



Sectoral Human Capital Study (BBKL)

Automotive and electromobility industry (MOTO)

Study Results

About the study



Project name

Sectoral Human Capital Study, Automotive and electromobility industry (MOTO)



Objective:

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



Respondents:

experts specialising in industry analyses
employers and employees representing the sector (excluding the self-employed)
representatives of educational institutions, recruiters, labour market analysts



Research Dates:

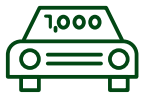
1st edition of the survey:
October 2, 2020 – October 29, 2021
Quantitative study:
May 27, 2021 – July 9, 2021

About the sector

3 subsectors were defined as the automotive and electromobility sector:



manufacturing of motor vehicles, trailers and semi-trailers excluding motorcycles (PKD 29)



wholesale and retail trade of motor vehicles; repair of motor vehicles (PKD 45)



other activities related to the production, trade, distribution and repair of motor vehicles and motorcycles; including the area of electromobility, e-buses and electric cars (PKD 27.11, 27.12, 27.20, 27.90, also referred to as the production of electrical equipment for the industry)

In 2021, the automotive and electromobility sector comprised:

41.9 thousand business entities employing at least 1 person, of which nearly 40 thousand were entities operating in the wholesale and retail trade of motor vehicles; repair of motor vehicles sector (estimates based on Statistics Poland REGON, and ZUS data, June 2021)

362.4 thousand employees (estimates based on Statistics Poland REGON, and ZUS data, June 2021)



Key business processes and key job positions

The six key business processes and the nine key job positions in the automotive and electromobility sector are as follows:

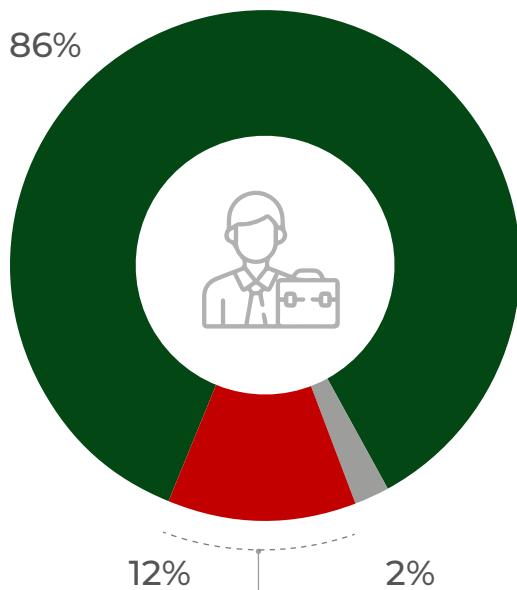
projects	—	product engineer
production	—	process engineer
	—	maintenance engineer
sale	—	seller
	—	marketing specialist
exploitation	—	electrician/electronic engineer
	—	car mechanic
	—	panel beater
renovation	—	car mechanic
	—	panel beater
disassembly and recycling	—	disassembling and recycling technician

Employment in the sector

- » In the period from June 2020 to June 2021, employment in the sector was stable: in June 2021, 79% of companies maintained the level of employment from June 2020. Employment fell in 9% of companies and increased in 12%
- » Largest changes in employment levels, both employment increase (14%) and employment decrease (10%), occurred in companies producing electronic devices for the sector

Demand for employees

In the period from June 2020 to June 2021, 12% of employers from the sector were looking for employees, and 54% had problems recruiting employees



Looking for employees in the past 12 months – employers

86% Did not look for employees

12% Looked for employees

2% Hard to say

Source: Own study based on BBKL MOTO – 1st edition 2021 (n = 807)

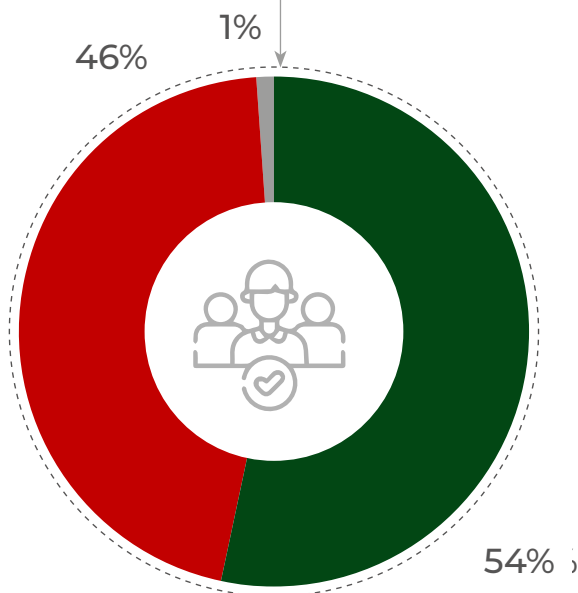
Experienced recruitment problems in the past 12 months – employers

54% Had problems

46% Had no problems

1% Hard to say

Source: Own study based on BBKL MOTO – 1st edition 2021 (n = 807)



Reasons behind the difficulties in finding employees as reported by the companies

- » 71% – candidates did not meet employers' expectations
- » 44% – employment conditions did not meet candidates' expectations
- » 20% – candidates' low interest in the offer

Source: BBKL MOTO – 1st edition 2021. Question answered by employers who had problems finding employees (n = 79)

Employees most wanted in the sector

Among the employees working in the key positions, demand was biggest for:



Car mechanics

(45%)



Electricians/electronic engineers

(23%)



Sellers

(18%)

Source: BBKL MOTO – 1st edition 2021. Question answered by employers who looked for employees (n = 166)

Employees' work satisfaction

- » 96% of the surveyed employees working on key positions do not intend to change jobs in the coming year
- » The high percentage of responses results from the generally good, stable situation in the sector (despite many complications caused by the Covid-19 pandemic), and the attractive remuneration, when compared, for example, to the retail and catering and hotel sectors. Representatives of the MOTO sector rank high in best employers rankings

Assessment of employees' skills

52% of employers assessed their employees' skills in the past 12 months:

- » 25% systematically
- » 27% occasionally

71% verification of the level of employees' skills is carried out in the subsector of motor vehicle, trailers and semi-trailers, with motorcycles

Source: BBKL MOTO – 1st edition 2021. Employers (n = 807)

Employers' methods of employees' skills' assessment:

- » 76% supervisor-employee talks
- » 24% descriptive assessment
- » 21% assessment of the achievement of goals set for the employee

Source: BBKL MOTO – 1st edition 2021. Question answered by employers who assessed employees' skills (n = 532)

Almost all employers (94%) assess the skills of their companies' employees as satisfactory, with 58% assessing them as fully satisfactory, which means there is no need to improve them



Improving employee skills

If employee skills shortages are identified, 86% of companies use at least one employee development method. This is practiced by:

- » **97%** of companies producing electrical equipment
- » **94%** of companies producing motor vehicles

Measures implemented by employers if employees lack skills:

- » **72%** train current employees
- » **14%** employ new hires with appropriate skills
- » **12%** reorganize the company to make better use of the existing skills

Developing employee skills:

- » **45%** of companies train employees
- » **29%** of companies use the method of direct observation of another employee's work i.e., job shadowing
- » **23%** of companies offer in-house courses and training

Source: BBKL MOTO – 1st edition 2021. Employers (n = 807)

Employees' willingness to develop their skills:

- » **36%** of employees feel they have sufficient skills and do not need training
- » **11%** of employees want to develop their interpersonal skills
- » **10%** of employees want to develop negotiation/sales techniques

Source: BBKL MOTO – 1st edition 2021. Employees (n = 866)

Balance of competences (skills)

In order to prepare the comparison, the following were compiled:

- » Employers' assessment of the importance of particular skills
- » Employees' self-assessment of the level of skills



Employers assess the skills identified for key positions as important or rather important



Employees consider their skills as sufficient for the tasks in the positions where they work



These results show that, as regards the relation between skills' supply and skills' demand, the situation in the automotive and electromobility sector is generally good

The conducted analysis made it possible to identify:

- » areas of skills' mismatch
- » skills that are important but difficult to obtain (competence gap)
- » skills whose importance will change in the next 3 years



Skills' mismatch

Mismatch is the difference between the employer's assessment of the importance of skills in a given position and employee's self-assessment of the skills held. This enables identification of:

- » **Scarce skills** – assessed as relatively more important by employers while scoring relatively low in employees' self-assessment
- » **Balanced skills** – assessed as relatively more important by employers and scoring relatively high in employees' self-assessment
- » **Surplus skills** – assessed as relatively less important by employers while scoring relatively high in employees' self-assessment
- » **Sufficient skills** – assessed as relatively less important by employers and scoring relatively low in employees' self-assessment

Comparison of employers' assessment of skills' importance and employees' self-assessment

Key position	Scarce skills	Surplus skills	Balanced skills	Sufficient skills
product engineer	21%	25%	18%	36%
maintenance engineer	22%	19%	22%	37%
process engineer	21%	29%	29%	21%
seller	27%	15%	45%	12%
marketing specialist	19%	6%	31%	44%
car mechanic	8%	12%	44%	36%
electrician/electronic engineer	19%	7%	41%	33%
panel beater	9%	9%	45%	36%
disassembling and recycling technician	21%	18%	39%	21%

The values represent the share of skills of a given type in all skills constituting the competence profile of a given position

Source: Own study based on BBKL MOTO – 1st edition 2021 The list is based on the responses of employers (n = 807) and employees (n = 866)

Competence gap

Competence gap is identified when certain skills are relatively more important for employers while – in employer’s opinion – difficult to obtain

In the MOTO sector, competence gap was identified for almost all key positions

Biggest competence gap



Disassembling and recycling technician

No competence gap



Car mechanic

Skills whose importance will grow in the future

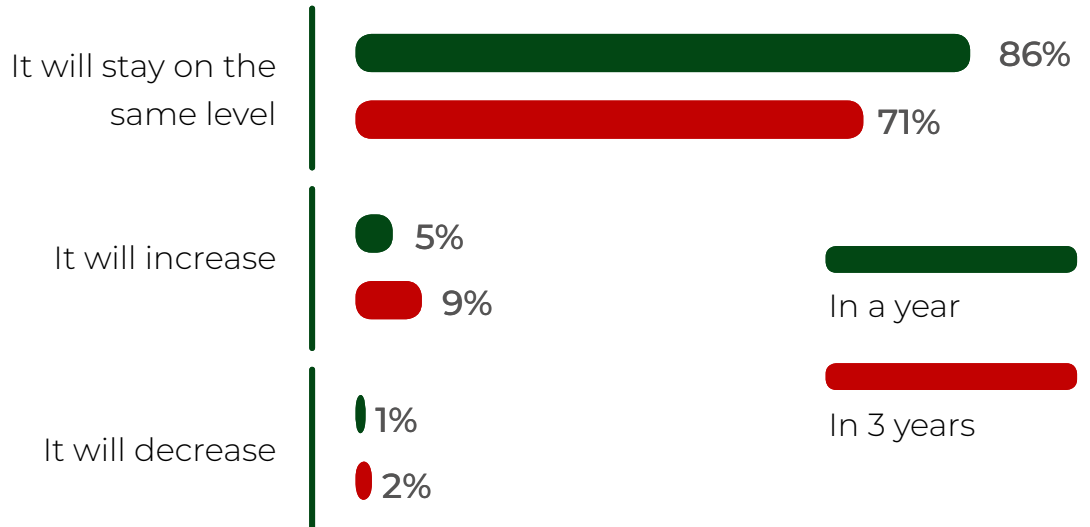
According to employers, the importance of the identified skills required by the particular key positions will generally not change over the next 3 years. The skills whose importance is most likely to increase according to employers are as follows:

- » **Basic skills in the field of electrical engineering, electronics, and computer science** (31% of employers said their importance would increase, when assessing the position of maintenance engineer)
- » **Strategy and marketing plans’ development skills** (31% of answers when evaluating the position of marketing specialist)
- » **Computer science skills enabling programming of digitally controlled devices** (30% of those evaluating the position of process engineer)



Employee demand forecast

Employers' forecast of changes in the level of employment in the analyzed periods



Source: BBKL MOTO – 1st edition 2021. Employers (n = 807)

Key positions in which demand for employees will grow:

In a year

- » **Product engineer** (11% of employers forecast an increase in the demand for the position within one year)
- » **Maintenance engineer** (11%)
- » **Car mechanic** (9%)
- » **Panel beater** (9%)

In 3 years

- » **Product engineer** (19% of employers forecast an increase in the demand for the position within 3 years)
- » **Process engineer** (18%)
- » **Maintenance engineer** (14%)
- » **Car mechanic** (14%)

Source: BBKL MOTO – 1st edition 2021. Employers (n = 807)

Directions of changes in the MOTO sector

The experts participating in the delphi research identified the following as the most probable directions of the sector's development:



- » **currently observed:** increase in the demand for employees with knowledge and skills related to operation of devices and machines, especially robots (e.g., planning, programming, control) (average probability rating: 9.00/10)



- » **expected in the next 3 years:** popularization of jobs combining skills from the area strictly related to automotive industry with IT knowledge and skills (e.g., car electrician with high IT skills) (average probability rating: 8.90/10)



- » **expected in the next 3 years:** establishment and development of new companies specializing in the production, operation, and servicing of alternative drives (average probability rating: 8.73/10)



- » **expected in more than 3 years:** more efficient and more effective recycling activities (average probability rating: 8.71/10)



Emergence of new positions in the sector and growing importance of the existing ones

3% of employers believe that new jobs will appear in their companies in the next three years

Experts who participated in the qualitative research are observing **growing importance** of the following positions in the MOTO sector:

Related to the progressing computerization of processes and use of modern information technologies:

data analyst, including distributed data (Big Data)

developer

specialist in the area of Industry 4.0, including the Internet of Things

computer diagnostician

Related to the ongoing processes of robotization and automation:

robotic line designer

programmer of automated production devices

controller of automated production equipment

diagnostician/service technician of robots and machines

specialist in the field of 3D printing (using aluminum alloys, plastics)

Related to the optimization and control of production processes:

quality controller of production processes

specialist in optimization of production processes

supervision engineer

Related to the use of modern drives in the production of vehicles:

designer of alternative drives

diagnostician/service technician of alternative drives

electronic engineer/electrotechnician/power engineer

car mechatronic

specialist for handling lithium-ion cells

chemist

physicist

Related to adapting to environmental requirements:

vehicle/automotive material recycling engineer

battery recycling specialist

Impact of the COVID-19 pandemic on the MOTO sector

43% of employers say the pandemic has a negative effect on the company's operations

31% of employers assessed the impact of the pandemic as somewhat negative and somewhat positive

Source: BBKL MOTO – 1st edition 2021. Employers (n = 807)

Pandemic-related changes in companies	TOTAL	Vehicle production	Trade and vehicle repair	Manufacture of electrical equipment
reduced numbers of customers	61%	60%	62%	55%
recruitment limitation	11%	25%	10%	27%
work model changes – enabling remote work	9%	16%	9%	17%
employment reduction	9%	14%	8%	20%
increased numbers of customers	4%	5%	4%	1%
employment increase	2%	5%	2%	4%
recruitment increase	1%	3%	1%	1%
N	807	203	494	110

Source: BBKL MOTO – 1st edition 2021. Question answered by employers (n = 807)


Currently, the biggest problem for the automotive and electromobility industries, along with the consequences of the pandemic, is the inability to plan production due to the lack of raw materials supplies. According to the estimates for the third and fourth quarters, 2021, due to the shortage of semiconductors, global car production will drop by 6.3 to 7.1 million units



Full survey results are discussed
in the study:

**Sectoral Human Capital Study.
Automotive and electromobility
sector**

1st edition of the survey (in Polish):

 <https://www.parp.gov.pl/component/publications/publication/branzowy-bilans-kapitalu-ludzkiego-sektor-motoryzacja-i-elektromobilnosc-raport-z-i-edycji-badan>

