



REPUBLIC OF ESTONIA  
MINISTRY OF EDUCATION  
AND RESEARCH



REPUBLIC OF ESTONIA  
MINISTRY OF ECONOMIC AFFAIRS  
AND COMMUNICATIONS



# Estonian Research and Development, Innovation and Entrepreneurship **Strategy** **2021—2035**

Photo: Erik Riikoja

# RDIE Strategy 2021-2035

**GENERAL OBJECTIVE:** Estonian research, development, innovation and entrepreneurship work together to increase the well-being of Estonian society and the productivity of the Estonian economy, by providing competitive and sustainable solutions for the development needs of Estonia and the world.

## METRICS:

- R&D funding as a share of GDP
- Private sector R&D expenditure as a share of GDP
- Ranking in the European Innovation Scoreboard
- Nominal labour productivity compared to the EU average



## Research system

**Research in Estonia is high-level, effective and diverse**

### Directions of action

Maintaining a high level of scientific excellence, ensuring the development of research institutions and the scientific community

Ensuring the quality and availability of research infrastructure

Providing opportunities for international research cooperation

### Indicators:

Percentage of Estonian research articles among the 10% most cited worldwide

Volume of R&D contracts per member of academic staff in positively evaluated research and development institutions

### Budget

EUR 2,828 million



## Knowledge transfer

**Estonia's development relies on research-based and innovative solutions**

### Directions of action

Increasing the knowledge transfer capacity of research institutions and enterprises

Increasing the social and economic impact of RDI

Developing an ecosystem for research- and technology-intensive start-up entrepreneurship

### Indicators:

Number of researchers and engineers in the entrepreneurship and non-profit private sectors

Business investments in intangible fixed assets as a share of GDP

### Budget

EUR 3,361 million



## Business environment

**Estonia's business environment encourages entrepreneurship and the emergence and growth of knowledge-intensive enterprises, the creation and export of higher value-added products and services, and investments in all regions of Estonia**

### Directions of action

Developing a competitive and smart business and consumer environment

Increasing the capacity for higher value added and exports

Fostering technology- and development-intensive investments

### Indicators:

Estonia's position in the Doing Business index

Export of goods and services  
GDP per capita generated outside Harju County of the EU average

### Budget

EUR 1,708 million

## BIGGEST CHANGES

- RDIE addresses society's development needs
- Increased efficiency and impact of science and researchers
- Business is becoming more RDI-intensive

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# Terms and abbreviations used

**'Applied Research'** means original research to generate and apply new knowledge in a specific area within a relatively short period of time.

**'Business Support System'** means systemic activities targeted at enterprises to support them in starting up and doing business, e.g. counselling, training programmes, access to information and networks, access to investment and finance, technical support, etc.

**'Development'** means the application of knowledge gained through research and experience for the production of new materials, products and equipment, or for the introduction or significant improvement of processes, systems and services.

**'Entrepreneurship'** means an autonomous economic or professional activity aimed at generating an income from the production, intermediation or sale of goods, the provision of services or other activities, including creative or scientific activities. Entrepreneurial activities vary considerably depending on the type of enterprise established.

**'Evaluation'** means an international assessment of the level of performance of a research and development organisation (including the principal investigators, members of senior research staff and results of the research topic) in the relevant field of research and development, based on the internationally recognised level of research and development in that field.

**'Experimental Development'** means the part of product development that generates new knowledge based on knowledge gained through research and practical experience. The knowledge created is used to develop or improve new or existing products, services or processes.

**'Fundamental Research'** means theoretical or experimental work to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any direct practical application or use in view.

**'Innovation'** means using new ideas and knowledge to implement novel solutions. Innovation includes the development and upgrading of products and services (product innovation), the conquest and expansion of markets (market innovation), the creation and introduction of new production, supply and sales methods (process innovation), innovations in management and work organisation (organisational innovation) and the development of working conditions and staff skills (staff innovation).

**'Quality Infrastructure'** means a system of ensuring safe and reliable products and services for consumers, including accreditation, certification or conformity assessment, metrology, standardisation and market surveillance, which contributes to the free movement of goods by reducing obstacles to trade due to potential technical trade barriers. The products and services must comply with all mandatory requirements under Estonian or European Union legislation. If Estonia's products and services meet the requirements, they have easier access to both internal and external markets, which increases the competitiveness of Estonian enterprises.

**'RDI System'** means a comprehensive system encompassing the organisational structure and operating principles of RDI, including the national governance model, the institutions and people involved in RDI, and the funding system.

**'RDIE Focus Areas'** means areas of R&D, innovation and entrepreneurship to be prioritised in cooperation between the state, enterprises and research institutions to contribute to Estonia's development needs and opportunities. RDIE focus areas with entrepreneurial and economic development potential are also areas of smart specialisation for programming EU structural funds in Estonia.

**'Research'** means activities based on a person's creative freedom, aimed at gaining, through scientific research, new knowledge about man, nature and society and their interactions.

**'Research System'** means a comprehensive system encompassing the organisational structure and operating principles of R&D, including the national governance model, the institutions and people involved in R&D, as well as the funding system.

**'Smart Specialisation'** means a regional approach in EU Cohesion Policy that supports experimentation and a continuous search process to identify business areas with above-average growth potential and added value, and the potential for greater regional competitive advantage through R&D investment. The centre of gravity of smart specialisation is an inclusive entrepreneurial discovery process and support for bottom-up initiatives.

**'Start-Up'** means an economic entity owned by an enterprise registered in Estonia, whose purpose is to develop and launch an innovative and replicable business model with global growth potential, which contributes significantly to the development of the Estonian business environment.

**'The Main Research Funding Instruments'** means the sources of funding necessary for the functioning of the research system, divided into three categories: research grants to researchers (including research teams), research and development support to research and development institutions (baseline funding or operational funding), and expenditure for the functioning of the research and development environment.

**EU** - European Union

**EUPOL** - EU policy priorities

**ERDF** - European Regional Development Fund

**HPC** - High Performance Computing

**MoER** - Ministry of Education and Research

**ICT** - information and communication technology

**IPCEI** - Strategic Forum for Important Projects for Common European Interest

**IPC** - Innovation Policy Committee

**MoEAC** - Ministry of Economic Affairs and Communications

**SS** - Smart Specialisation

**OECD** - Organisation for Economic Co-operation and Development

**SBS** - State Budget Strategy

**MoF** - Ministry of Finance

**ETAg** - Estonian Research Council

**GDP** - Gross Domestic Product

**R&D** - Research and Development (activity, institution)

**RDI** - Research, Development and Innovation

**RDIE** - Research, Development, Innovation and Entrepreneurship

**RDC** - Research and Development Council

**RPC** - Research Policy Committee

**SME** - Small and Medium-Sized Enterprises

**GR** - Government of the Republic

**UN** - United Nations

# Introduction

Research, Development and Innovation (RDI) is a key to economic growth and business development. Investments in research and development create new, smart and higher-income jobs, increase added value and support long-term economic growth. RDI is also essential for overcoming the challenges faced by society and for increasing the well-being and cohesion of society, whether it is mitigating, and adapting to, the effects of climate change, tackling health problems or fighting poverty. Rapid technological progress, digitisation and the development of artificial intelligence will further increase the need for research and development and open up new business opportunities.

The European Union (EU), the Organisation for Economic Co-operation and Development (OECD) and the International Monetary Fund (IMF) have all pointed out that Estonia should increase the effectiveness of its RDIE policy, as the country's investment in R&D has not increased exports of high value-added goods and services or helped raise productivity as much as expected.

Therefore, Estonia needs to address research, development, innovation and entrepreneurship within a common strategic framework and to create more synergies and coherence between these areas. The new Strategy will design RDI and entrepreneurship policies that take into account Estonia's preconditions, circumstances and needs, contributing to Estonia's sustainability and the well-being of its citizens by developing a knowledge-intensive society and boosting productivity growth.

The Government of the Republic tasked the Ministry of Economic Affairs and Communications (MoEAC) and the Ministry of Education and Research (MoER) with the preparation of the joint Strategy. During the period of 2014-2020, these policy areas were addressed in the Estonian Entrepreneurship Growth Strategy 2014-2020 (under the responsibility of MoEAC) and the Estonian Research, Development and Innovation Strategy 2014-2020 'Knowledge-based Estonia' (under the responsibility of the MoER).

The Government of the Republic approved the proposal for the development of the Research and Development, Innovation and Entrepreneurship Strategy ('RDIE Strategy') on 12 September 2019. This Strategy focuses on addressing the development needs formulated in Estonia's long-term development strategy 'Estonia 2035', and on increasing productivity and added value, which will be achieved by encouraging the growth of private sector investments in R&D.

The Strategy has been drawn up for a period of 15 years, as the structural changes needed in this area require consistency and stability of policy objectives, and the results and impact of the proposed policy measures will span over a longer period. The duration of the Strategy is in line with Estonia's long-term development strategy 'Estonia 2035' and with the duration of other Strategies (education, language and youth) relevant to the RDIE Strategy.

## **The Strategy has been drawn up by taking into account:**

- global trends;
- the strengths and specificities of the sector;
- studies, analyses and statistics describing the current situation and development needs of the sector;
- consistency with the objectives set out in other strategies and strategies, including the EU's strategic documents;
- guidelines from the RDIE committees;
- the Estonian Research Agreement to ensure the further development of Estonian research and innovation, signed on 19 December 2018 between representatives of political parties, research institutions, researchers and business organisations;
- feedback and suggestions from target groups and stakeholders.

# Current situation and challenges

## The development needs of and challenges faced by the sector

The development needs underpinning the objectives of the Strategy and the proposed interventions are based on the assessments, conclusions and recommendations contained in the analyses and reports carried out during the period of 2011-2019 (see Annex 1), as well as on the input received from stakeholder engagement workshops on the development needs of and key changes needed in the sector (see Annex 4).

### **According to the international assessment of the Estonian RDI system<sup>1</sup>, the following is required for the development of the Estonian RDI system:**

- ensuring political commitment to the importance of RDI in national policy and the 1% target for government spending on R&D, and maintaining at least the same level in the future
- establishing thematic priorities for RDI policy to support the development needs of society and growth areas for smart specialisation;
- establishing an innovation agency to support R&D and build absorptive capacity to address the development needs of society and the economy;
- strengthening the role of intermediary organisations (e.g. technology transfer centres at universities and regional centres of excellence) in innovation;
- modernising and 'profiling' universities with respect to research and development, making them better adapted to innovation and the production of human capital to meet national needs.

### **Country-specific analyses and investment recommendations<sup>2</sup> suggest that Estonia should:**

- promote research and innovation capacity, and the uptake of cutting-edge technologies;
- promote the digitalisation of the business sector;
- promote the growth potential and competitiveness of SMEs;
- help enterprises develop the skills needed for smart specialisation, industrial restructuring and entrepreneurship;
- promote energy efficiency measures and renewable energy;
- promote the transition to a circular economy;
- address climate change adaptation and mitigation, which will, inter alia, increase the capacity for risk prevention and resilience to natural disasters;
- target investments to achieve more coherent regional development and better access for SMEs to public support and loan capital, especially in rural areas<sup>3</sup>.

### **The main challenges for RDIE are:**

- There is a shortage of people in Estonia with the skills and willingness to engage in research and development. A researcher's career is not attractive in Estonia: there is a scarcity of PhD holders, research teams are small, doctoral studies are not attractive, funding for research teams is often uncertain and career paths for researchers are not well developed. Project-based approaches and a high level of competitive pressure lead to a brain drain and hamper the emergence of new generations of researchers and engineers. This jeopardises the high level of research and the diversity of disciplines that are essential for the sustainable development of Estonian society.
- High-level research infrastructures established with the support of EU structural funds are not managed in a sustainable way. The use of research infrastructure to serve the business and public sectors is limited, and there is a shortage of accredited laboratories.

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1 Peer Review of the Estonian Research and Innovation System: Final Report (Under the Horizon 2020 Policy Support Facility), (2019). [\[link\]](#)

2 European Semester: Assessment of progress on structural reforms, prevention and correction of macroeconomic imbalances, and results of in-depth reviews, Country Report Estonia (2020).

3 [\[link\]](#)

- The potential of international R&D cooperation has not been fully exploited.
- Research results and researchers are underused in tackling the challenges facing Estonian society. RDI policies are not effective enough to support the achievement of economic and societal objectives, including structural changes to the economy.
- Research results are not applied in business. Estonia produces few breakthrough innovations. Universities and enterprises lack the motivation and capacity to work together, and enterprises do not hire R&D specialists. Research has become disconnected from the economy and society, and, therefore, the societal benefits of R&D are small (efficiency is low).
- Estonia has not yet developed an ecosystem (both in terms of service providers and funding) that facilitates the emergence and growth of research- and technology-based start-ups across all stages of their development, their commercialisation and their significant growth in international markets.
- The role of the state in driving innovation and shaping the demand for innovation is modest.
- Estonian enterprises' capability to adapt and adopt new business models, knowledge and technologies is low. There is a shortage of highly skilled labour and ambitious innovation-oriented entrepreneurs outside larger urban areas.
- A number of traditional resource and labour intensive activities in regions which could generate higher returns to GDP through increased added value have been slow to implement innovation and have been unable to exploit their growth potential.
- The Estonian economy is characterised by a low level of income and a weak position in international value chains. Exports of high value-added products and services are relatively low, and, as a result, international awareness of Estonian products and services is limited.
- Business environment services lack sufficient automation and have not been designed and developed in a user-driven (event-driven and proactive) way, nor are they based on innovative solutions (artificial intelligence, real-time services), resulting in a high administrative burden for the enterprise. Estonia is at risk of remaining a low value-added country for outsourcing, a slow-growing member of the EU.
- Estonia is not sufficiently integrated into the EU single market and is not exploiting its potential to provide a favourable environment for enterprises with export ambitions and thereby to improve the competitiveness of Estonian enterprises in international trade<sup>4</sup>.
- Estonia's capacity to attract foreign investments with high added value is weak.
- There are large national disparities in the levels of R&D and entrepreneurship development, especially between larger urban and non-urban areas (e.g. entrepreneurial activity and GDP, indicators of productivity and competitiveness of enterprises, access to capital and availability and skills of workforce). This has a negative impact on regional competitiveness as well as on the country's economic development as a whole.
- The RDI system is fragmented, and the responsibilities and tasks of the actors in the system are not coherent. Capacities to identify, manage and coordinate sectoral R&D needs are inconsistent, and cooperation between RDIE policy makers is weak. Cooperation between research institutions is weak and synergies from joint activities are not exploited.
- There is no consensus in Estonia's RDIE policy on which major future directions and challenges Estonia should focus on, where to develop its strengths, and which future challenges should be the focus of joint RDI and enterprise efforts.

A more in-depth analysis of development needs can be found in **Annex 1**.

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<sup>4</sup> European Commission (2020). Identifying and addressing barriers to the Single Market [\[link\]](#)



## The strengths and specificities of the sector

### Key strengths to build on in developing Estonian RDIE

- Estonia has a high level of education, a flexible labour market, strong institutions (including universities, regional competence centres), a favourable business environment and a well-developed digital society, which is reflected in efficient and well-functioning e-government solutions. Estonia ranks relatively high in various international competitiveness rankings<sup>5</sup>.
- Research in Estonia is of high quality, diverse and of a high level internationally. Estonia has strong and developing research teams, and research institutions have state-of-the-art working environments, including high-quality research infrastructure. Researchers and research institutions actively participate in international research networks, including the European Research Area (ERA) initiatives and joint research infrastructures.
- Estonia's business environment is conducive to start-ups and start-ups have been successful here. The contribution of the start-up sector to the economy as a whole has increased.
- Estonia's strength lies in its small size, flexibility and society's technological openness, which favours the development and implementation of innovative solutions (including testing of lab-tested prototypes in a real-life environment on a smaller scale and, if successful, flexible scaling-up).

### Sectoral specificities to take into account in the development of RDIE

- A small country lacks a critical mass of researchers and engineers in many fields, which limits R&D in these fields. Although Estonia is a small country, it is necessary to secure R&D in all fields of life, including education, health, the social system, environmental conservation, and the preservation and development of the Estonian language and culture.
- Added value and employment are largely generated by small and medium-sized enterprises, including micro-enterprises; however, a small number of large enterprises account for a major share of export volumes and contribute to R&D activities. There are few large enterprises in Estonia that initiate and develop innovation networks in their sector.
- Exports of goods and services play a very important role in Estonia's economic growth because of the openness of the economy and the high share of exports in GDP. Estonia's exports are dominated by labour-intensive sectors, which are severely affected by increasing wage pressures. Estonia's open economy is vulnerable to changes in the external environment.

<sup>5</sup> Bank of Estonia (2020). Estonian Competitiveness Report 2020 [\[link\]](#)

## Underlying strategic foundations

The Strategy has been drawn up taking into account global trends and the foundations stemming from strategic documents, which are discussed in more detail in **Annexes 1 and 2** (see **Figure 1**). Additional documents related to the implementation of the Strategy are presented in **Annex 7**.



Figure 1. Underlying strategic foundations

The most important **objectives** in the field of RDIE for the EU are in line with the priorities of Estonia's EU policy (EUPOL)<sup>6</sup>. In particular, the Strategy is closely linked to the priorities related to the development of the economic base and the construction of a climate-neutral, digital, green, fair and social Europe. It will ensure that access to international knowledge networks and initiatives as well as funding opportunities are open and transparent at the EU level, and that cooperation between centres and remote regions is effective. In order to raise the level of excellence and competitiveness of research in smaller and more remote countries such as Estonia, intersectoral and cross-border cooperation, mobility, openness and inclusiveness, as well as removing barriers to participation, are considered essential, as this allows the knowledge transfer and mutual learning between different actors in the RDI.

In the context of the business environment, the plan will contribute to the European Industrial Strategy's objective of making the EU's industry more competitive through green and digital transitions, exploiting the opportunities for the application of data and new technologies. The actions under the Strategy will help to diversify strategically important supply chains and to reduce dependency on third countries in order to mitigate supply risks. The Strategy will support the objective of the EU's SME strategy to help SMEs to lead the digital and green transition, as well as encouraging enterprises to focus on innovation and digital technologies. The Strategy promotes access to the supply chains of multinational groups and advocates for the reduction of barriers and restrictions to entry into the EU single market to encourage cross-border activities of enterprises with export ambitions.

<sup>6</sup> The EU policy priorities of Estonia for 2020-2021 (EUPOL), approved by the Government of the Republic on 21 November 2019 [\[link\]](#)

# Vision

## By 2035

...Estonia will be a flexible, knowledge-based society that recognises the need for research, development and innovation, where knowledge circulates and the results of research are used creatively, skilfully and in an environmentally sustainable way for the benefit of Estonia's social and economic well-being and the sustainability of the Estonian language and culture.

...Estonian researchers will have achieved outstanding results, will be valued partners in society for both enterprises and policymakers, and will be active and recognised participants in international knowledge networks.

...there will be good, internationally competitive conditions for high value-added entrepreneurship all across Estonia. The growth driver for the business sector will be research-based development and innovation. Estonia will be known worldwide as a developer and adopter of new technological solutions.



Photo: Enterprise Estonia

# The objective and three axes of the Strategy

**General objective:** Estonian research, development, innovation and entrepreneurship work together to increase the well-being of Estonian society and the productivity of the Estonian economy, providing competitive and sustainable solutions for the development needs of Estonia and the world.

Taking into account the development needs of the Estonian RDI system and entrepreneurship, the Strategy sets the following sub-objectives:

1. Estonia's development relies on knowledge-based and innovative solutions.
2. Research in Estonia is high-level, effective and diverse.
3. Estonia's business environment is conducive to the entrepreneurial spirit and to the emergence and growth of knowledge-intensive enterprises, the creation and export of higher value-added products and services, and investments in all regions of Estonia.

The vision and objective of the Strategy can only be achieved in a synergy of sub-objectives. For this reason, the Strategy proposes **three axes** (research system, knowledge transfer, and the business environment), each of which plays a role in a coherent and integrated approach.

Two axes – the research system and the business environment serve as the horizontal axes, enabling the directions to ensure the necessary conditions and competences for the functioning of the research system and entrepreneurship in Estonia. The Strategy focuses on the third axis, knowledge transfer. The activities planned under this axis will result in a synergy between the research system and the business sector in search of solutions to meet the development needs of Estonian society. This does not mean that research or entrepreneurship is less important. On the contrary, finding solutions for the challenges faced by society requires a strong knowledge base, including basic research, and a good business environment to exploit the results of research and innovation and to add value to products and services.

**The role of the knowledge transfer axis is to ensure synergies between the research system, the business environment and other systems in society (e.g. health, education, culture, the social system, environmental protection, etc.),** so that new knowledge, technologies and ideas generated in different fields are applied in a skilful and creative way for the benefit of a sustainable society and economy, including by increasing society's overall resilience and ability to adapt to crisis situations and global changes. The aim is long-term and consistent productivity growth and **knowledge circulation**, rather than a linear (technology-centred) process from the research system to the business sector. In this context, knowledge transfer supports not only the application of research results in business and for the benefit of the economy, but also increases the impact of research and supports the development of strategic research directions that meet the development needs of society.

**The knowledge transfer axis directly addresses the following challenges in the field of RDIE in Estonia:**

- research results are not sufficiently applied in society, and the RDI policy is not effective enough to support the achievement of societal and economic objectives;
- Estonian enterprises' RDI intensity and capacity to adapt and deploy research results is low, and there is no system supporting the growth of enterprises' innovation capacity;
- Estonia needs to make choices and improve the directionality of its RDIE policy;
- Co-operation and co-ordination between actors in the RDIE system (ministries, organisations representing enterprises, research institutions, etc.) is weak.

The knowledge transfer axis reduces the disconnection of research from the economy and society **by leveraging the societal benefits (efficiency) of RDI and triggering the necessary changes**, including a significant increase in the added value of the Estonian economy. Bringing about structural change requires synergies between research, business and policymaking, and the pooling of activities and financial resources. For this reason, the **RDIE focus areas**, i.e. the areas of research and development, innovation and entrepreneurship are prioritised in cooperation between the state, enterprises and research institutions in line with Estonia's development needs and opportunities, are central to achieving the objectives of the Strategy. Prioritisation means that the aim is to increase the importance of these sectors in the Estonian economy, including in exports, and in meeting development needs, and that the government provides the additional support for research and development activities required for this.

#### The RDIE focus areas are:

- digital solutions across all areas of life;
- health technologies and services;
- valorisation of local resources;
- smart and sustainable energy solutions;
- viable Estonian society, language and cultural space

The first four focus areas are also the RDIE focus areas with entrepreneurial and economic development potential, i.e. the **areas of smart specialisation**.

On the one hand, the focus areas contribute to addressing Estonia's development needs and, on the other hand, they enable better use of the strengths of Estonian enterprises and research. They have a high commercial potential or a strong global impact. The focus areas are not sectoral, but focused on a development need or opportunity, interdisciplinary and based on cooperation between different fields and sectors (academic, private and public).

**The role of the research system axis is to ensure the basic operational capacity of Estonian research.** A high-level, evolving and diversified research system is an indispensable prerequisite for the knowledge-based development and economic growth of society. This requires ensuring the strategic development of research institutions, including continuing to fund the basic research needed to generate new knowledge, technologies and ideas, improving the opportunities for researchers to further their careers and the competitiveness of their working conditions, ensuring the next generation of excellent researchers, providing access to high quality research infrastructure and opportunities for researchers to participate in international knowledge circulation, and ensuring that new knowledge and ideas are transferred to higher education and the labour market.

**The role of the business environment axis is to ensure a enterprise-friendly environment in all regions of Estonia.** The aim is to create conditions which are conducive to the development of new business ideas, increasing the competitiveness of enterprises throughout Estonia, including through a well functioning high-quality infrastructure. The entrepreneurship axis will support the growth of research-intensive enterprises and the development of a business environment conducive to increasing added value. We need to create a business environment that retains and attracts highly capable entrepreneurs, investment and talent, promotes the export of high value-added products and services and entry into new markets, and supports the growth of the competitiveness of Estonian enterprises, especially in the industrial sector, including their upward mobility in value chains, taking into account the sustainable development goals. Particular attention needs to be paid to increasing production and export capacities, so that innovative technological solutions (e.g. in manufacturing, energy, medicine) resulting from research already carried out and funded by enterprises can be quickly applied in the economy (e.g. testing environments). To this end, both national budget resources and structural funding must be used to a sufficient extent.

The Strategy contributes to all five strategic objectives of Estonia's long-term development strategy '**Estonia 2035**' and to the achievement of the **UN Sustainable Development Goals** (see **Annex 2** and **Annex 6** for details). **Education and labour issues** related to the Strategy are addressed in the Estonian Education Strategy 2021-2035 and the Welfare Strategy 2016-2023.

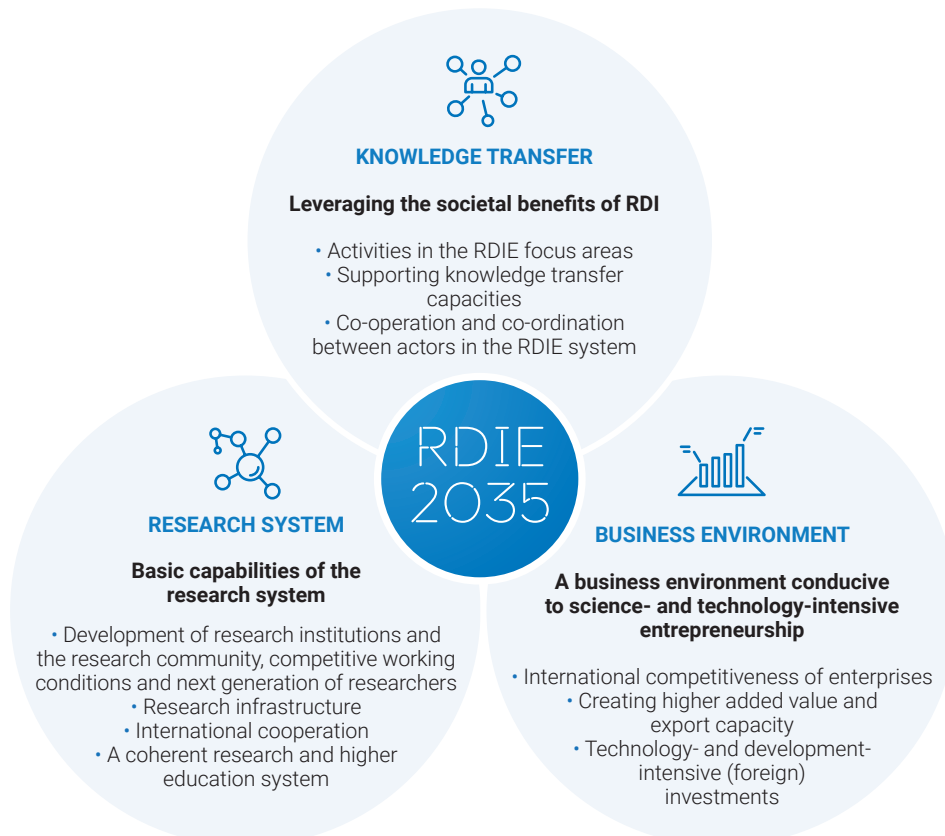
Together, the three axes trigger three major changes to achieve the objective of the Strategy.

- 1. RDIE addresses society's development needs.** RDIE helps to achieve societal and economic objectives. Efficient and effective solutions to society's development needs will be achieved, inter alia, through activities in the RDIE focus areas.
- 2. Increasing impact and influence of science and researchers.** The research system is strongly linked to society and the economy. An effective knowledge transfer is achieved. Research and researchers are highly valued in society, and research institutions and researchers are capable and valued partners for enterprises in solving societal challenges and shaping policies.
- 3. Business is becoming more RDI-intensive.** The aim is to achieve a growth in knowledge- and technology-intensive entrepreneurship and higher added value, and consequently higher levels of income and welfare, across Estonia.

### Strategic goals of the Estonia 2035 strategy



### UN Sustainable Development Goals



# Strategy's indicators

RDIE Strategy Indicators						
Objective	Indicator	Details	Unit	Baseline level	Reference year	Target level 2035
<b>GENERAL OBJECTIVE:</b> To enhance the well-being of Estonian society and the productivity of the economy by offering competitive and sustainable solutions to the development needs of Estonia and the world	R&D funding as a share of GDP	R&D intensity indicator reflecting the importance of R&D for the country	%	0.75	2019	≥1 <sup>7</sup>
	Private sector R&D expenditure as a share of GDP	Private sector R&D intensity indicator	%	0.86	2019	2
	Nominal labour productivity compared to the EU 27 average	Average economic value added per employee as a measure of economic growth	%	78.7	2019	110
	Ranking in the European Innovation Scoreboard	Innovation system performance indicator	Ranking in scoring group	Strong innovator	2020	Innovation leader
<b>KNOWLEDGE TRANSFER:</b> Estonia's development relies on knowledge-based and innovative solutions.	Number of researchers and engineers in the business and non-profit private sectors	Number of people outside the higher education sector with knowledge and skills conducive to knowledge uptake	Number per 1000 people	1.47	2019	4.53
	Business investment in intangible fixed assets <sup>8</sup> as a share of GDP	Investments favouring the application of knowledge	% (M/BN)	2.7 (760 M)	2019	6 (3.2 BN)
<b>RESEARCH SYSTEM:</b> Research in Estonia is high-level, effective and diverse	Percentage of Estonian articles among the top 10% of cited scientific articles around the world	High level of research, international competitiveness, academic impact of research	%	8.4	2020	12.5
	Volume of R&D contracts per member of academic staff in positively evaluated research and development institutions	Research impact, R&D cooperation with the private sector, competitiveness in international R&D activities	Volume in EUR	26,730	2019	50,000
<b>BUSINESS ENVIRONMENT:</b> Estonia's business environment is conducive to the entrepreneurial spirit and to the emergence and growth of knowledge-intensive enterprises, the creation and export of higher value-added products and services, and investments in all regions of Estonia	Estonia's position in the Doing Business index	Assessment of the competitiveness of the Estonian business environment	Position in the ranking	18	2020	Estonia in TOP 5
	Export of goods and services	Assessment of the international competitiveness of the Estonian enterprises	Billion euros	19	2020	43
	GDP per capita generated outside Harju County of the EU 27 average	Regional dimension	%	41	2020	59

The content and methodology of the indicators are described in more detail in **Annex 3**.

<sup>7</sup> 1% of GDP by 2021, further >= 1% of GDP, see also the chapter on budgetary forecast

<sup>8</sup> According to Statistics Estonia's categorisation (RAA0062), enterprises' investments in intangible fixed assets include labour costs, investments and other current expenditure.

# Actions to achieve the goals



## Ideas

including information, networks, cooperation



## People

including knowledge and skills, professional development, training, next generation, professionals, and workforce



## Infrastructure

including equipment, laboratories, databases, infrastructure services, etc.



## Environment

including institutions and institutional environment, systems, action plans, management, monitoring, services, funding, etc.



## Actions to promote knowledge transfer

**Sub-objective:** Estonia's development relies on knowledge-based and innovative solutions.

### 1. Increasing enterprises' RDI intensity and knowledge transfer capacity.

To do this we will:



1.1 develop services to raise awareness among enterprises of the need for and opportunities offered by RDI, including by sharing innovation information (analyses and market intelligence), organising information seminars, and involving sectoral experts and cooperation platforms;

1.2 increase the R&D capacity of the enterprises, including by developing the competences needed for innovation, supporting the hiring of skilled staff and developing the cooperation networks needed by enterprises;



1.3 develop services to foster innovation (including product, market, process, organisational, personnel innovation) and design the necessary support system for enterprises (including quality infrastructure, advice on contracting and handling intellectual property as well as support to obtain the necessary certifications for products);



1.4 establish a programme of applied research and experimental development based on the needs of enterprises to identify business opportunities related to their R&D activities (commercially viable R&D projects) and to find suitable R&D partners from Estonia or from abroad;

1.5 continue to develop enterprises' existing and new technologies, products, services, processes and staff, production innovation, sales and marketing, etc;



1.6 support participation of enterprises in international (CERN, ESA, etc.) and EU-wide partnerships and networks;

1.7 offer innovation and development shares to boost cooperation between enterprises and R&D institutions and to improve the innovation capacity of enterprises;

1.8 launch the establishment of DIHs<sup>9</sup> to ensure that Estonian enterprises have access to EU-funded technologies in the framework of cross-border cooperation networks, and to support enterprises in adopting these technologies;

1.9 facilitate the automation of enterprises by developing a roadmap for digitalisation and financing the investments on this roadmap, including support for digitalisation and the use of artificial intelligence and robotics technologies to improve the efficiency of enterprises' processes and supply chains and to add value to products and services;

1.10 support the transition from a linear to a circular economy, the adaptation of business models to the principles of low-carbon and circular economies, and the development and uptake of sustainable and environmentally friendly technologies by enterprises;

1.11 design a regulatory and tax system that supports innovation.<sup>10</sup>

<sup>9</sup> Digital Innovation Hub

<sup>10</sup> Policy making in the fields of taxation and justice is linked to strategic documents and action plans on taxation and justice policy.



## 2. Increasing the knowledge transfer capacity of research institutions and higher education institutions.

To do this we will:



2.1 create opportunities for research institutions and higher education institutions to expand their knowledge transfer activities, to develop knowledge transfer services, and to upgrade the knowledge and skills of staff on knowledge transfer, including the development of a model for spin-off entrepreneurship and sustainable market-based commercialisation of knowledge, and to improve the possibilities and capacities for the protection of intellectual property, including by streamlining the legal framework;



2.2 help research institutions and higher education institutions to develop high quality knowledge management services, including by fostering cooperation between institutions in the mediation and provision of knowledge transfer services (e.g. in Adapter-type activities);



2.3 improve access to research infrastructure and the provision of infrastructure services to external users (including enterprises), by encouraging cooperation between institutions in infrastructure development (e.g. joint laboratories);



2.4 boost cooperation between research institutions, universities and enterprises in the development of products and services with high added value, including through proof-of-concept grants;

2.5 create better opportunities for researchers and other academic staff to move between the academic, public and private sectors in Estonia and internationally;

2.6 support Estonia's participation in international research networks, including the recruitment of top-level researchers to Estonia;

2.7 continue to support Doctoral studies in entrepreneurship;

2.8 improve access to capital for start-ups growing out of research institutions and universities;

2.9 support applied research and experimental development by encouraging greater involvement of private capital in co-financing the activities of research institutions and higher education institutions.

## 3. Strengthening the societal and economic impact of R&D and innovation.

To do this we will:



3.1 develop and implement thematic programmes to ensure research and development capacity in the RDIE focal areas and take the RDIE focal areas into account in RDIE and other public sector policies where appropriate;



3.2 develop an effective system for managing and monitoring smart specialisation that takes into account Estonia's development needs, research and business strengths and opportunities;

3.3 increase the R&D-capacity and accountability of ministries, including continued support for the network of R&D advisers and cross-policy strategic studies;

3.4 launch an R&D Coordination Council for more effective management of sectoral R&D at operational level;

3.5 increase the competence and role of the state, including local authorities, in commissioning R&D and driving innovation, including through innovative public procurement;

3.6 encourage the uptake of new forms of entrepreneurship and activities that support innovation, including experimentation with market-creating conditions;

3.7 increase investment in R&D by public enterprises through a targeted public participation policy.

## 4. Developing an ecosystem for research- and technology-intensive start-up entrepreneurship.

To do this we will:



- 4.1 increase the competitiveness and research and technology intensity of the start-up ecosystem;
  - 4.2 create the necessary environment for the development of research- and technology-intensive enterprises that will support research- and technology-based start-ups at all stages of their development, the creation and development of start-ups and the achievement of significant growth in international markets;
- 
- 4.3 increase investments in start-ups and their coherence with the RDIE focus areas;
  - 4.4 activate the market in research- and technology-intensive sectors through pre-seed and seed-stage investments, including helping to increase the supply of capital to research-intensive high-tech enterprises where the market does not provide sufficient private capital to ensure their development;
  - 4.5 support start-up innovation and the creation and exploitation of intellectual property in all sectors;
  - 4.6 develop and implement an effective and needs-based monitoring system for start-ups.





### Lines of action to ensure basic capabilities of the research system

**Sub-objective:** Research in Estonia is high-level, effective and diverse.

## 1. Maintaining a high level of research excellence, enabling research institutions and the research community to increase their capabilities.

To do this we will:



- 1.1 ensure the availability of the main research funding instruments required for the functioning of the research system, in order to maintain a high level of research excellence and diversity and to support research institutions in achieving their strategic objectives;
  - 1.2 transform the main research funding instruments (including baseline funding) into operational funding for research institutions to ensure synergies between funding instruments and the sustainability of the research system;
- 
- 1.3 support the strategic development of research institutions and higher education institutions, including their focus on the development of their respective fields of responsibility, linking teaching and research, improving the quality of support services and making structural changes to increase the competitiveness of institutions (including to reorganise the network of research institutions);
  - 1.4 help research institutions and higher education institutions to develop and implement a flexible academic career model that takes into account equal opportunities (including gender equality) and diversity in academic work, and offers opportunities for diversified development and greater stability;
- 
- 1.5 continue to increase the efficiency and attractiveness of doctoral studies, including the movement of doctoral students to the position of a junior researcher, ensuring social guarantees and income, and to support post-doctoral studies and the returning researchers (including foreign researchers and post-doctoral researchers) to Estonia;
  - 1.6 continue to support interdisciplinary and cross-institutional cooperation between centres of excellence (including research centres of excellence) and research teams in areas essential for Estonia's development;
  - 1.7 ensure support for high-level research in the field of Estonian language, history and culture and the development of language technology solutions and encourage their widest possible application;
  - 1.8 provide opportunities for professional development for the research community, including by supporting mobility and collaborating with top-level international partners and participating in knowledge networks;
  - 1.9 develop a system of organisation and monitoring of research ethics in cooperation with research institutions and researcher organisations;
  - 1.10 support the implementation of the principles of open science to improve access to and use of research results and data by researchers, enterprises and citizens;
  - 1.11 promote wider access to and dissemination of research results in order to raise people's awareness of scientific achievements and their impact on the development of society, support the popularisation of science and science education, and continue the international promotion of Estonian science, researchers' achievements and enterprises.

## 2. Ensuring the availability and quality of research infrastructures and supporting the shared use of infrastructures.

To do this we will:



2.1 plan investments in research infrastructure of national importance on the basis of a regularly updated action plan and ensure access to international research infrastructures of national importance;

2.2 help research infrastructure managers to develop and implement a sustainable management model, including by supporting the development and implementation of infrastructure services and the accreditation of laboratories, to open up research infrastructure for shared use by enterprises and the public sector;



2.3 encourage the joint development of research infrastructures with the private sector;

2.4 continue the updating of central research information systems, including the Estonian Research Information System (ETIS), ensure the continuity of data archives and datasets as well as research libraries and access to research databases;



2.5 develop policies and a roadmap to ensure open science and HPC<sup>11</sup> by securing the necessary repositories and services.

## 3. Providing opportunities for international research cooperation.

To do this we will:



3.1 create incentives for research institutions, their support structures and researchers to take the lead in international networks, programmes and partnerships, including for cooperation with third countries;

3.2 provide support for the preparation of collaborative research projects with external enterprises and for the export of research results, and develop the capacity of research teams to fulfil high-tech orders;



3.3 continue to develop and monitor a strategic engagement plan to identify priorities and decision-making mechanisms for international research cooperation, in line with the RDIE focus areas.



### Lines of action to create a supportive business environment

**Sub-objective:** Estonia's business environment is conducive to the entrepreneurial spirit and to the emergence and growth of knowledge-intensive enterprises, the creation and export of higher value-added products and services, and investments in all regions of Estonia.

## 1. Developing a competitive and smart business and consumer environment

To do this we will:



1.1 provide support for increasing entrepreneurial capacity, starting up an enterprise, increasing the added value and R&D capacity of enterprises, and for developing the necessary enterprise support systems and networks in different regions of Estonia;

1.2 reinforce the role of local authorities and county development centres in developing the business environment and creating the necessary conditions for it;



1.3 promote the implementation of new business models, including circular economy and principles of responsible business in the management culture of enterprises through awareness raising, training, support for carrying out audits and the development of a roadmap for responsible enterprise;

1.4 raise business awareness of green and digital transitions<sup>12</sup> as well as the transitioning of enterprises and provide support services to encourage technological innovation, the use of best available technologies, improved management quality and generational change;

1.5 shape consumers' habits of consuming sustainably and wisely;

1.6 reduce administrative burdens on enterprises, including by providing public services to them through a single digital gateway, as proactively as possible and in line with their needs, and by facilitating the development and implementation of the real-time economy;

1.7 promote digital trade (e-commerce, platform economy, sharing economy) and the circular economy to improve the competitiveness of Estonian micro enterprises and SMEs in international trade;

<sup>11</sup> High Performance Computing

<sup>12</sup> Green and digital transitions to a sustainable and digital economy

- 1.8 develop and expand the e-Residency programme to invite new enterprises to do business in and through Estonia;
- 1.9 continue the implementation of the Work in Estonia programme and develop an effective inter-professional talent policy<sup>13</sup> in order to attract the top talent needed by Estonian enterprises;
- 1.10 establish a single customer management for supporting enterprises and providing services;
- 1.11 through the OSKA<sup>14</sup> partnership, implement activities that encourage cooperation between enterprises and educational institutions at all levels of education and support the training of professionals for (industrial) enterprises.

## 2. Increasing the capacity for higher added value and exports

To do this we will:



- 2.1 support the use of the best available technologies in industrial enterprises and encourage the adoption of business models based on modern technologies, including the diagnosis and auditing of bottlenecks and the involvement of internationally experienced experts and top professionals from abroad;



- 2.2 promote the growth of exports of RDI-intensive products and technologies already developed in Estonia and create conditions for the development and sale of new products and services in higher added value sectors and markets, support enterprises through quality infrastructure services and help in obtaining the necessary certificates and marketing authorisations in the target market, encourage cooperation and joint activities between enterprises to increase export volumes;



- 2.3 build the capacity of enterprises to manage sales and marketing in a comprehensive way in order to enter and stay in international markets (e.g. through seminars, training, growth and development programmes), including taking into account the opportunities of e-commerce;



- 2.4 support the growth and expansion of enterprises in existing and new export markets, including through finding the necessary contacts, networking with foreign agents, participating in trade fairs, consultancy, bundled market-specific support, financial instruments, etc;



- 2.5 encourage enterprises to invest in new geographical and product markets;
- 2.6 increase the international visibility of Estonian enterprises, including through business diplomacy and the targeted promotion and marketing of Estonia's image;
- 2.7 strengthen Estonia's integration into the EU single market, reduce barriers to trade and excessive administrative burdens to facilitate cross-border activities of export-oriented enterprises (including digitalisation of public administration, better information exchange and advice).

## 3. Fostering technology- and development-intensive investments.

To do this we will:






- 3.1 improve access to finance (capital) for enterprises, including in rural areas;
- 3.2 consistently mitigate the risks associated with technology- and development-intensive foreign investment, including in terms of availability of workforce, provide educational institutions with information tailored to the needs of enterprises, support the training of suitable specialists at universities, develop the necessary infrastructure (network connections, industrial parks, transport facilities) and cooperate with municipalities;
- 3.3 support the mobilisation of technology- and development-intensive investments, in particular in RDIE focus areas;
- 3.4 create a competitive and flexible investment environment in all regions of Estonia, including by ensuring appropriate financing opportunities, and by channelling more resources and support to the regions so that Estonia's economic development is more even than it has been thus far;
- 3.5 develop an investment-friendly regulatory and tax system together with the necessary support system, including analyse the investment environment in Estonia and, on the basis of the analyses, develop the business environment in Estonia as an investment destination (e.g. energy price adjustment for large-scale producers, speed of processing residence permits, etc.).

<sup>13</sup> The interprofessional talent policy is based on cooperation between different professionals.

<sup>14</sup> OSKA is a system for monitoring and forecasting labour demand, designed to provide comprehensive information across all sectors of the economy on how many and what skills will be needed over the next five to ten years. OSKA studies are used, inter alia, to support economic sectors, in particular by improving access to labour.

# Assessment of the impact of the Strategy

Sub-objective of the Strategy	General impact
 <p><b>Knowledge transfer:</b> Estonia's development relies on research-based and innovative solutions</p>	<p>Development and innovation will lead to new and innovative solutions which, on the one hand, address society's needs with fewer resources, and on the other hand, offer opportunities to improve the quality of products and services, and improve the functioning of society, economic competitiveness, sustainable development and overall well-being.</p>
 <p><b>Research system:</b> Research in Estonia is high-level, effective and diverse</p>	<p>A high level of scientific excellence and coherence with the needs of society, including the economy, will create the preconditions for increased knowledge, better education and more effective and relevant policies. Through a research-based approach, the causes of problems will be better understood and more effective solutions will be found. This will increase positive impacts and reduce negative impacts in all areas.</p>
 <p><b>Business environment:</b> Estonia's business environment is conducive to the entrepreneurial spirit and to the emergence and growth of knowledge-intensive enterprises, the creation and export of higher value-added products and services, and investments in all regions of Estonia</p>	<p>Developing the business environment will create the conditions for economic development through higher productivity and increased added value. Estonian enterprises will generate more revenue from high value-added products and services; entrepreneurs will be competent, enterprises will be well-managed and efficient; the Estonian economy will be internationally integrated and innovative.</p>

A more in-depth analysis of impacts can be found in **Annex 5**.



Photo: Renee Altrov

# The process of, and involvement in, preparing the Strategy

For the purpose of preparing the Strategy, a **strategic steering group** was established, consisting of representatives of the MoER and the MoEAC, including representatives of the MoER, MoEAC, the Government Office and the Ministry of Finance (MoF). The Steering Group was led by the Head of the Research Department from the MoER and the Head of the Economic Development Department from the MoEAC.

The Steering Group's task was to prepare the Strategy document and to arrange for cooperation with partners, based on the guidelines of the Research Policy Committee (RPC), the Innovation Policy Committee (IPC) and the Research and Development Council (RDC), and following the best practices of involvement of target groups and stakeholders. The process of preparing the Strategy is described in more detail in **Annex 4**.

Partners were involved in the preparation of the Strategy through the **Strategy Working Group** (see **Annex 4**). The working group included partners from the research system (positively evaluated research institutions, representatives of researcher associations), partners from the business community (business associations) and partners from relevant ministries and agencies. The task of the members of the working group was to provide feedback on the materials prepared by the steering group, to highlight the needs in their own areas and to make suggestions on the objectives, indicators and policy options of the Strategy. The sector's development needs and the critical changes required were discussed at engagement seminars attended by more than 70 partner representatives.

## Management and organisation

### Management and coordination

- Responsibility for the management, implementation, and reporting on the results of the Strategy is **shared equally between the MoER and the MoEAC** and other ministries within their respective areas of responsibility (see **Figure 2**).
- **A Steering Committee for the sectoral Strategy (the Steering Committee for RDIE)** will be set up in place of the Research Policy Committee, Innovation Policy Committee and the Steering Committee for Smart Specialisation to implement the strategy. The RDIE Steering Committee consists of a representative of the association Universities Estonia, a representative of the Estonian Academy of Sciences, three members of research institutions appointed by the Minister of Education and Research, a representative of the Estonian Chamber of Commerce and Industry, a representative of the Estonian Employers' Confederation, three representatives of enterprise appointed by the Minister for Foreign Trade and Information Technology, a representative of the Ministry of Finance, a representative of the Government Office and representatives of the four ministries with the largest funding for RDI. In addition, each Minister appoints one independent expert in the field of RDIE to the Steering Committee. The Steering Committee is chaired alternately by the Minister for Education and Research and the Minister for Foreign Trade and Information Technology. Each year, before submitting the performance reports, the Steering Committee for RDIE discusses the implementation programmes of the Strategy, evaluates the implementation of the Strategy and, if necessary, makes recommendations for implementation and modification of the Strategy (see **Figure 3**).
- The Steering Committee takes into account the recommendations of **the Research and Development Council (RDC)**.
- The planning and implementation of national R&D activities are coordinated through the **RDI Coordination Council**. Each ministry appoints a person responsible for R&D activities in the ministry's area of administration (e.g. a research adviser) to the Coordination Council, who represents his or her ministry in the coordination of Strategy activities, participates in the preparation of the programmes of the Strategy and exchanges information on R&D in the process of planning the state budget and preparing reviews and reports. In addition, the Coordination Council includes representatives of the Estonian Research Council and Enterprise Estonia. The work of the Coordination Council is steered by the Deputy Secretary General for Higher Education and Research of the MoER and the Deputy Secretary General for Economic Development of the MoEAC, depending on the issues on the agenda. The Coordination Council has the right to make proposals and raise issues for consideration by both the RDIE Steering Committee and the RDC, and to provide feedback on the materials submitted to the RDC and the RDIE Steering Committee.
- Partner organisations and stakeholders will be involved in the implementation of the Strategy in line with the best practice for involvement. Information related to the Strategy will be published on the websites of the MoER and MoEAC.

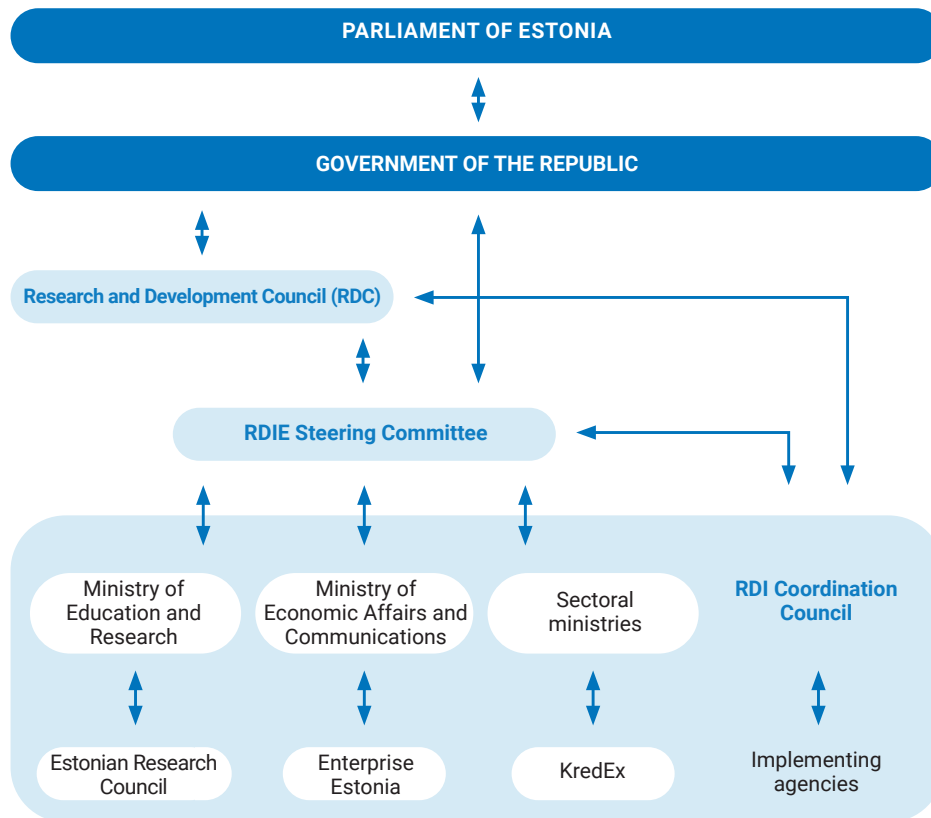


Figure 2. RDIE Strategy governance structure

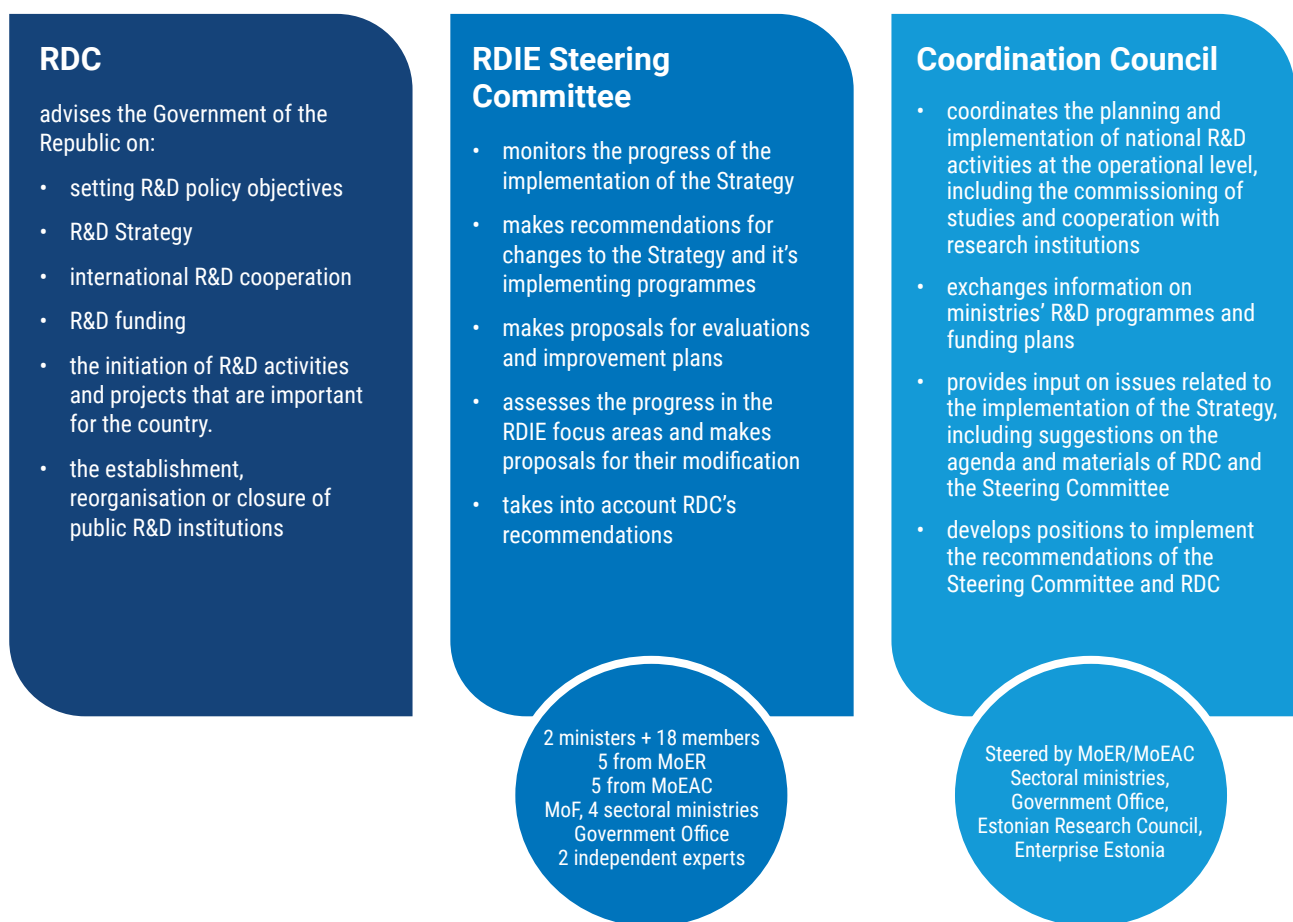


Figure 3. The roles of the actors in the RDIE governance structure

## Implementation

The RDIE Strategy implements Estonia's long-term development strategy 'Estonia 2035'. The Strategy is implemented through programmes (**Figure 4**). The programmes set out a timetable and, by responsible body, the activities and their cost over four (1 + 3) years.

### The RDIE Strategy is implemented through three programmes:

- the Knowledge Transfer Programme;
- the Research System Programme;
- the Business Environment Programme.

The programmes are drawn up as part of the planning of the national budgetary strategy (NBS) and reviewed annually to ensure consistency with the changing external environment and the NBS. Each programme sets out the policy instruments, actions, indicators and financing plan to achieve the sub-objectives of the Strategy. The content of the programmes is discussed by the Steering Committee and, in the case of the Research System and Knowledge Transfer programmes, by RDC before the NBS is approved. After the approval of the national budget, the programmes are specified, if necessary. The Research System Programme is approved by the Minister for Education and Research, the Business Environment Programme is approved by the Minister for Foreign Trade and Information Technology and the Minister for Economic Affairs and Infrastructure, and the Knowledge Transfer Programme is approved by the Minister for Education and Research and the Minister for Foreign Trade and Information Technology.

The RDIE activities planned under other strategies and programmes and their budget requests will be assessed by MoER in consultation with the RDIE Steering Committee and RDC before the adoption of the NBS.

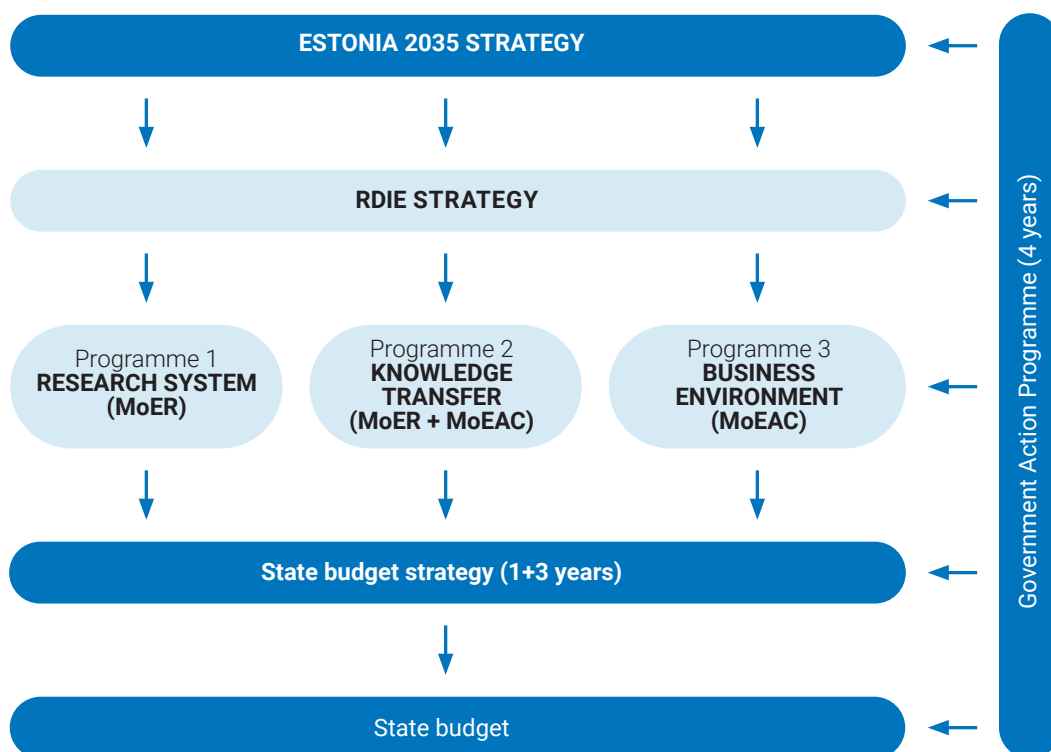


Figure 4. Diagram of the implementation of the Strategy



## Reporting, monitoring and evaluation

Reporting on the RDIE Strategy will be done by programmes and through needs-based evaluations, as part of the performance reporting. The MoER and the MoEAC will jointly prepare an annual performance report on the implementation of the Strategy programmes. The performance report will provide an overview of the implementation programmes of the Strategy, including the progress made in the RDIE focus areas, and will make proposals for improvements and amendments to the Strategy where necessary.

The performance report will be presented to the RDIE Steering Committee and RDC. On the basis of the performance report on the Strategy, the Steering Committee makes recommendations for the initiation, modification or termination of programmes related to the implementation of the objectives of the Strategy and makes proposals for evaluations and improvement plans.

In the course of preparing the performance report, MoER, in cooperation with Statistics Estonia, aggregates information on R&D activities and the use of funds in other ministries according to the OECD methodology<sup>15</sup>.

Given that the impact of R&D is often not quantifiable and is influenced by activities and choices in other policy areas, both qualitative and quantitative analysis is needed to assess the objectives and impact of the Strategy. Therefore, at least two interim evaluations are planned to assess the achievement of the objectives of the Strategy. The first interim evaluation will assess the relevance of the actions and the efficiency of their implementation. Interim evaluation is carried out in the first half of the programming period, but not earlier than four years after the entry into force of the Strategy. The second interim evaluation will assess the effectiveness and impact of the actions under the Strategy. The interim evaluation will be carried out at least three years before the end of the period covered by the Strategy. The RDIE Steering Committee has the right to propose further evaluations, including for selected policy instruments and activities.

## Funding

The RDIE Strategy takes into account the objectives of the Estonian Research Agreement signed on 19 December 2018 and the commitments described in the agreement. As a result, funding for R&D from national budget will be increased to 1% of GDP in 2021 and maintained at least at the same level thereafter. The share of government-funded private R&D expenditure will be maintained at least at the level reached in 2019 (0.12% of GDP).

EU structural funds will be used to fund the activities of the strategy, in particular to implement structural changes and to carry out activities not previously funded from national tax revenues, and to achieve other objectives set out in the legislation on Structural Funds. Activities requiring permanent funding will gradually be supported from tax revenues.

The share of R&D spending is linked to the overall compliance with the R&D funding target of 1% of GDP. Funding levels will be maintained and additional resources allocated to sectors through the national budget strategy and the national budget processes, maintaining a balance between the country's fiscal policy capacity and needs.

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<sup>15</sup> Government budget appropriations or outlays allocated to R&D, GBAORD

# Budget forecast

## RDIE funding from 2021 onwards 1% of GDP\*

Research funding will reach 1% of GDP by 2021 and will be maintained at least at the same level thereafter, subject to public finance policy possibilities. The 1% of GDP projected in the Strategy's budget forecast does not mean that the level of research funding could not rise above that level.

RDIE Strategy	Funding 2021-2035 (million EUR)
Research System Programme (MoER)	2,828
Knowledge Transfer Programme (MoER+MoEAC)	3,361, incl. MoER 2024 + MoEAC 1,337
Business Environment Programme (MoEAC)	1,708
<b>Total funding for RDIE Strategy</b>	<b>7,897</b>

\* In addition to the funding scheme of the RDIE Strategy, sectoral R&D activities are funded by other ministries under their own strategies. The sectoral R&D spending of other ministries is not included in the funding scenarios of the RDIE Strategy.

The assumption is that the nominal funding of the research system will be maintained even during an economic downturn.

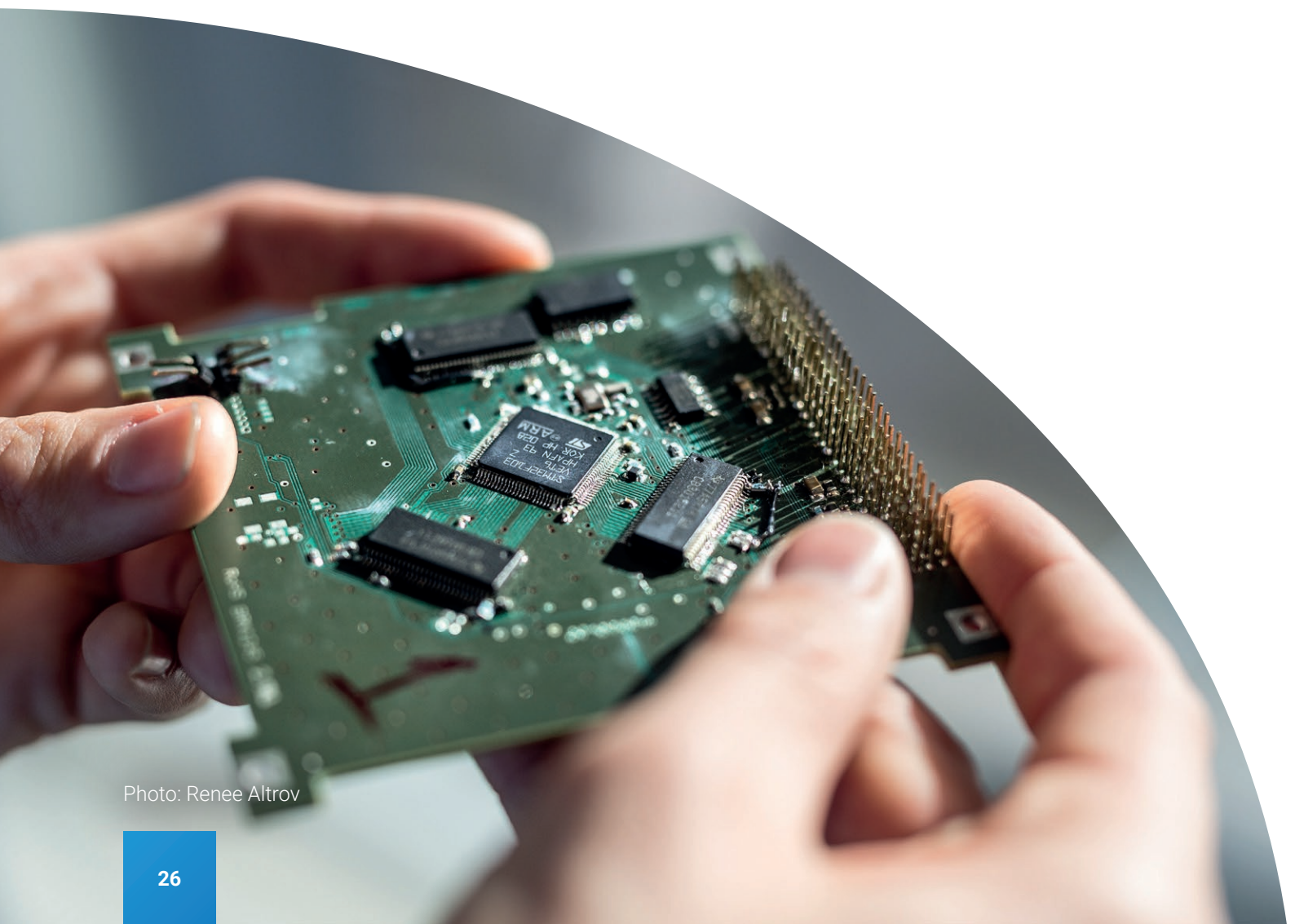


Photo: Renee Altrov