The plastics and rubber industry invests in production modernisation and targeted cooperation in education

The labour and skills needs of the plastics and rubber industry in the coming years will be shaped by three major development trends: accelerating digitalisation and automation of production, increasing pressure to meet environmental objectives, and the development of higher value-added products.

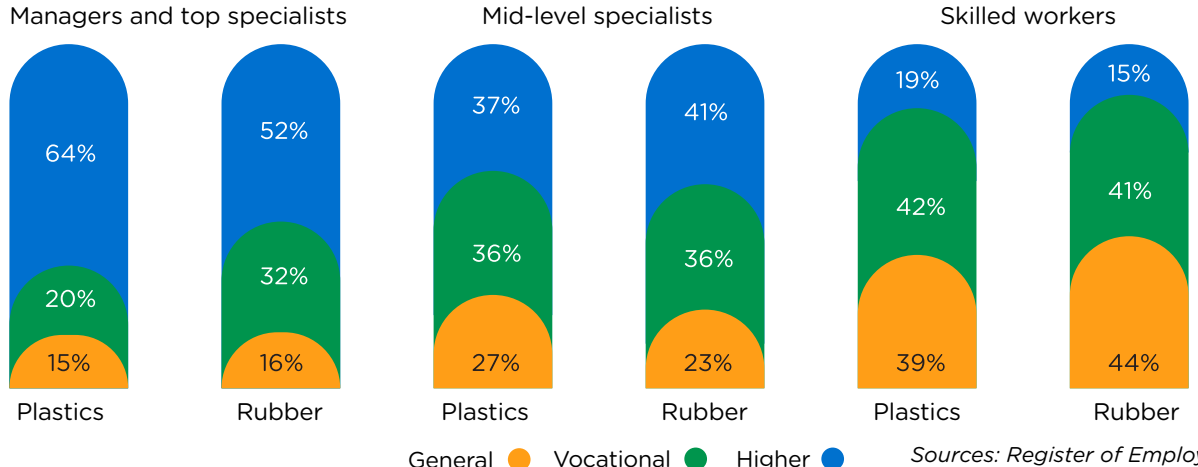
- The competitiveness of companies in the sector increasingly depends on their ability to develop **recyclable, reusable, bio-based and technologically more advanced** products and solutions, which are valued by both international partners and end consumers.
- **Demand for small-batch and technologically more complex niche products is growing.** Rapid changes in orders increase the need for technically skilled employees and engineers with product development experience.
- Regulatory changes in the European Union, including requirements related to packaging sustainability and stricter recycling targets, **increase pressure to enhance materials technology competence, invest in the development of production processes**, and **apply life-cycle environmental impact assessment of products.**

Nearly 40% of employees in the sector have vocational education and more than a quarter have higher education. More than one third have only general education, and the necessary skills have primarily been acquired through in-company training and learning at work.

- **Too few graduates of plastics technology and materials science curricula** enter the sector **as managers and as chemical and product development engineers in the plastics and rubber industry**.
- The number of graduates with **higher education** directly (plastics, materials science) or indirectly (various chemical engineering curricula) suitable for employment in the sector is sufficient from the perspective of labour demand, but actual entry into the sector is very limited. More innovative companies continuously cooperate with higher education institutions to increase their visibility and graduates' interest in the sector.
- Most graduates of the **international master's programme** "Wood, Plastics and Textile Technology" do not take up employment in Estonian industrial companies, and plastics is not the most preferred option within the joint curriculum. In recent years, more higher-educated specialists have entered the sector from technical fields such as mechanical engineering, product development and production engineering.
- **The only curriculum specifically based on the needs of the plastics industry is the plastics processing machine setter programme** taught at Hiiumaa Vocational School. As the funding of the curriculum has been project-based, there has been a longer interruption in training provision. The study group reopened with PRÕM+ funding filled up quickly in the 2025/26 academic year.

Employees in the plastics and rubber industry account for nearly 4% (4,250 people) of total employment in manufacturing, of whom the majority (87%, 3,690 people) work in the plastics industry.

Educational attainment of employees in the plastics and rubber industry (%) in 2024



Sources: Register of Employment, Estonian Education Information System

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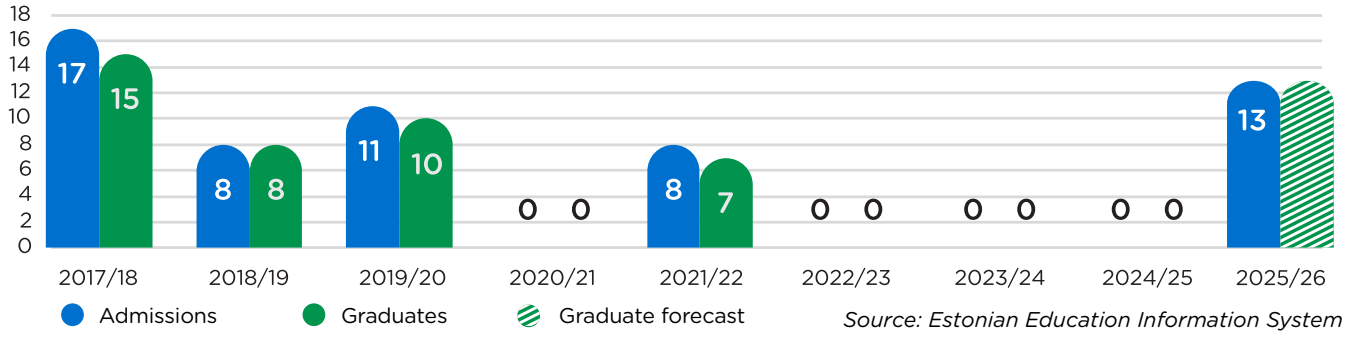
Estonian Qualifications Authority Kutsekoda

Republic of Estonia Ministry of Education and Research

Key findings: plastics and rubber industry

Admissions to and graduates from the plastics processing machine setter vocational education curriculum from the 2017/2018 to the 2025/2026 academic year, with a forecast of graduates for 2025/26s



Source: Estonian Education Information System

Employment forecast for core occupations and assessment of the balance between labour demand and supply

	Employed 2024		Forecast 2033	DEMAND / SUPPLY FROM FORMAL EDUCATION	DEMAND VS. SUPPLY
Managers	290	→	290		SHORTAGE
Chemical engineers	15	→	15	105/45	SHORTAGE
Product development engineers	65	↗	70		SHORTAGE
Industrial engineers	115	↗	125	40/30	SHORTAGE
Environmental specialists	5	↑	10	5/20	OK
Supervisors and foremen	115	→	115	25/10	TRAINING AT THE
Quality controllers and testers	95	↘	85	5/40	MARKET FAILURE
Industrial machinery and equipment mechanics	295	↗	320	105/100	SHORTAGE
Industrial machinery and equipment setters	335	↗	360	90/10	SHORTAGE
Production machinery and equipment operators	2050	↓	1740	110/30	TRAINING AT THE

↑ – moderate growth (up to 20% over ten years)
↗ – slight growth (up to 10% over ten years)
→ – stable (± 5% over ten years)
↘ – slight decline (up to 10% over ten years)
↓ – moderate decline (up to 20% over ten years)

Over a ten-year perspective, the plastics and rubber industry is expected to face a shortage of approximately 200 employees with higher and vocational education. The shortage is more acute among engineers, while the lack of employees with vocational education has been mitigated through training at the workplace. The sector requires more automation specialists, mechatronics specialists and employees with strong electrical engineering knowledge.

Employment forecast for core occupations and assessment of the balance between labour demand and supply.

- Employers in the sector, led by the Estonian Plastics Industry Association, consider it important to develop a joint marketing and communication plan in **cooperation with Tallinn University of Technology to introduce plastics technology study and career opportunities** to young people and to increase interest in acquiring the speciality.
- In order to alleviate labour shortages in machine setup, maintenance and operation of automation systems across the manufacturing sector, **intake into vocational education in mechatronics, automation and electronics should be increased.**
- Considering the growing need for industrial machine setters and mechanics, both plastics and rubber industry companies support the **continuation and updating of the work-based vocational training programme for plastics processing machine setters, organised in cooperation between Hiiumaa Vocational School and Tallinn University of Applied Sciences.**
- In the plastics and rubber industry, **demand is increasing** for knowledge and skills related to **product sustainability, product safety, and chemical and materials technology.**