

# Valorisation of secondary raw material and waste



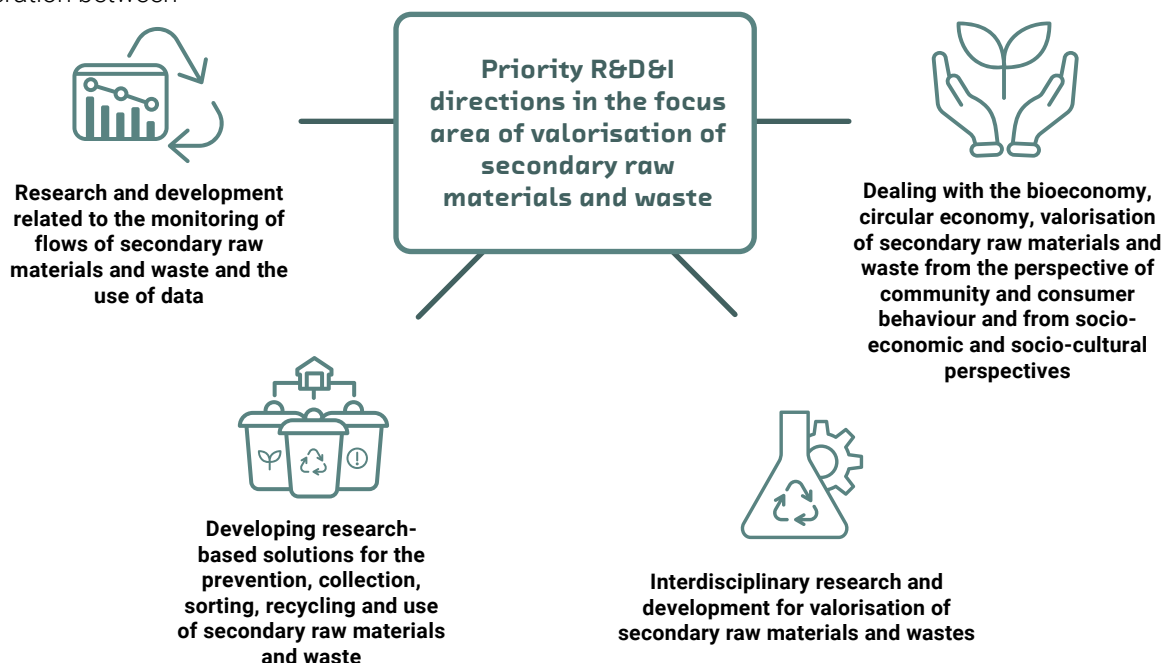
One of the starting points of the Estonian Research and Development, Innovation and Entrepreneurship Strategy is the need to make smart choices and to concentrate activities and funding in those areas that can best contribute to **creating solutions to society's challenges, based on research results and cooperation between different actors**. To this end, the Strategy identifies priority areas for development and increased financial support.

**One such area is the valorisation of resources**. The aim of resource valorisation is to develop, in partnership between research and business community, solutions that enable sustainable use of local resources, creating added value while boosting the circular economy. The circular economy enables the efficient use of resources, from production and consumption to waste management and recycling, creating more value from available resources while generating less waste. In the area of local resources, particular attention is paid to **secondary raw materials and waste**.

In order to best support the valorisation of secondary raw materials and waste a roadmap was drawn up in cooperation with researchers, business communities, government agencies and other partners. In the roadmap, it was jointly agreed on the priority needs for the development of the valorisation of secondary raw materials and waste in cooperation between

research institutions and business communities, and what is needed to ensure that the Estonian economy and society benefit most from the development of the focus area.

It was agreed in the roadmap that the main focus should be on research and development related to the **monitoring of the flows of secondary raw materials and waste and the smart use of data** to understand which raw materials and waste flows are generated and how they can be recycled. It is equally important to develop research-based solutions for the **prevention, collection, sorting, recycling and use of secondary raw materials and waste**. This includes the development of materials, products and packaging so that these can be used for longer and recycled. **Interdisciplinary research and development** is important, e.g. by bringing together researchers of materials, digital, environmental and social sciences to create new knowledge and solutions. Particular attention must be paid to **behavioural, socio-economic and socio-cultural issues**, as the readiness of society and individuals to adapt to change and to adopt new solutions is key to the successful development of the circular economy.



In order to find appropriate research-based solutions to the needs identified, it was agreed in the roadmap that the most important support for the valorisation of secondary raw materials and waste is to support the **development of the focus area's research capacity**, e.g. basic and applied research and the development of research directions as well as ensuring the next generation of researchers and engineers. It is equally important to support **the uptake of research results and the technologies developed**, e.g. through joint activities involving business communities and researchers, the mutual sharing of knowledge and experience between researchers and business communities, the development and provision of R&D services, international cooperation, etc. There is also a need to foster **broader cooperation** between research institutions, businesses and the public focus area. In this context, it is important to develop industrial symbiosis, whereby by-products from one industry are used as raw materials by another. We also need to develop the **capabilities and environments for assessing and testing** the solutions we create, so that the solutions generated through R&D and product development can be tested outside the laboratory on a larger (industrial) scale and in real-life environments. Particularly in the case of secondary raw materials, there is a need for end-to-end activities related to **data and their smart use**. There is also a need to boost **investment and exports**.



**The roadmap is approved for a period of 3–4 years**, after which it will be updated to take

account of changes in the field. The development of the focus area will be regularly monitored and assessed to allow changes to be made to the roadmap and to the focus area's activities and funding. On the basis of the roadmap, support measures for the development of the area of valorisation of secondary raw materials and waste will be designed by the Ministry of Education and Research and the Ministry of Economic Affairs and Communications, alongside general research and business community funding measures such as research grants, research infrastructure grants, business community grants, etc., for which there are no priority areas.

