

Technology intensive start-ups in Estonia

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Euroopa Liit
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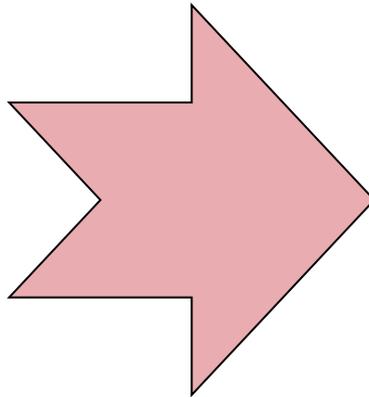


Eesti
tuleviku heaks

The objective of the study was to map Estonian spin-off landscape

INPUT

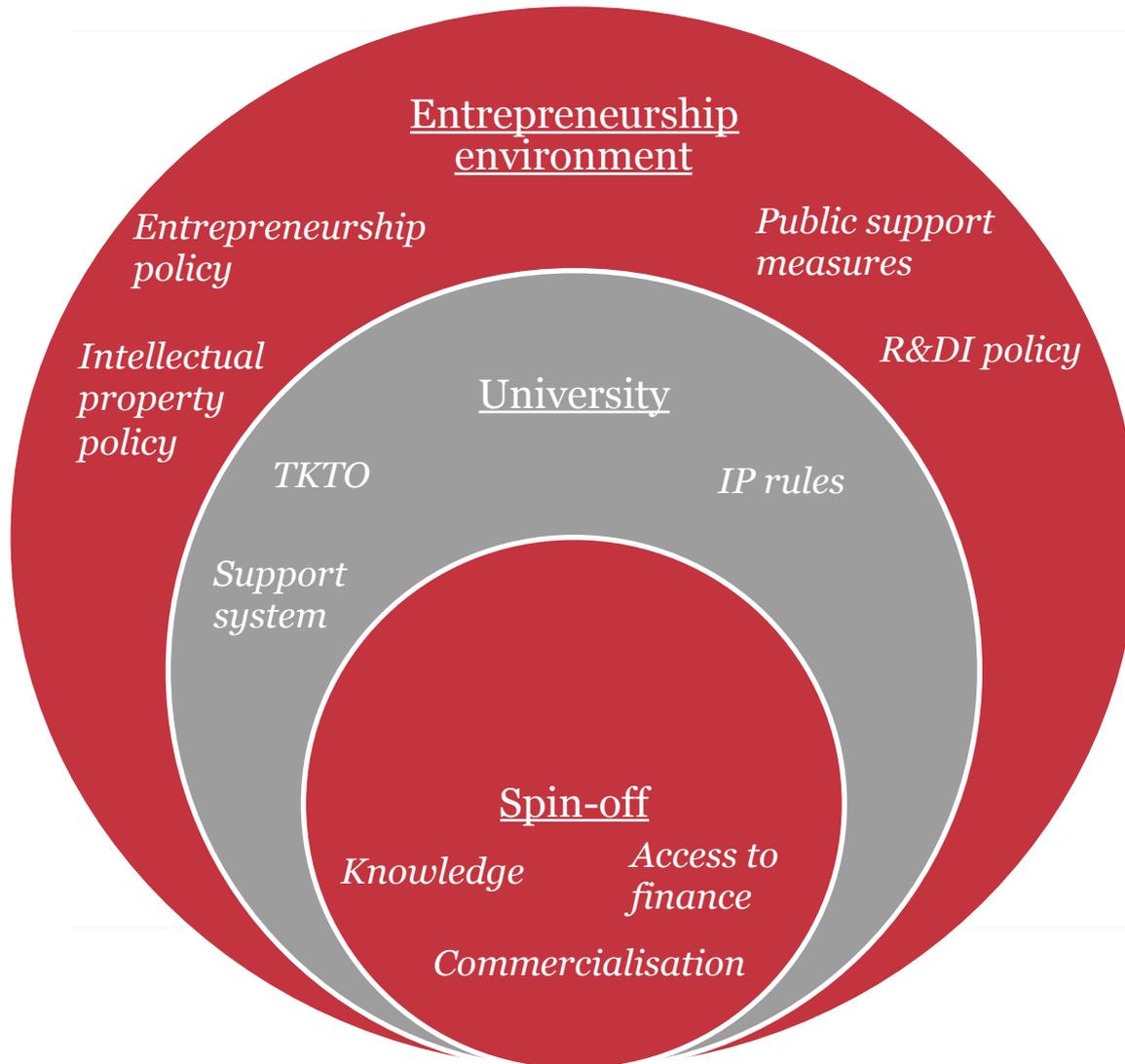
- Desk research
- 3 best practice case studies
- Data collection and analyse of 67 Estonian spin-off companies
- 21 interviews with:
 - 6 public universities*
 - 7 spin-off companies*
 - 5 thematic experts*



OUTCOME

- In which sectors spin-offs perform?
- What are the main drivers and obstacles?
- How universities support spin-offs and
- How supportive is the overall entrepreneurship environment?

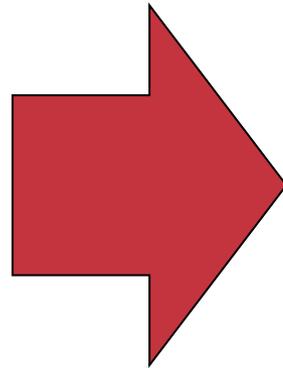
Our approach to spin-off ecosystem



Spin-off is a start-up company, who's aim is to create competitive advantage on the basis of **internal resources** like knowledge, technology or scientific results

Start-up company is normally created for executing a business idea

Possibilities for commercialising research – from where the technology intensity comes from?



Licensing/patenting
Industrial collaboration

Collaborative research
Contract research
Services

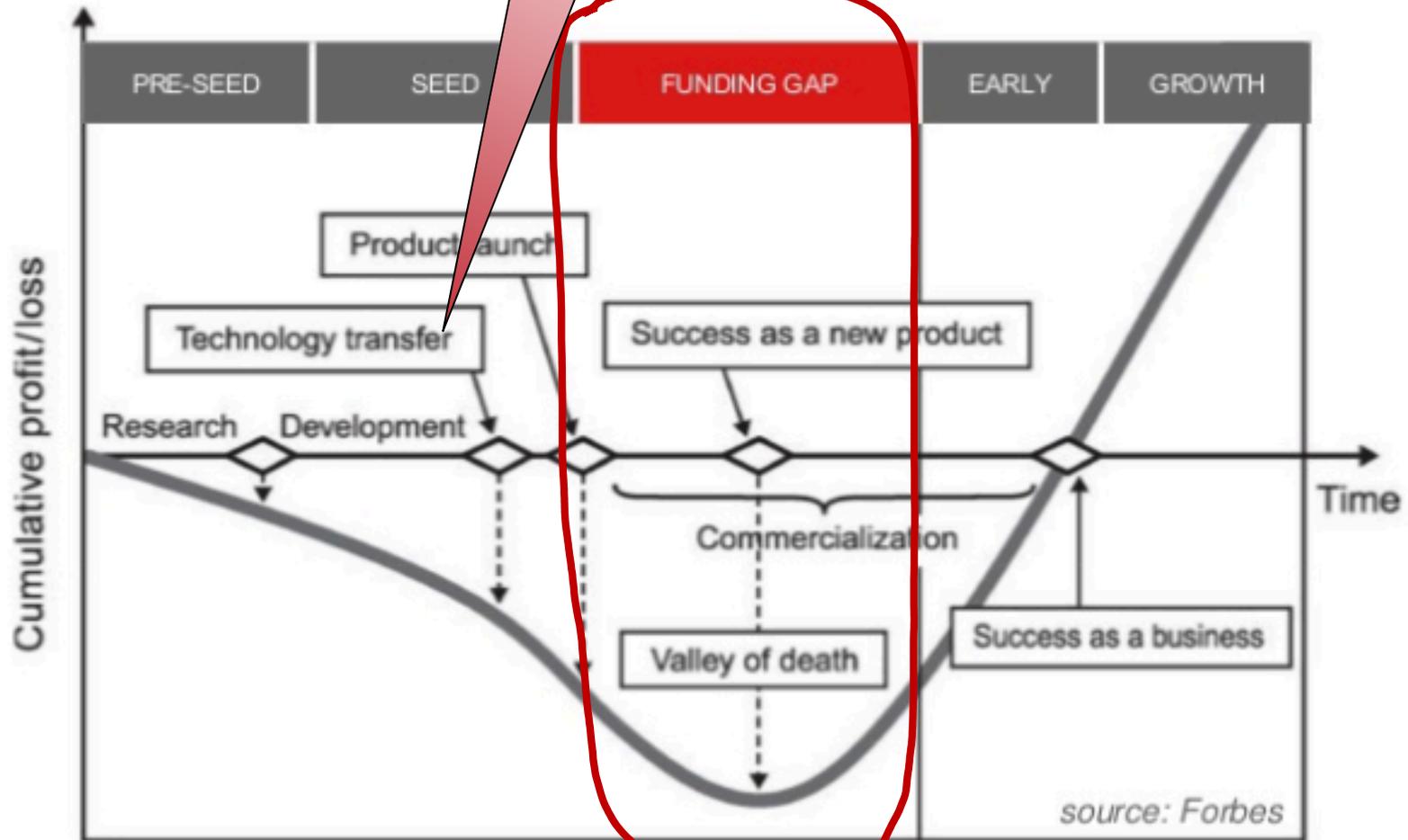
Spin-off company



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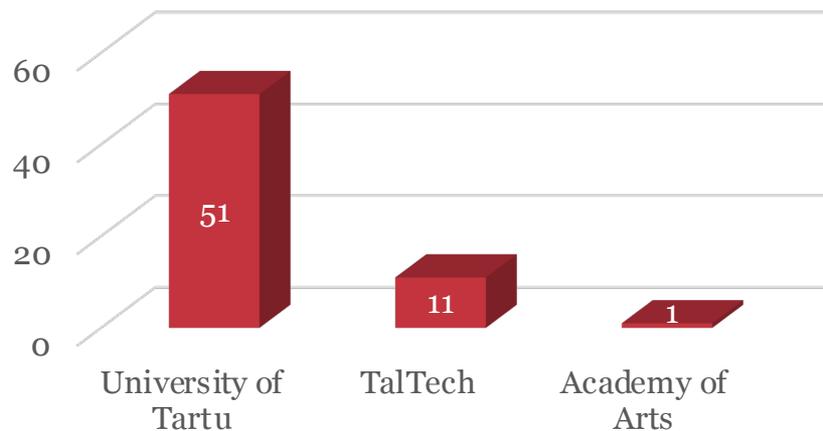
Spin-off journey

University TKTO



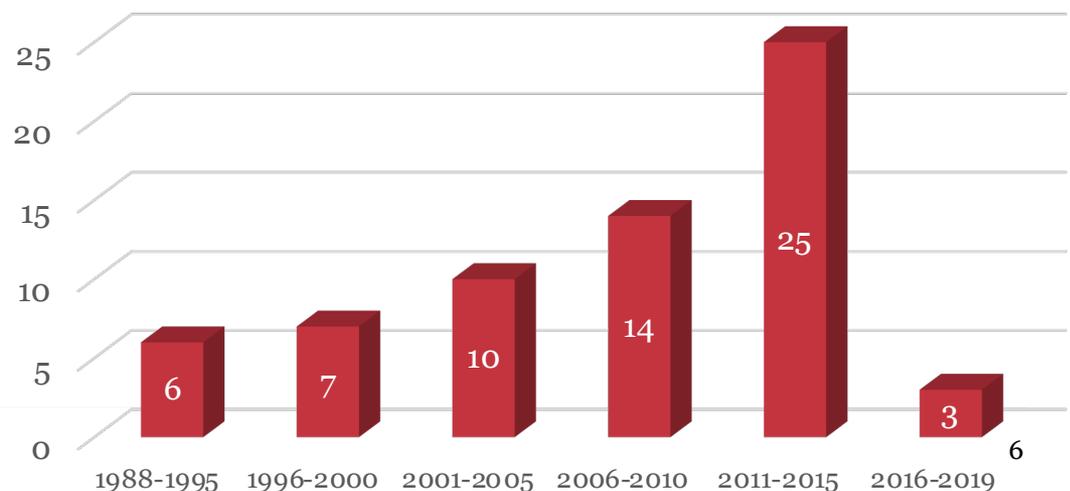
Spin-off companies in Estonia: by institution and year of launching

Spin-off companies by institution



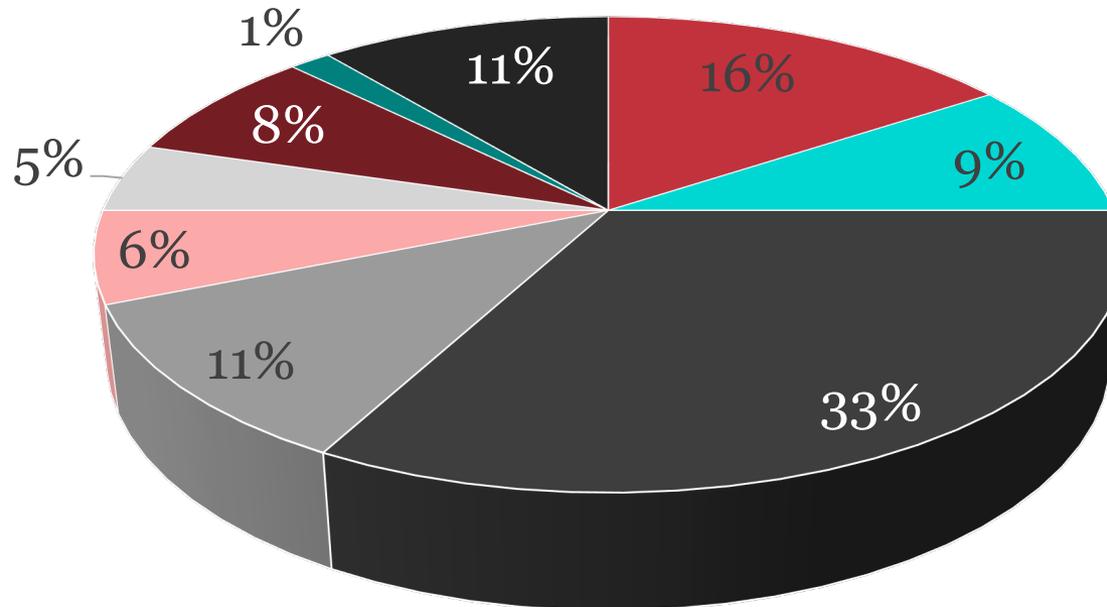
There are 64 spin-offs since 1998
97% are launched by two largest universities

Spin-off companies by year of launching



It's 0.05% from all SMEs in Estonia (2019) and 6.5% from all startups in Estonia (2019)

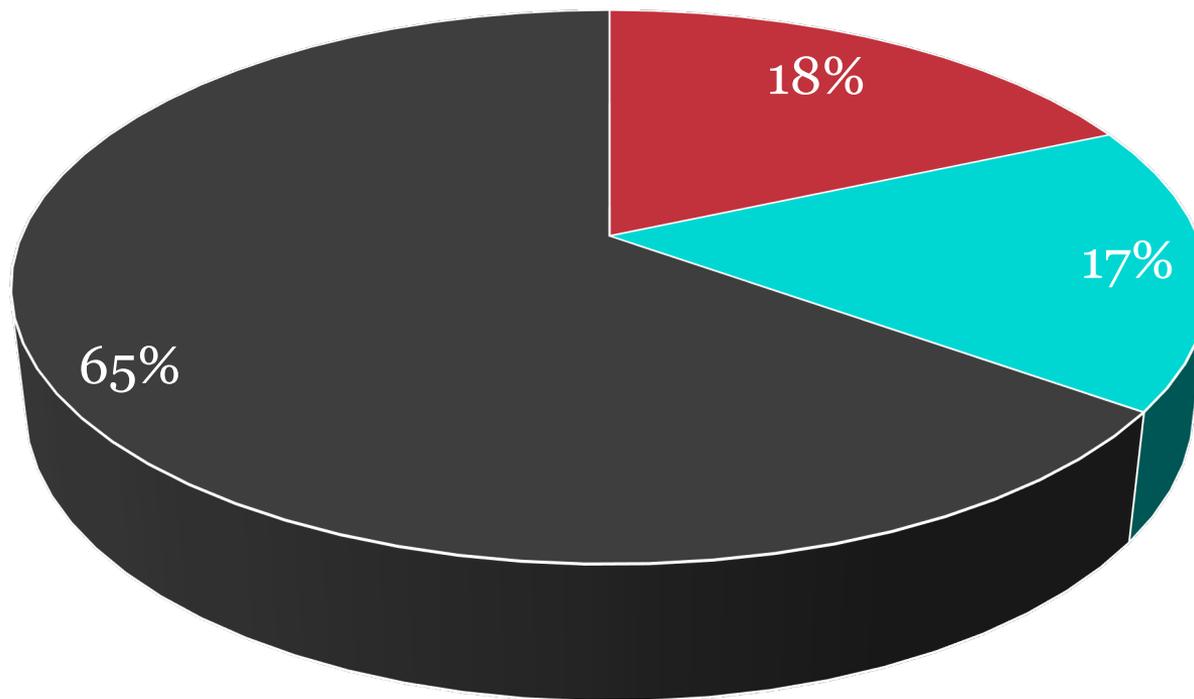
Spin-off companies in Estonia: by scientific areas (2019)



The most spin-offs are in biotechnology 33%, followed by ICT 16% and health 11%

- ICT
- Health
- Construction
- Engineering science
- Environment
- Space technologies
- Biotechnology
- Material technologies
- Other

Spin-off companies in Estonia: by sales (2018)



The largest company is Synlab Eesti with more than €22m of sales (2018)

All bigger spin-offs are grown out from the University of Tartu

■ More than 600 000 ■ 100 000 - 599 000 ■ Less than 100 000

Estonian entrepreneurship environment is friendly towards technology intensive companies

Estonia is famous for its supportive startup ecosystem (especially for ICT companies)

National regulatory framework doesn't hamper science commercialisation

Entrepreneurship studies are well organised in Estonian universities

Estonia is proud to present success stories like



Entrepreneurship support system is functioning



However, the most the technology intensive companies miss are commercialisation knowledge:

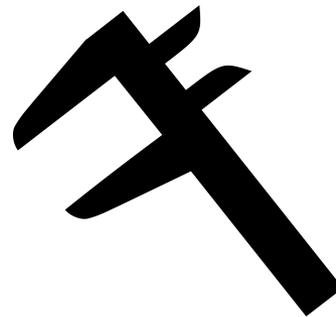
- Investor's sectoral knowledge
- Competences of sales team

You get what you measure

There is no **clear objective to** bring research results to the market neither in national R&DI or universities' strategies

Researchers' university external activities **are not appreciated** by the university

Universities own patents, but they **don't make money** out of them



There is **no motivation** by researchers or universities to create spin-offs – it's not expected by the government and is not measured

Do we want to measure as **many patents** as possible or as **qualitative patents** as possible?

As far as society doesn't force universities to serve society, they will not do that. Universities are rationale – nobody measures societal benefit of universities.

Technology and Knowledge Transfer Office - TKTO

Since 1980's:
TKTO's role is to
bring research to the
market

TKTO's activities has
been driven by offer
rather than demand –
ad-hoc and
unstructured

Universities
focus on research
and less on
serving society

The TKTO's don't
earn anything
from research
commercialisation
– what's the
motivation?



TKTO's lack
knowledge on
commercialisation
and making money
from patents

The most important is the first paying client

Intellectual Property issues

There are always IP issues involved when one creates something

It makes sense to patent research only if one wants to commercialise it

IP is generated by researcher, not the university, and researcher has to have right to benefit from that
(professor's privilege)



University doesn't have to own patent. The one who knows how to make money with patent, should own it. Patent has to protect solution and not hamper other's work.

Research vs entrepreneurship – spin-offers' stories

We start entrepreneurship from personal need or interest

It's quite painful to start a spin-off as it requires full-time sitting on two chairs at the same time

Entrepreneurship is rather a hobby...

We do not see a major role for TKTO in our business development today

Academic careers are focused on research and not for both research and entrepreneurship

University is not interested in spin-offs

We are researchers, not salesmen – we do need help in sales and finding investors

Any kind of startup ecosystem activities and public support measures are highly welcome

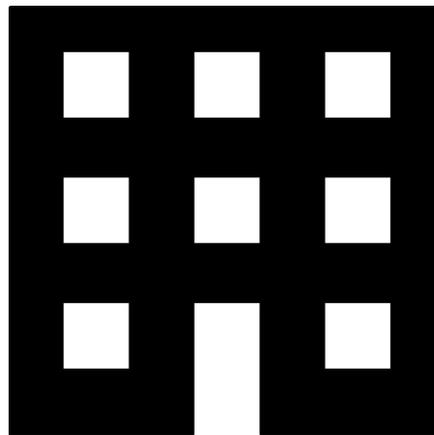


What can government do to support technology intensive startups?

To set strategic focus on research commercialisation

To set research commercialisation as a target for universities

Create a Technology and Knowledge Transfer Office for Estonia (or support universities to take initiative and form a TKTO)



To establish a performance indicator measuring the **quality** of research commercialisation (i.e. how much universities earn from patenting)

Government role in research commercialisation is to establish long—term supportive environment for technology intensive entrepreneurship

What can universities do to support technology intensive startups?

Start discussion on:

- How the uni wants to commercialise research
- Map the types of commercialisation
- The role of entrepreneurship in academic career

To audit its patent portfolio and identify the most promising ones for commercialisation

Hire sales competences into the TKTO



To make quick research commercialisation as a **strategic objective**

Establish the use of IP in a way that both university and researcher would benefit

The role of university on research commercialisation is to bring research as quickly as possible into market and serve society

Thank you!



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