inspections of the building structure and construction site using mobile robots and drones.

6) Construction site management using drones and computer models.

7) Using the GIS (Geographic Information System) in the implementation of a construction project.

8) LiDAR (Light Detection And Ranging) laser scanning of building objects.

9) The use of exoskeletons to reduce overloads and eliminate injuries of construction workers.

10) Use of autonomous vehicles (forklifts, excavators, bulldozers and others) on the construction site.

11) Use of production robots at the construction site (bricklaying, welding, 3D printing).

12) The use of virtual and augmented reality in designing a construction investment.

13) Use of BIM models to visualize key phases of a construction project.

CIRCULAR ECONOMY:

Proposals for market qualifications in the field of green construction/circular economy:

1) Building circular gray water recycling systems in construction facilities.

2) Selection and application of technologies in the service of circular construction.

3) Ecodesign of circular buildings.

4) Using methods to reduce "grey energy" in construction.

5) Recovery of building materials and their reuse.

6) Designing buildings in accordance with the concept of "urban mining".

7) Conducting audits and creating and updating documentation in the field of environmental protection.

8) Maintaining and improving the environmental management system in construction.

ENERGY EFFICIENCY:

Proposals for market qualifications in the area of building renovation, thermal modernization and energy-saving construction:

1) Adaptation of old buildings for residential premises.

2) Diagnosing the condition of the building's thermal insulation using a thermal imaging camera.

3) Installing biomass boilers and stoves.

4) Installing photovoltaic (PV) systems.

5) Modernization of the internal installation of central heating and hot water in order to reduce the demand for energy.

6) Modernization of HVAC systems (heating, ventilation and air conditioning) taking into account the use of high-efficiency energy recuperation.

7) Modernization of the internal electrical installation and internal lighting in terms of energy efficiency.

8) Modernization of heat sources, taking into account the possibility of using cogeneration.

9) Monitoring and maintenance of PV installations.

10) Installation of heating systems powered by heat pumps.

11) Installation of ventilation systems with heat recovery.

12) Installation of thermal solar collectors.

13) Installation of large-area photovoltaic installations on solar farms.

14) Supervising the quality of workmanship and correct operation of the heat pump installation.

15) Insulation of walls, roofs and flat roofs, basement ceilings and floors by adding a layer of material with high insulating properties.

16) Conducting construction works related to the renovation of historic buildings.

17) Preparation of the base and installation of polystyrene boards with a reinforcing and plaster layer.

18) Preparation of the base and installation of insulation on the building using the light-wet method (BSO - Seamless Thermal Insulation System).

19) Preparation of the building energy performance certificate.

20) Preparation of thermo-modernization and renovation audits of buildings.

21) Using energy-saving solutions when replacing or renovating windows.

22) Obtaining decisions and permits necessary to implement the renewable energy source installation project (photovoltaic farms, wind farms).

23) Making insulation from the inside of the building.

24) Execution of thermal insulation with the use of innovative materials and technologies for thermal modernization of buildings on the existing thermal insulation requiring improved insulation.

25) Making a ventilated façade.

26) Performing technical insulation in thermomodernized buildings.

27) Performing electrical measurements of photovoltaic (PV) systems.

28) Renovation of the existing insulation.

29) Performing thermal modernization of prefabricated buildings.

Synopsis

The Polish system of awarding qualifications and acquiring and confirming skills is under reconstruction as part of the Integrated Qualifications System. The aim of the activities of the government and other stakeholders of vocational education is to include the necessary qualifications in the sectors (including those related to new needs, e.g. smart specializations and 3 reference areas Construction Blueprint to the IQS and the Polish Qualifications Framework. Such action will ensure an appropriate level of training, introduce uniform criteria qualitative training and validation.

The role of employers' organisations, professional chambers and Sector Competence Councils in the preparation of new market qualifications for the IQS is growing.

Components related to energy efficiency, digitization and circular economy are developed in education at the level of 6-7 EQF. In the case of construction, this applies to most specializations in the education of engineers.

At the same time, it is necessary to supplement the existing curricula in formal education with components related to energy efficiency, digitization and the circular economy. The amendment to the core curriculum is planned from 2024.

In formal qualifications (core curricula for education in construction professions), in the description of skills, now in Poland there are basically no direct references to the areas of

energy efficiency, digitization and circular economy. It should be expected that such direct references will be found in the next edition of the amendment to the core curriculum.

More information on the three indicated areas can be found in the so-called Additional Vocational Skills (DUZ), which are developed as auxiliary materials for teachers of vocational training in the construction industry. However, the DUZ have not yet been introduced into legal circulation and do not constitute official reference materials.

References to the three indicated areas are to some extent found in the descriptions of professional qualifications in the material of public employment services INFODORADCA+, which are auxiliary material for HR services in construction companies.