



# Sectoral Human Capital Study (BBKL)

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## Construction sector

Survey results summary  
– 1st edition

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## About the project

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### Project name:

Sectoral Human Capital Study  
Construction sector



### Study objective:

To increase the knowledge about  
the current and future demand  
for skills in the construction sector



### Respondents:

Sector experts  
Employers and employees from the sector  
(sole proprietorships were not covered  
by the survey)  
Representatives of educational institutions,  
recruiters, and labor market analysts



### Research dates:

1st edition of the study:  
January 17, 2020 – April 16, 2021  
including quantitative research:  
October 23, 2020 - December 14, 2020





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## Research methodology

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The project consisted of two stages

### Qualitative research

- » **40** individual interviews
- » **4** expert panels
- » Delphi study (**70** experts)
- » Summary panel with the Sectoral Competence Council in Construction

### Qualitative research

- » Employers – **812** interviews (CAPI: 619, CATI: 193)
- » Employees – **884** interviews (CAPI: 767, CATI: 117)

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## About the sector

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### Definition:

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- » section F Construction (divisions 41, 42, and 43);
- » section M, division 71.1 - Architecture and Engineering;
- » section N, division 81.22.Z - Specialist cleaning

### The sector during the pandemic

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- » During the study, the pandemic had little impact on the functioning of companies from the sector

### Three-fourths of employers (**72%**) report no changes in the functioning of the company

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- » **23%** of companies reduced their activities due to the pandemic
- » **4%** increased their activities compared to the pre-pandemic period
- » The situation caused by the Covid-19 pandemic did not require employees to acquire new skills



## Key business processes:

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- » Investment preparation
- » Construction and assembly process
- » Maintaining the facility
- » Demolition of a structure

## Key positions

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Bricklayer  
plasterer



Construction  
foreman



Fitter of building  
and finishing works



Fitter of sanitary  
installations and devices



Designer / constructor



Construction  
site manager



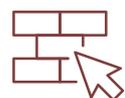
Fitter of building  
structures



Construction works  
manager



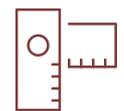
Construction  
engineer



Concrete  
mixer-fixer



Demolition  
worker



Carpenter

## Employee skills

Employees in the sector have appropriate skills to perform their work (based on **79%** of the total answers of employees and **80%** of the total answers of employers)

Employees develop their skills mainly through learning under the guidance of other employees, instruction, and observation (**65%** of the total answers of employees and **66%** of the total answers of employers)

**1/3** of employers declare that, in the past year, they organized training courses (apart from compulsory courses, such as e.g., courses on occupational health and safety and fire protection) for their employees

**1/5** of employees declare they participated in training courses which they organized by themselves

In construction companies, the process of examining employee skills, including job-related knowledge and social skills, does not function very well. **45%** of employers declare that they do not identify competence gaps, besides, **69%** of employees admit that their supervisors did not discuss skills shortages with them in the past 12 months





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## Employment forecasts for the sector

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### Experts do not expect radical changes in the sector's employment structure

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In the next 5 years, the current structure of employment will be maintained, and – although the basic structure will not change substantially – new positions will appear, or current positions will be slightly modified in terms of the scope of skills useful at work

### In the next 5 years:

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**53%** of entrepreneurs expect difficulties in recruiting engineers and architects

**53%** of entrepreneurs expect difficulties in recruiting skilled workers

**49%** of entrepreneurs expect difficulties in recruiting unskilled workers

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## New positions in the sector

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Increase in the share of new technologies and advanced automation processes in the sector means that there will be positions related to new machines and their operation (BIM project coordinators, automation specialists)

Experts say that growing emphasis on environmental issues will contribute to greater demand for environmental protection specialists

### The following professions will penetrate into the construction sector:

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lawyers,



analysts from the fields of macroeconomics, statistics, and quantitative methods, specializing in the construction sector,



software developers,





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## New positions in the sector

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**In the next 12 months**, the share of new positions in the sector's employment structure will increase. This mainly applies to renewable energy sources specialists, including photovoltaics and power generation specialists (**41%** of the total answers of employers)



**Over the next 5 years**, increase in the share of new positions in the employment structure will be more pronounced, mostly with regard to the following positions: 3D visualization designers (**52%** of the total answers of employers), BIM engineers (**52%**), environmental protection specialists (**50%**), and service technicians for new technology machines (**49%**)

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# Challenges facing the sector

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## Social challenges

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- » The main challenge that the sector will face is the aging of the workforce. This will reduce the number of available employees and may inhibit the development of companies which, despite acquiring new orders, will not be able to deliver them due to staff shortages
- » Staff shortages will not be systematically covered by the young generation of employees, as the young show little interest in the career in the sector

## Educational challenges

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- » Trade schools graduates do not have the skills that are useful at work, because, in the course of education, too little emphasis is placed on the development of practical skills
- » Cooperation between business and education must be developed
- » Prestige of professions from the construction sector must be rebuilt
- » Relevant and objective training is needed





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## Challenges facing the sector

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### Technological challenges

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- » Adapting to technological changes by monitoring employee skills; investing in new skills (in the area of BIM, IT, 3D visualization, automation, environmental protection technologies)
- » Increased demand for 3D visualization designers, BIM engineers, environmental specialists, and new technology machine service technicians is expected

### Legal challenges

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- » Frequent changes in the law affect the operating conditions of construction companies by increasing investment risk. Another legal challenge is the growing level of restrictions regarding environmental protection, which results in increased investment costs
- » The market's expectations: reduction in the number of formal responsibilities of construction site managers, and adjustment of the Labor Code to the realities of today's labor market

## Key skills

The study of the balance of competences (skills), which is an analysis based on the joint opinions of employers and employees, shows that the key skills in the below positions are as follows:



### Designer / Constructor:

- » proposing creative solutions
- » knowledge of legal and technical requirements
- » ability to use design software
- » knowledge of current construction law regulations



### Site engineer:

- » readiness to cooperate in an interbranch team
- » ability to support the supervision of construction works' schedule
- » knowledge of building materials' features and characteristics



### Construction site manager:

- » ability to quickly update one's knowledge
- » knowledge of current construction law regulations
- » knowledge of technical standards
- » ability to manage the operation of equipment on construction site



## Key skills



### Construction works manager:

- » ability to read technical drawings and design drawings
- » knowledge of sector-specific issues (e.g., rules for building electrical installations)
- » ability to organize construction works



### Construction foreman:

- » ability to become an authority for the subordinates
- » knowledge of sector issues relevant to the specific nature of the work
- » knowledge of subordinates' experience and assigning tasks accordingly
- » ability to plan the schedule of works



### Fitter of building structures:

- » preparation of building structures' elements for assembly; assembling building structures' elements
- » readiness to accept responsibility for failures in one's work
- » performing works related to renovation and demolition of building structures
- » reading technical drawings

# Key skills



## Fitter of sanitary installations and devices:

- » knowledge of construction technologies' application methods
- » ability to perform assembly works in accordance with the schedule
- » ability to use appropriate tools (e.g., tape measure, wallpaper knife, drawing pencil) and power tools
- » knowledge of characteristics of installed equipment, materials, and installations
- » readiness to accept responsibility for failures in one's work



## Fitter of building and finishing works:

- » knowledge of construction technologies' application methods
- » ability to perform assembly works in accordance with the schedule
- » knowledge of characteristics of installed equipment, materials, and installations
- » performing painting and wallpaper works, including preparation of the workplace
- » installing drywall systems



## Demolition worker:

- » knowledge of the specific nature of the construction process
- » determining the usefulness and quality of different types of materials and construction chemicals

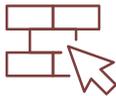


## Key skills



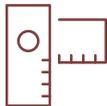
### Bricklayer plasterer:

- » internal and external plastering works
- » performing construction works in accordance with the schedule
- » knowledge of the methods of application of construction materials and chemicals
- » readiness to accept responsibility for failures in one's work
- » knowledge of the specific nature of the construction process
- » performing construction works in accordance with applicable standards
- » performing plaster repairs



### Concrete mixer-fixer:

- » optimizing construction works using construction equipment
- » knowledge of the methods of application of construction materials and chemicals
- » performing works related to the repair of concrete and reinforced concrete elements
- » making concrete mixtures



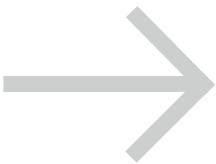
### Carpenter:

- » making wooden scaffolding and work platforms
- » making wooden forms and formwork elements of concrete and reinforced concrete structures
- » making wooden structures
- » knowledge of the specific nature of the construction process
- » preparing elements of wood and wood materials for assembly

Full survey results are discussed  
in the study (in Polish):

**Sectoral Human Capital Study  
Construction sector**

Survey Report – 1st edition:

 [https://www.parp.gov.pl/index.php/component/  
publications/publication/1479](https://www.parp.gov.pl/index.php/component/publications/publication/1479)