



OSKA transportation sector study

In the OSKA study, the transportation sector is divided into four subfields: aviation, maritime, road and rail transport.

Trends affecting the sector's development and skills

Among the trends affecting the subfields of transportation, the green transition and technological developments are considered most important. Transportation is one of the most polluting sectors, which is why there will be increased focus on reducing the carbon footprint of transportation in the coming decades. Politically, there is also a desire to shift more commerce transportation from roads to railways and the sea. Better infrastructure, new fuels and vehicles are being developed to meet environmental targets. This, in turn, will affect the changes in skills necessary for the sector's workforce, as it is necessary to know how to comply with environmental security and emission limits, how to avoid pollution and how to use green technology, including the efficient and safe use of new fuels.

The three key words in technological development are digitisation, automation and remote control. The latter will likely have a stronger impact on the workforce towards the end of the decade, but the first solutions are already on the roads (driverless vans), at sea (a robotic vessel monitoring the Baltic Sea) and in the air (drones and remote towers). Digitisation is primarily about digitising the flow of commerce data. Information moving digitally allows many processes to be automated, which means that transport management should become more efficient and faster. However, this requires employees to be increasingly digitally and technologically savvy, as well as requiring increased knowledge of cyber security.

A third trend could be changes in peoples' attitudes and values in terms of demands and expectations for the workplace. Achieving a better work-life balance and flexible working patterns is very difficult in traditional transportation work (spending days away from home, night shifts, etc.), which is why many jobs in the transportation sector are not among the first career choices for today's youth. This is a bottleneck that businesses will have to address over the next decade.

Future employment in the transportation sector will be strongly influenced by geopolitical events. Our businesses will be particularly affected by how long Russia's aggression against Ukraine lasts and what the aftermath of this war will be. A lot will also depend on the success of the adoption of alternative freight corridors.

Labour demand in the subfields

The biggest bottleneck in air transportation is the shortage of communications engineers, which is fuelled by the increasingly rapid development of unmanned aircrafts, among other things. This is supported by developments in warfare, as are many innovations in history. Unmanned aviation has developed to a whole new level in less than two years. Russia's aggression against Ukraine has had an even more direct impact on Estonian aviation. The disappearance of overflights to Asia has drastically reduced the need for air traffic controllers. The volume of overflights was so high before the Russian aggression began that cooperation with Finnish counterparts was sought, but the controllers' desks



are much emptier now. Air traffic control is still an important profession, the teaching of which should not be neglected for two reasons: firstly, it is a strictly certified profession and secondly, it is linked to the internal and external security of the country. The need for pilots will increase in the future due to overall growth in aviation. International forecasts predict growth of at least 3% per year in aviation. The same applies to aviation managers.

A bottleneck in maritime transportation is the fact that maritime education in Estonia is not systematically planned and it is difficult for learners to understand what the possible career and learning paths are. This is why it is becoming increasingly common for graduates of the Estonian Nautical School to continue their education in Finland. Among the main professions, the training of engineering officers, especially electricians, should be focused on in the near future, as the need for them will grow in the future and not enough new recruits are entering the field. There is also a shortage of ship electricians. In general, international competition in the labour market tends to be characterised by an oversupply of labour (sailors, motormen), while local companies feel they are in short supply. At the same time, there are enough crew members with simpler jobs coming from lifelong learning programmes and degree study. Therefore, what we are dealing with is market failure, where wage competition with our northern neighbours plays a role. The opposite is true for shipmasters, where the shortage is felt more in the international labour market.

The biggest challenge in road transportation, compared to other transportation sectors, is an ageing workforce: in the next decade, around 40% of truck drivers and around 60% of bus drivers will leave the labour market. The lack of supply in public transport drivers and truck drivers is to a large extent a result of market failure. The data we have of people undergoing training suggests that the number of new professional drivers is more than sufficient, but employers are feeling a severe shortage of drivers. The reasons for drivers not entering the work field are primarily related to working conditions (including pay, working hours, workload and flexibility). Better public transport and pedestrian traffic management will be one of the country's priorities for the next decade, which is why more and more mobility engineers will be needed.

In the rail transportation sector, the qualification system is outdated. In the past, there was usually a separate person and profession for each section of work in the railway sector. The qualification system needs reform. The subfield as a whole will be affected by the reduction of goods in transit to a minimum and, on the other hand, by Estonia's ambitious goals for passenger train traffic. According to existing plans, Rail Baltic should be completed towards the end of the forecast period. It is not yet known who will operate the rolling stock on the new standard-gauge railway. However, the completion of the new railway line will still increase the need for safety equipment and railway mechanics. The increased need for locomotive drivers is linked to the plans of AS Eesti Liinirongid (Elron) to introduce 16 new passenger trains in the near future. This also leads to an increase in the number of people employed as customer service agents. The reduced need for traffic controllers is linked to security system upgrades and the replacement of old (relay-based) control systems with digital ones.

The studies for the OSKA skills and labour demand monitoring and forecasting system are conducted by the Estonian Qualifications Authority (SA Kutsekoda) with funding from the European Social Fund.