



SIHTASUTUS
Kutsekoda



REPUBLIC OF ESTONIA
MINISTRY OF EDUCATION
AND RESEARCH



OSKA study of the labour and skills demands of research and development personnel in the business sector

Key findings

Estonia's economic development can be driven by high-productivity companies with sufficient research and development personnel and the capacity to move from experimental development to marketing and sales of finished products.

The five core criteria of research and development are novelty, creativity, uncertainty, systematicness and reproducibility.

Research and development in Estonian companies predominantly concerns experimental development (72%) but also includes applied (25%) and basic research (3%).

The aim of the OSKA forecast was to determine how the labour demands of the R&D workforce will change in the future and which skills profiles the business sector will need until the year 2035. The information from the study is necessary for designing interventions that will lead to more R&D workers with the right skills entering the business sector in the future.

The study found that when increasing our knowledge intensity, we can raise productivity by increasing added value predominantly in sectors where we are doing relatively well, but where innovation leaders (Belgium, the Netherlands, Sweden, Finland, Denmark, Switzerland) are doing much better.

Niches with growth potential are found in sectors such as electronics, manufacture of transport equipment, the chemicals and pharmaceuticals industry and information and communication technologies. These are sectors where both European innovation leaders and Estonia have higher levels of productivity than others, and employ a higher than average number of research and development personnel. However, other countries are far ahead of us.

Sectors with high growth potential in Estonia include those where other countries have yet to achieve significant momentum, for example specific waste refinement technologies. Here, innovative solutions developed in Estonia could also have the potential for broader application internationally.

According to OSKA, there is a shortage of doctoral level specialists in fields where increasing knowledge intensity would provide the greatest boost to value added, taking into account the experience of EU innovation leaders as well as the combined impact of the digital and green transition and the national strategic agenda.

Estonian companies generally lack the capacity to hire separate research and development personnel. According to OSKA, improving the research and development skills of existing higher educated personnel would help increase businesses' knowledge intensity.

Special attention needs to be paid to improving the research and development skills of managers, as it is they who are mainly responsible for innovation management in the organisation. To ensure that development is a systematic and effective process, managers need to know how to use the right techniques for innovation management. In order to develop new, higher value added products and services that are differentiated from competitors, it is necessary to know how to analyse value proposition, understand the client experience and take this into account in the product development process.

Knowledge-intensive companies in Estonia often get caught in the so-called 'development trap', where the focus is on development, but sales and marketing often do not follow. According to OSKA, solutions for supporting companies from experimental development all the way to the production and commercialisation of finished products need to be developed.