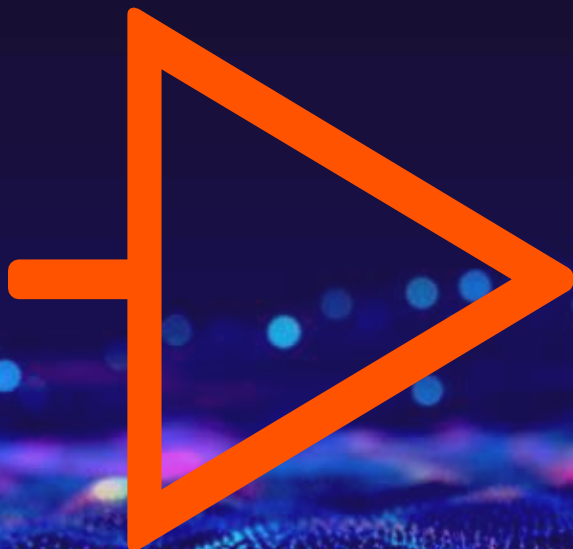




Action Plan for the Development of the Deep Tech Startup Ecosystem



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1. The objective of the Action Plan and its link to Estonia's strategy documents

Introduction

This action plan is another step in the journey of the development of business and society in Estonia. The emphasis is on science- and technology-intensiveness and startups, but it illustrates more the chosen way of thinking and the approach used. The following pages refer to and allude to the broader background – various crises, solutions to pressing global problems and compelling future opportunities made possible by advances in deep technologies.

With this in mind, a brief review is appropriate. Startup Estonia, the startup development programme that began under the coordination of [SmartCap AS](#) founded at the initiative of the Ministry of Economic Affairs and Communications in 2011, has now become part of today's Enterprise Estonia and KredEx joint agency. During the past decade, we have achieved goals that once seemed unattainable: There were over 1000 startups in Estonia by 2020 and Estonia is known as a startup Mecca.

Today we can see that the world is looking for inspirational examples and Estonia once again could stand out. We are noticed for being smart and caring with sustainable and modern solutions. Therefore, the values and goals of Startup Estonia, including those of the Estonian Business and Innovation Agency in general, have changed over time – today we pay significantly more attention to sustainability, searching impact-based solutions and boosting knowledge-intensive entrepreneurship that can compete on an international scale.

Science and technologies sometimes tend to be seen as distant from life, as something that does not take people's interests and needs into consideration. This paper would not be possible without data, numbers, and technologies. However, we cannot understand and make sense of the world through data, numbers, and technologies alone.

Therefore, the authors sincerely thank everyone who has contributed to the preparation of this action plan! They contributed through conversations, brainstorming, data and knowledge sharing, personal support and in other various ways. It would be too much to list all the contributors, but we have a great desire to mention some of them.

Mart Maasik and the University of Tartu Centre for Entrepreneurship and Innovation team, Mari Vavulski and the SmartCap team, Kadri Tammai and the Tallinn Science Park Tehnopol team, Sigrid Rajalo and Sille Kraam from the Ministry of Economic Affairs and Communications and Siim Kinnas, Sigrid Harjo and colleagues from the Estonian Business and Innovation Agency. Andi Hektor, your ability and will to promote research-intensive entrepreneurship is impressive! Without you, this work would be drier, more boring, and far less comprehensive.

Deep technology is the future

Since 2018, when people began to focus on and observe more of the role of deep technologies in society and the economy, various reports have found that deep technologies* are the main engine of future economic growth and the source of impact-creating results and solutions to national problems.

According to the report [“Deep Tech: The Great Wave of Innovation”](#) published in 2021 by Hello Tomorrow, deep technology, i.e. knowledge and technology-based entrepreneurship, is the fourth and most powerful wave of innovation and staying on its crest largely determines the success of our future economy.

Atomico's report [State of European Tech 2021](#) confirms the importance of deep technologies:

- Investments and focus have shifted to ventures with a broader and greater purpose (climate, deep technologies);
- 25% of researchers point out that the most important step is to increase incentives for the commercialisation of research results (compared to the publication of research articles)
- Mariya Gabriel, the European Commissioner for Innovation and Research, highlights the importance of both deep technologies and startups** and their potential in the Central and Eastern European region.

[The World Economic Forum](#) states that startups are critical to achieving social change, economic recovery and responsible economic growth.

The Global Startup Ecosystem Report issued by [Startup Genome](#) notes that since 2018, we can see an accelerated growth trend of deep technologies and if we count artificial intelligence as deep technology, then during the last four years, the growth of the world's startup ecosystems has been almost entirely driven by deep technologies.

The goals of the [Estonian Research and Development, Innovation and Entrepreneurship Strategy 2021–2035](#) (RDIE 2035) focus on important keywords - the well-being, sustainability and development needs of society and the economy:

"Estonian research, development, innovation and entrepreneurship work together to increase the welfare 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."

1.1. Action plan – link to Estonia's strategy documents and implementing parties

This action plan considers global trends, is aligned with the Estonian Business and Innovation Agency strategy and is based on the goals stipulated in the strategic development documents of the Government of the Republic of Estonia and ministries and other guidelines that the foundation implements.

In addition, the plan contributes to the realisation of the following objectives by describing both mundane and agile activities:

1. The Estonian business environment promotes the creation and growth of knowledge-intensive entrepreneurship and entrepreneurship both within companies and in cooperation with universities, stimulating the application of new technologies and the creation and export of products, services and technologies with greater added value, as well as investments in all regions of Estonia.
2. Estonia's development is supported by knowledge-based and innovative solutions.
3. For the emergence and growth of knowledge-intensive entrepreneurship, it is necessary to ensure future generations of workers operating in the field.

Simultaneously, the action plan strives with courage and optimism to increase the well-being of all of us, connecting the expectations and interests of various parties – entrepreneurs, the public sector, the academy and broader society. In addition to pragmatic attributes, startups and deep technologies are characterised by curiosity, the joy of discovery and the desire to improve the world, but also by unexpected events and failures. This living digital paper, which will adapt and evolve over time depending on how its implementers experiment and learn, will definitely be affected by them as well.

The main contributor to the implementation of the action plan is the Innovation Division of the Estonian Business and Innovation Agency. Achieving the goals of the capital market is carried out in close cooperation with the SmartCap team.

Universities and R&D (research and development) institutions, research parks, startup accelerators and incubators, the Estonian Founders Society, the Estonian Business Angels Network, the Ministry of Economic Affairs and Communications, the Ministry of Education and Research, the Ministry of the Interior and other institutions and companies are important and valued cooperation partners in achieving the objectives.

1.2. Action plan objectives and performance metrics

The action plan is based on the vision of the Estonian Business and Innovation Agency:

Estonian companies are creating global success stories.

We invest in ventures that are born in Estonia and have great potential to be pioneers around the world and apply an innovative approach in various markets. We aim for not only the economic results of individual companies, but the wider recognition and good reputation of Estonia as a whole

The objective of this action plan is to accelerate the development of an economic environment that favours science and technology-intensive entrepreneurship and cooperation in the startup community, through which internationally successful and influential deep technology companies can start and grow in Estonia.

To conjure an ideal image for the reader: **Estonia's research-intensive startup ecosystem is lively, colourful and masterful.**

The action plan proposes a future where deep technology entrepreneurship plays an important role in the Estonian economy and society.

According to the action plan, in addition to the image of an exemplary electronic and digital country, Estonia should also achieve the reputation of a known hub for deep technologies:

- we will bring deep technologies and their relevance to mainstream media,
- we will nudge foreign media to talk about us as a deep tech hub,
- we inspire foreign talents in Estonia to co-develop cutting-edge technologies and breakthrough science while appreciating and making use of the practicality and competence of the Estonian people and institutions
- together with our Nordic partners, we are part of global networks and lead the New-Nordic Deep Tech Valley.

The action plan focuses on achieving the following objectives and milestones by 2030:

Objective	Metric	Base level 2022	Base level 2025	Base level 2030
(Deep) technology entrepreneurship plays an important role in the economy and society	Number of deep tech startups*	100	200	500
	Number of deep tech scaleups	8	20	75
For the Estonian investor community, investing in deep technology companies is a daily activity	Number of investments in deep technology startups per year	15	25	100
	Percentage of investments in deep technologies from the total amount of venture capital investments	13%	15%	30%
Intellectual property is an important part of the daily business processes of Estonia's deep technology startups and growth companies	Startups reporting reg. IPs, incl. under licence, excl. brands (% of Deep Tech in the SuE database)**	25%	40%	60%
	Annual number of startups and scaleups that used EIS IP services	40	80	250
Estonia is known as a hub of startups in the field of deep technology	Percentage of deep technology startup and scaleups that recommend starting/continuing operations in Estonia	n/a	70%	80%
	Estonia is featured in internationally recognised reports and/or rankings (Startup Genome, Atomico, Hello Tomorrow)	0	1	5

*Based on the quick mapping done in the autumn of 2022 that does not include patents in the application process or IPs held by founders or foreign companies

**Forecast based on the Q1-Q3 2022 data of companies currently marked as Deep Tech in the Startup Estonia database

2. Intervention logic, operating principles and bottlenecks

To reach the number of deep technology startups aimed for in the action plan, from the 100 deep technology startups listed in the [Estonian startup database](#) in 2022.

- ▷ **to 500 deep technology startups and growth companies*****
- ▷ **while increasing labour productivity by 110% of the EU average and**
- ▷ **triple the number of researchers and engineers employed full time in the private sector**

we need new, bold, and systematic solutions.

How do we find and use resources for smart, consistent, and sustainable growth? By involving people, capital, knowledge, networks and shaping the environment around them.

At the same time, we must soften and help the ecosystem overcome growth barriers:

- ▷ **A change in mindset from science to business, i.e. from a scientist to an entrepreneur, including the use of new types of business models (IP-based) and team building.**
- ▷ **Lack of competences and funding in business development track, especially in the early stages of startup life cycle.**
- ▷ **Obstacles in the transfer of intellectual property from a research and development institution to a startup.**

The diagram below shows a simplified life cycle of a deep technology company emerging from a research institution, highlighting both technology and business development processes. The investment events, divided into ten stages, illustrate the moments in the life cycle of a deep technology startup when the need for capital arises in order to move on to the next stage in the company's development.

Today, market failures exist in the Estonian investment landscape both at the very early pre-seed as well as at the scaling stage.

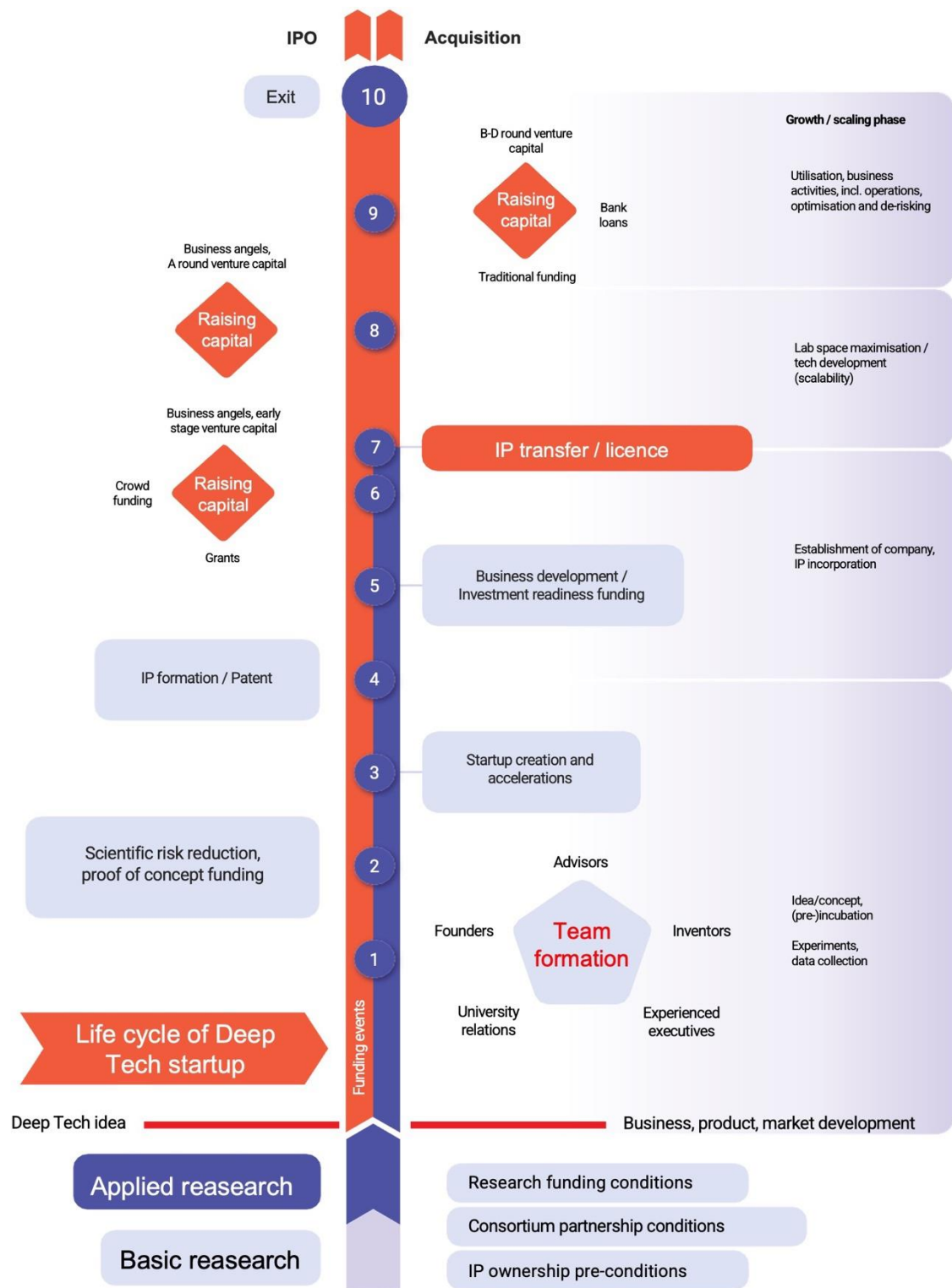


Figure 1 Life of a Deep Technology Company, A.Tajonar 2014, Mart Maasik, University of Tartu further development, 2022

3. The pillars of a functioning ecosystem and Estonia's bottlenecks

The following five strong pillars are necessary for the functioning of an efficient and thriving ecosystem, including the (further) growth of deep technology startups.

People: founders and first employees of a company, members of the advisory board, specialist workforce in the growth company stage.

?

Where can we find the human resources needed for exponential growth? Is our system of technology scouts and talent scouts working? Both at home and abroad? How can we make our research centres, business development programmes and companies (more) attractive to foreign talent?

Intellectual capital: provision of services and competencies in technology development, product development, intellectual property, business development, including growth management and team building.

?

Do the parties in our business environment, universities, incubators, accelerators, consulting companies and mentors and conventional companies offer the necessary knowledge? Are they able to offer it to a 5x, 10x, 20x times larger customer base?

Another big challenge are the understandings, competencies and processes related to intellectual property. Can we agree on common understandings and rules of the game to ensure the smooth flow of knowledge, including intellectual property, from research institutions to (spin-off) companies and to robust products and services on the market?

Capital: deep technologies are capital intensive from the proof-of-concept stage to the scaling of production capacities.

?

Do today's funding models ensure the systematic and consistent emergence of new research projects and opportunities to turn them into businesses? Is there a capacity to fund 5,10, 25 times more projects and pick out the best of them? Is there enough public and private capital locally to invest in the seed stage and the development of growth companies?

Networks: international networks of research and business contacts, networks of sectoral investor contacts and cooperation models with (international) large companies.

?

Estonian deep technology projects are rarely born or developed in a narrow geographical area. They are international by their nature, both in the creative and development processes as well as in their subsequent positioning in value chains and markets. How widespread are the access points to international networks? What do we have to offer international partners that is their equal or better to develop collaborative joint projects here?

Business environment: the legislative framework for the development and use of technologies, the financial framework in terms of capital inclusion and tax policy as well as cultural integration create the environment that forms the basis for decisions to create, develop, bring in or take companies out of Estonia.

4. Action plan strands and activities

The action plan contributes to the development of the science- and technology-intensive startup ecosystem, considering the basic principles described within the intervention logic and the observations of the Science-in-Tech expert group created by Startup Estonia about the opportunities and bottlenecks of knowledge-intensive startup entrepreneurship. The expert group analysis was conducted between the autumn of 2020 and the summer of 2022, including representatives from universities, science parks, startup business accelerators, the investor community, consulting companies and other business support structures.

1. People - founders, employees, and other key roles in a startup

In order for the deep technology startup ecosystem to function, a critical mass of startups is needed, which require a highly specialised and hard-to-find workforce. As of 2022, there is a shortage of programmes that would increase the business capacity of research teams as well as platforms that promote cooperation between entrepreneurs and researchers. There is a lack of sectoral specialists and business managers in the early stage of assembling startup teams.

DESCRIPTION OF ACTIVITY

Supporting the emergence of new deep technology startups

The objective is to ensure the stable and systematic emergence of deep technology startups

➤ 4.1.1. Development programmes in universities and support organisations

- An accelerator programme in the health technologies vertical;
- Introducing Entrepreneur-in-Residence programme(s) - the purpose of the service is to support the implementation of scientific ideas in society by encouraging research-intensive startups, as teams growing out of research activities need business development support and competent team members at a very early stage. The task of the entrepreneur in residence (hereinafter EIR) is to be an active team member of a startup company resulting from research, a leader of the business strand and business strategy;
- Empowerment of deep technology-oriented programmes implemented by science parks and/or other support organisations (e.g. the European Space Agency business incubator, S2B incubator, CERN incubator, NATO DIANA accelerator, etc.).

➤ 4.1.2. Activities related to universities and R&D institutions

- Empowerment activities of universities' spin-off programmes, including:
 - establishment of the position of technology scouts in universities;
 - expansion of spin-off programmes to other universities besides the University of Tartu and TalTech.

➤ 4.1.3. Activities related to talent

- Systematic search for talent, including:
 - Formulating the value proposition of Estonia as a hub for deep technology startups;
 - Emphasis placed on finding foreign talent in the fields of deep technology in the Startup Visa and Scaleup Visa programmes;
 - Analysis of the creation of a (foreign) talent scouts system;
- Finding internal talent (engineers, business people, including founders), fostering a new talent pool
- Obtaining and offering development programmes to those interested in retraining or further training.

➤ 4.1.4. Activities supporting community growth

- Events and programmes that promote open and close communication between researchers and entrepreneurs;
- Creating and supporting activities that encourage the emergence of new startups in the field of deep technology through small tenders for developing the ecosystem;
- Bringing an international conference with a focus on deep technology to Estonia (a well-known brand's event in Estonia or a rotating joint Nordic event, e.g. Nordic Deep Tech Business Summit, one year in Finland, one year in Estonia).

2. Improving partial ecosystem knowledge and skills

Today's low competence in business development and intellectual property in early-stage deep technology startups slows down the arrival of products and services to the market and/or the companies are unable to raise funds, thereby increasing the startups' risk of failure.

DESCRIPTION OF ACTIVITY

Cultivating entrepreneurial competencies in the field of deep technology

The objective is to provide deep technology entrepreneurs with new knowledge and skills to increase their competitiveness

4.2.1. Intellectual capital

- Developing a mentor base for deep technology startups consisting of founders and experts of deep technology companies;
- Participating in international entrepreneurial skills programmes and, if suitable, adapting and implementing them in Estonia, e.g. the [MIT Disciplined Entrepreneurship model](#);
- Applied and strategic IP trainings, materials (IP textbook), MOOC for the IP entrepreneur, IP strategy master class.

4.2.2. Other supporting activities

- Managing and updating the database of model legal documents on the Startup Estonia website;
- Creating an intellectual property strategy, including the preparation and distribution of IP-related model documents.

3. Capital market development

There is no support measure on the market today for financing early-stage business development activities. Private capital is not willing to invest at such an early stage in solutions with high market and production risks. Growth companies lack innovation loan instruments at the scaling stage. Local funds have a low capacity to make late stage (B series and beyond) investments.

DESCRIPTION OF ACTIVITY

Growing investment capacity in deep technologies

The objective is to accelerate the progress of deep technology startups in the company's life cycle by satisfying the need for capital

4.3.1. Activities related to early stage investments

- Creating a support measure aimed at the early-stage business development of deep technology startups using the [Business Finland Tempo measure](#) as an example;
- Activities aimed at business angels to encourage investment in deep technology: technology days, study tours, trainings and more.

4.3.2. Activities related to growth stage investments

- International investor readiness and capital raising training programme for founders and top managers of growth-stage companies;
- Capital market monitoring and metrics development in cooperation with SmartCap.

4. Improving networking capabilities

Estonia is known as a successful startup environment, but we are still raising awareness and developing both national and international partner networks in the field of deep technologies.

There is little exchange of knowledge and skills with foreign partners or implementation of joint projects. Since internationalisation is critically important in deep technology startups, the current situation inhibits the realisation of overall potential.

DESCRIPTION OF ACTIVITY

Making the participants of the Estonia's deep technology startup ecosystem more visible in foreign countries and mapping the Nordic region's common interests and finding cooperation partners

The objective is to promote Estonia's deep technology startups and support organisations in the world and to create cooperation formats with the Nordic deep technology communities

4.4.1. Joint activities outside Estonia

- Consistent presence at international sectoral conferences, festivals and events;
- Study trip to a global hub once a year.

4.4.2. Participation in international networks

- Developing the concept of the New Nordic Deep Tech Valley; creating a network to address common bottlenecks in the region and to implement the potential of research commercialisation more effectively.

5. Development of the business environment

The Estonian business environment is favourable for startups, but it needs to be constantly monitored, maintained, and further developed using the best practices of other countries. The transfer of intellectual property from universities to companies continues to be problematic: there are no clear and commonly accepted technology transfer mechanisms on the market; a common technology transfer culture of the business and research communities has not been developed.

DESCRIPTION OF ACTIVITY

Developing the business environment considering new business models and the emergence of ground-breaking technologies

The objective is to maintain and enhance the strengths of Estonia's economic environment, to be ready to respond quickly to changes and emerging opportunities for economic development in the world and to create a functional technology transfer infrastructure

4.5.1. Legislation

- Creating and implementing a flexible and up-to-date regulatory environment, including maintaining a stable tax environment.

4.5.2. Dialogue with policy makers

- Designing a flexible workforce policy and simplifying access to workforce with the necessary skills for the sector;
- Systematic fostering of private sector R&D investments. E.g. financial incentives for wider involvement of R&D employees in the private sector;
- Adding a business dimension (commercialisation) to the evaluation criteria of research and innovation grants.
- Development of infrastructure

4.5.4 Developing the intellectual property monitoring system (obtaining and developing tools)

- Development and analytics of a regular questionnaire-survey, communication of its results and marketing activities;
- Creating a common framework in research and development and tertiary education systems, a so-called IP protocol that covers intellectual property, acquiring shares and universities' motivation in spin-off processes.

4.5.5. Awareness, marketing and cooperative culture

- Creating an image and reputation of Estonia as a hub of deep technology, including making a value proposition for Estonia's deep technology ecosystem and introducing Estonian deep technology solutions to the wider public through articles, blog posts and other media.

5. Updating, implementation and monitoring of the action plan

The implementation of the action plan is monitored through annual goals and a work plan, which is prepared for each following year (2023-2025) for the courses of action described in chapter 4. You can view the activities for 2023 in **ANNEX 1 - Implemented activities and performance metrics in 2023**.

Once a year, meetings with representatives of all partners take place to review the action plan and summarise the annual results. The Estonian Business and Innovation Agency submits a report to the Ministry of Economic Affairs and Communications on the achievement of objectives and the implementation of activities by the agreed deadline.

To implement the action plan and its objectives, the Ministry of Economic Affairs and Communications and the agency set priorities and plan funding.

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Definitions

* **Science and technology-intensive technology, also known as deep tech.**

Deep tech is defined as technologies whose development using today's possibilities is barely feasible and requires significant intellectual and economic capital, but which have the potential to become widely used and easily scalable in the future (Siegel & Krishnan, 2020).

Deep tech companies are characterised by three important attributes:

1. technology is based on scientific discovery;
2. technology is based on or technological development results in marketable and protected intellectual property;
3. technology is disruptive and scalable.

The main deep technology areas are high-tech materials and production systems, artificial intelligence (AI), biotechnologies, autonomous vehicles, robotics, photonics, microelectronics and nanotechnologies, quantum computing, medical and neurotechnologies, space technologies.

** **Startup**

An economic unit belonging to a company registered in Estonia whose goal is to develop and launch an innovative and repeatable business model with global growth potential that significantly contributes to the development of the Estonian business environment.

Reference: [Aliens Act](#)

*** **Growth company**

A growth company is a company registered in Estonia that is growing its activities and whose purpose is the further development of a technology-based, innovative and repeatable business model with great global growth potential that significantly contributes to the development of Estonia's business environment and meets the following criteria:

1. has been operating for at least ten years;
2. has at least 50 employees working in Estonia;
3. has paid at least one million euros labour tax in Estonia in the last year and
4. the cumulative increase in labour taxes over the past three years is 20 percent.

Reference: [The Amendments Act to the Aliens Act and the Act on Granting International Protection to Aliens](#)

ANNEX 1 – Implemented activities and performance metrics in 2023

1. People - founders, employees and other key roles in a startup

Activity	Result by 31 December 2023
Preparation of the public procurement of the Health Technologies Research Accelerator 2024-2025	The procurement has been announced and the participation of at least 10 deep technology teams developing health technologies is planned
Implementation of the entrepreneurial residency pilot programme at the University of Tartu	The performance of the programme has been validated with two deep technology startups
Events that promote open and close communication between researchers and entrepreneurs	At least 4 events bringing together researchers and entrepreneurs have taken place where a total of 120 researchers and entrepreneurs have participated

Major ongoing development programmes as of 2022:

- The first programme of the [research accelerator announced in 2021](#) is underway to accelerate deep technology teams in health technologies to one technology readiness level (TRL) higher in the company's life cycle. The accelerator concludes in autumn 2023.

2. Improving partial ecosystem knowledge and skills

Activity	Result by 31 December 2023
Updating legal and sample documents considering the needs of deep technology startups, including preparation of sample documents related to intellectual property	The sample legal documents supporting deep technology startups on the Startup Estonia website have been updated
Development and testing an adaptation of the MIT Disciplined Entrepreneurship bootcamp methodology for advisors and/or entrepreneurs	The bootcamp has been prepared, the methodology has been translated and the participants have been selected for the programme in 2024
Applied and strategic IP trainings, materials (IP textbook), MOOC for the "IP entrepreneur", IP strategy master class	Materials and trainings on intellectual property have been developed and launched

Major ongoing development programmes as of 2022:

- In 2022, the bringing of international competence in deep technology to Estonia was procured as part of a state procurement of new services for the startup ecosystem. The programme is called Deep Tech Sandbox and is implemented by Tallinn Science Park Tehnopol, EstBAN and TalTech. The content activities of the programme will start in February 2023.
- The international development programme [Creative Destruction Lab \(CDL\)](#) was started in the autumn of 2022 by nine Estonian deep technology startups.

3. Capital market development

Activity	Result by 31 December 2023
Piloting a support measure aimed at early stage business development using the Business Finland Tempo measure as an example	The early stage business development support measure "Ärgas" ("Alert") has been piloted, from which up to 10 deep technology startups have applied for funding. Note: The prerequisite is that the regulation of the support measure has been adopted
Cooperation with EstBAN for further investment in deep technology startups	A study trip of business angels to one of the European deep technology hubs has been carried out, one demo day and two meetings convened by EstBAN between the advisory board and deep technology companies
Capital market monitoring and metrics development in cooperation with SmartCap	Metrics have been developed to monitor investments in the field of deep technology startups

Major ongoing development programmes as of 2022:

- In 2022, SmartCap announced a competition to find two green technology fund management companies. Fund management companies will be selected in 2023.
- In 2022, the Nordic VC master class on venture capital organised by EstVCA began, where the trainers are deep technology fund managers from the Nordic countries. The programme will continue in 2023.
- In 2021 and 2022, the [Programme for applied research](#) funded the product development activities of deep technology startups.

4. Improving networking capabilities

Activity	Result by 31 December 2023
Representing Estonia at the global deep technology conference Hello Tomorrow Global Summit 2023 from 9-11 March 2023 in Paris	The Estonian demo area is on display at the conference and an opportunity has been created for the expansion of up to six deep technology startups at the growth stage to new markets.
Organising a study trip to the US for key players in the deep technology community	One of the hubs promoting deep technology startups in the US has been visited. Five Estonian deep technology organisations have benefited from the study trip
Formulating the value proposition of the Nordic Deep Tech Valley	In cooperation with the representatives of the deep technology ecosystem of two Nordic countries, a joint value proposition has been formulated and at least one joint activity has been agreed upon

Major ongoing development programmes as of 2022:

- Learning about Helsinki's deep technology ecosystem in April 2022. The delegation included representatives of science parks, the public sector and SmartCap.
- Representing Estonia in Riga at the deep technology-oriented business conference Deep Tech Atelier in May 2022.
- Regular "Science in Tech" expert group workshops took place, where analysis and proposals to solve bottlenecks of deep technology startups were made.

5. Development of the business environment

Activity	Result by 31 December 2023
Mapping deep technology startup ecosystem services	An overview of the deep technology startup ecosystem services is presented, following the life cycle of companies
Creating a framework for intellectual property processes, the so-called IP protocol, with universities, R&D institutions and other stakeholders	The IP protocol has been created and made publicly available
Creating an intellectual property monitoring system	A regular questionnaire-survey has been developed to monitor the intellectual property of deep technology startups
Creating the image and reputation of Estonia as a deep technology hub	The value proposition of Estonia's deep technology startup ecosystem has been described, published on the SUE website and distributed via social media
A round table meeting between the Prime Minister and the technology sector	There has been at least one round table meeting to make proposals for policy making

Major ongoing development programmes as of 2022:

- The Aliens Act introduced a growth company visa to facilitate the recruitment of employees for mature, high-growth technology companies.
- Deep technology startups are distinguished by an additional attribute "DeepTech" in Estonia's startup database.
- An intellectual property belonging to Estonian deep technology startups has been mapped.
- In the autumn of 2022, Statistics Estonia presented for the first time the amount of R&D expenditures of startups in 2021.
- In 2022, the study "Development trajectories of deep technologies and their meaning for Estonia" was procured. The study is conducted by Civitta in cooperation with TalTech. The results will be presented in the spring of 2023.

The implementation of the activities is coordinated by Startup Estonia, the startup ecosystem development unit of the Enterprise Estonia and KredEx joint agency, and the activities are financed from the funds of the Ministry of Economic Affairs and Communications and the European Regional Fund.



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