

Industrial Innovation in Transition and the Innovation System Reform in Finland

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<http://www.iit-project.eu/>



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Sample

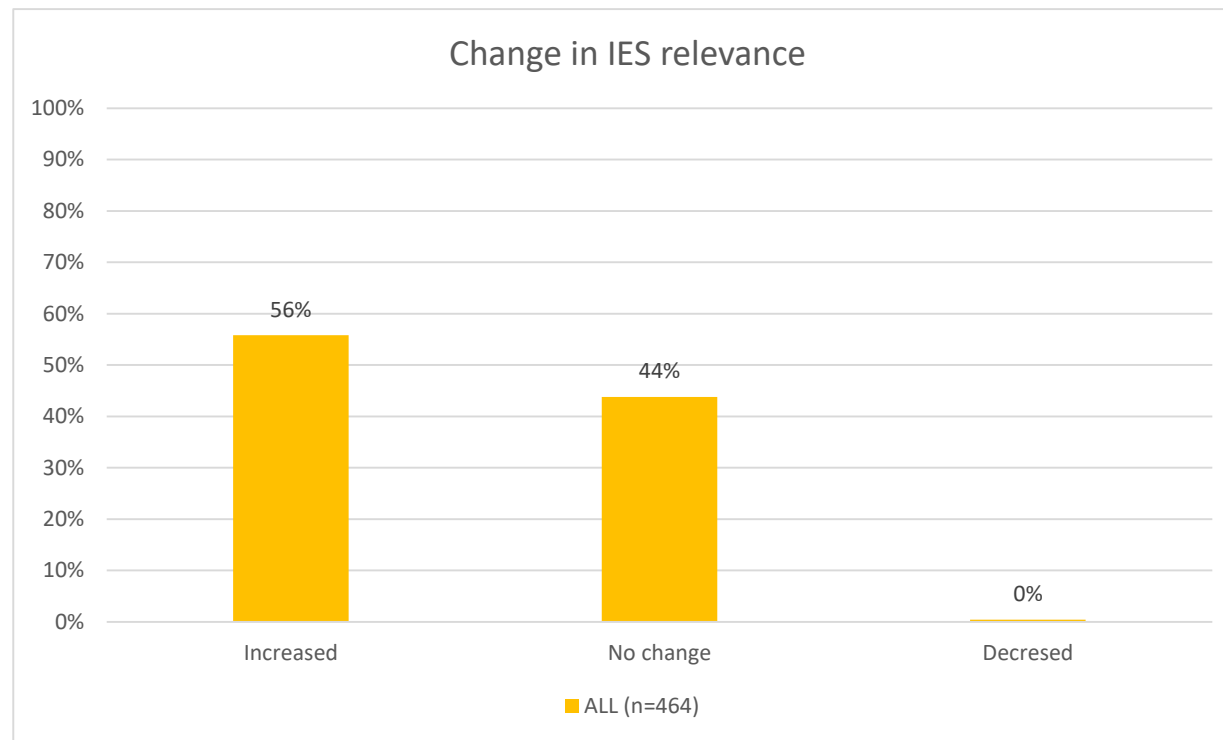
Country	Interviews conducted	Interviews in analysis
AT	75	100 %
CZ	75	100 %
DE	50	100 %
EE	80	100 %
ES	90	100 %
FI	69	100 %
IE	44	100 %
IT	45	100 %
NL	48	100 %
PT	25	100 %
UK	93	100 %
Total	694	

+ 10 case studies and 400 web survey responses



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Innovation ecosystems – an embedded approach?

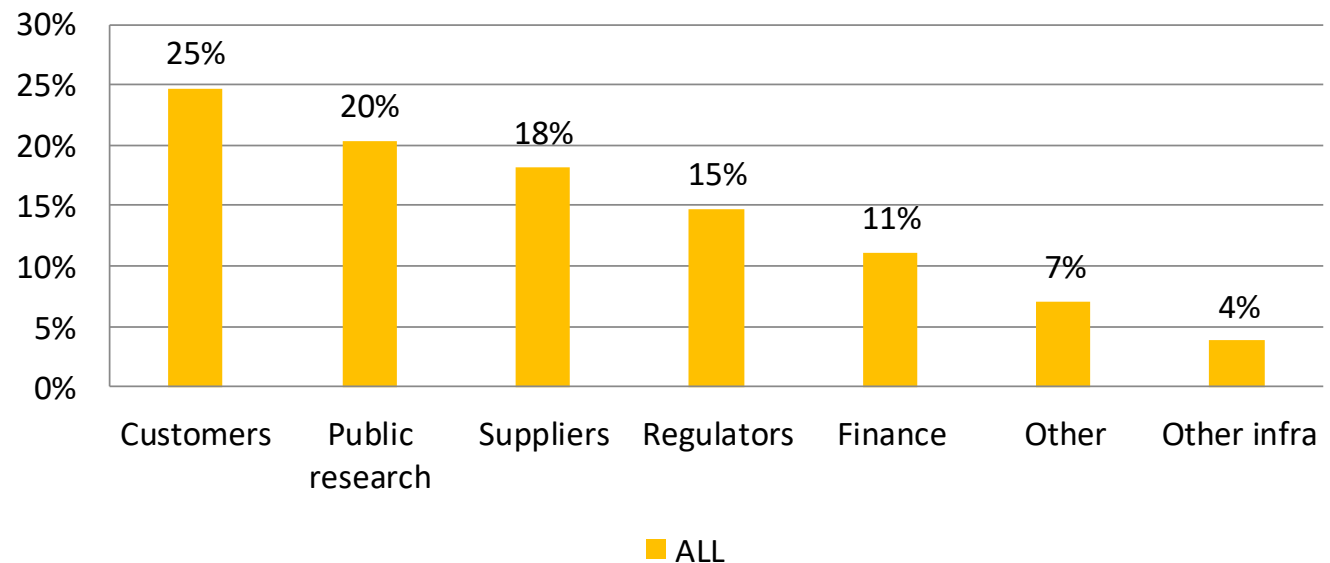


Change in relevance of innovation ecosystems in the last 5-10 years



IES Stakeholders

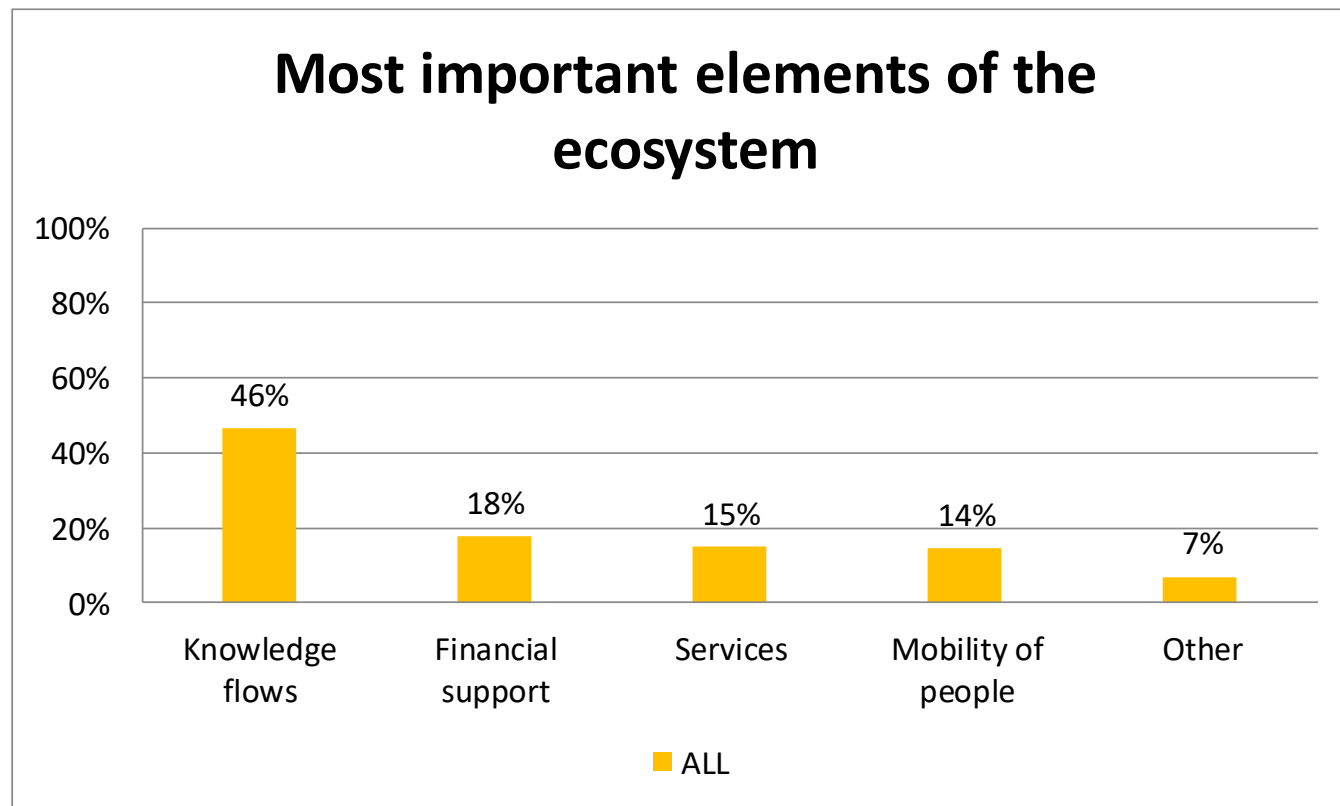
Innovation Ecosystem Stakeholders Total n=694



- Customers have the highest importance for companies.
- Interestingly they are followed by PRB (interaction with knowledge providers is rated high).



IES interactions: Most important elements

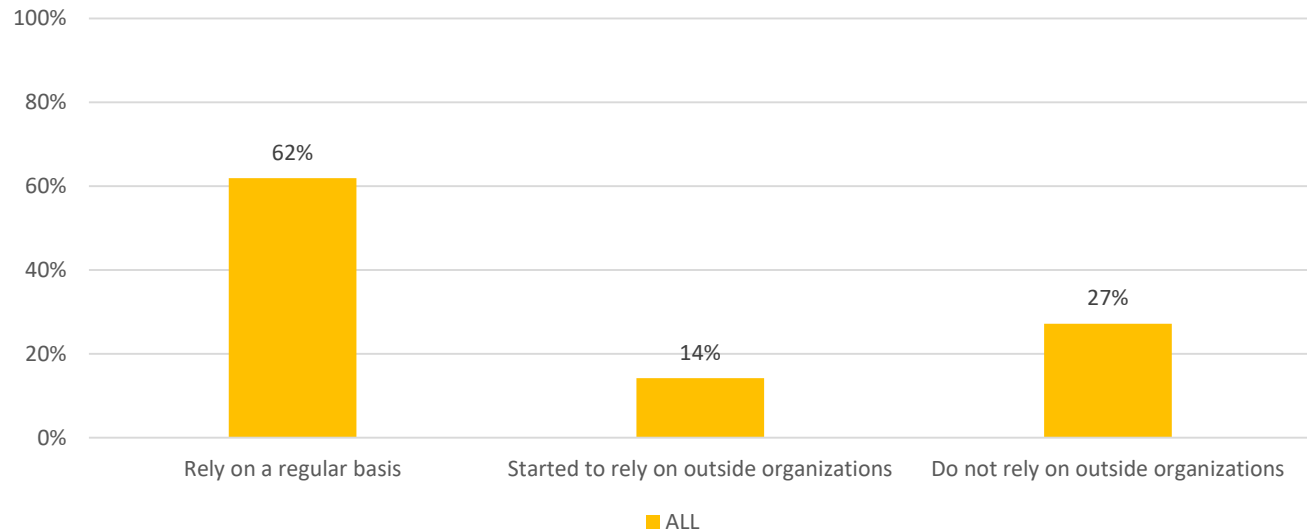


Knowledge flows are central for companies (reinforces the result of public research bodies being crucial for companies).



IES interactions: OI-activities

Inno-related knowledge sourced from outside



- All, N = 566
- 76 % of the companies indicated that they engage in OI-activities.



Open Innovation/Knowledge Sharing

- Complementary competence and excellence
- Genuine commitment for knowledge sharing/trust
- Collaboration platforms/joint campus presence
- Mobility of research personnel
- R&D/recruitment/education all involved
- Transparent management and collaboration rules
- Fair rules for IPR ownership and use
- Reformed reward and incentive systems

Innovation management and practice

- **State-gate model dominates**
- **Still most initiatives cost driven**
- **Top management has decisive role**
- **Dedicated central innovation committee**
- **Innovation knowledge sourced outside more important, but often difficult to absorb**
- **Changes in innovation management practice still in progress (customer involvement, business incubators, independent innovation units, web-enabled innovation platforms, etc.)**



Good Practice Guide

Innovation management: Learning from the experiences of European companies

- **Innovation Ecosystem (IES)** – characterised by the interdependence of innovation actors for flows of knowledge, finance, people and services.
- **New tools** - new innovation models and tools for innovation.
- **Open Innovation** - opening-up of innovation processes to allow ideas, new technologies or feedback from external partners to flow into the company.
- **Future environment** / new ideas – the need of mapping the future environment of the company.
- **Innovation process and management** – how to organize the innovation process.



Securing Finland's competitiveness and economic growth in the 2020's

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Aalto-yliopisto

<http://urn.fi/URN:ISBN:978-952-327-401-3>

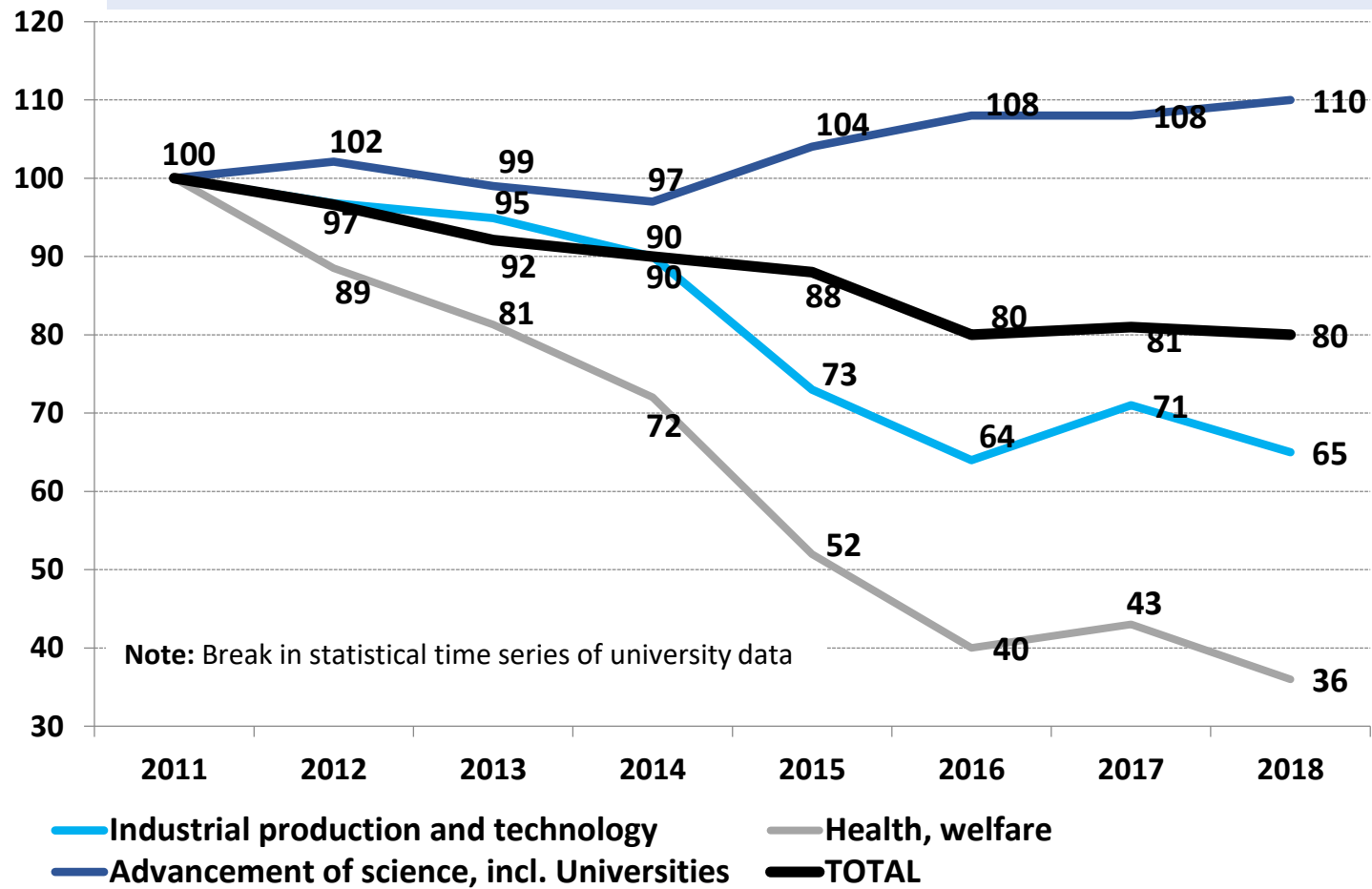
Conditions for a successful R&D&I policy

- Economic growth, productivity growth and job creation are dependent on successful R&D&I policy
- The linear innovation process thinking has been dead for more than forty years; innovation processes are systemic
- Innovation systems must be managed holistically and in coordinated a manner
- Key principles:
 - Sufficient, predictable and balanced funding
 - Good collaboration culture supported by clear incentives
 - Innovations emerge from ecosystems lead by a system coordinator
 - Knowledge sharing is the main function of the ecosystems, public research plays a key role
 - Grants are most effective; loans and tax incentives less effective
 - Skill shortages are taken care of proactively
 - Regulatory environment must support innovation

Finland

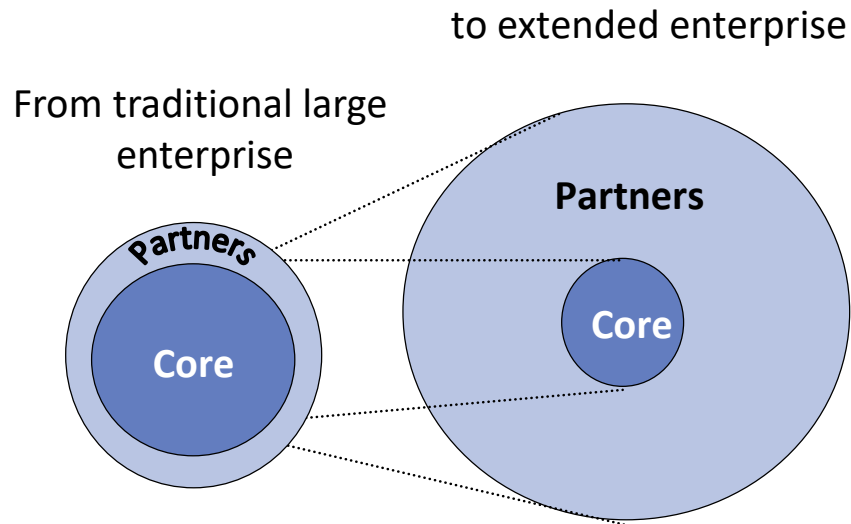
- Foreign reviews (EU, OECD, WEF) all agree: the innovation environment in Finland has weakened significantly during the last five years
- R&D&I policy is currently inconsistent and unpredictable
- Business R&D in slow growth 2017-2019
- Increasing share of business R&D is moving abroad
- Business/university collaboration decreased over 40% 2010-2017
- Public support for business R&D (0,08% of the GDB) among the lowest (28th) among the OECD countries
- Companies have a clear wish list for competences required in the future
- Skill shortage is a growing problem for innovation in industry
- Public support for innovation has declined dramatically and the rules are not appropriate (discrimination of large companies, bureaucracy, funding restricted only to prioritised themes, severe cuts of the funding supporting PPPs)
- Incoherence an increasing problem in the R&D landscape
- Strategic objectives of the Government's Research and Innovation Council impossible to achieve (Finland: R&D investments of the GDB 4% 2030, most attractive test environment in Europe, new billion € industry driven ecosystems, increased collaboration between industry and academia)

Government budget appropriations on R&D and the use of funds

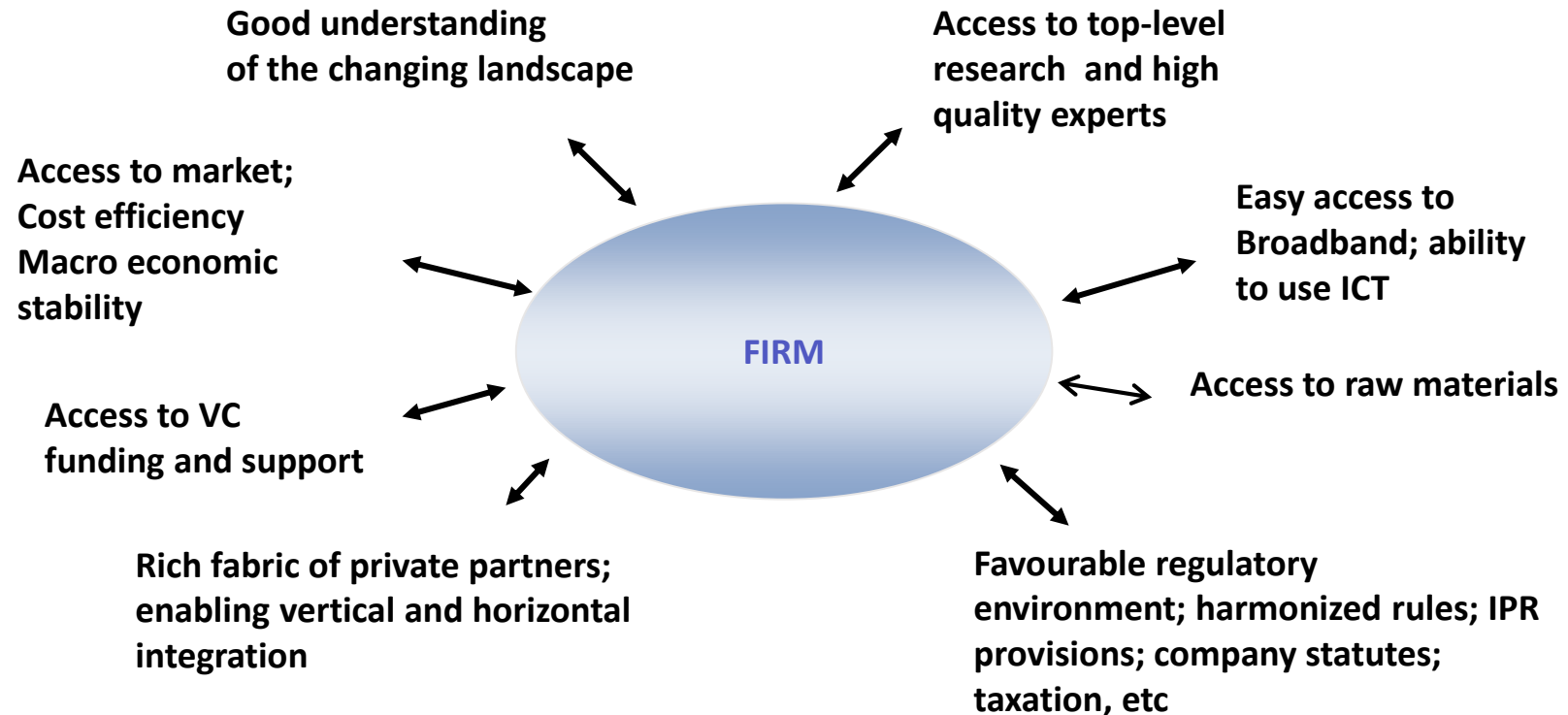


Innovation Ecosystem

enable new ways of knowledge creation and utilization



Elements of Favorable Innovation Environment



Conclusions and recommendations

- Restore the coordinated and predictable R&D&I policy practise with appropriate organizational reforms at the government level (money, knowledge, collaboration and regulatory environment)
- Increase innovation support funding by 300 million € 2020-2022
- Strengthening VTT's role
 - opening up collaboration in EU-projects and R&D infrastructure usage,
 - increased collaboration with industry and academia both in Finland and with Nordic partners,
 - reforming the IPR policy and
 - volunteering to become an ecosystem coordinator if no other options are available
- New incentives for universities and public research institutes to increase collaboration with industry

Conclusions and recommendations

- Increase the flexibility of the education system to respond to skill shortage much more efficiently and provide opportunities for life-long learning
- Change the work permit principles to help foreign experts move in and be employed
- New funding principles and instruments:
 - Higher support to innovations which generate new business
 - Eliminate the existing restrictions of funding (company size, research area, etc.)
 - Longer time span for strategic national R&D&I programs (5-10 years)
 - Increase Business Finland and the Academy of Finland collaboration with joint programs
 - Proper preparation of the strategic R&D&I programs with better coordination and collaboration. (Each program must have a steering board where both the research community and the user communities such as industry are represented. Each project funded within the program theme portfolio must report to the steering board which also has the responsibility to help organizing the emerging ecosystems)

DIMECC



Key messages of
impact from
Finnish PPP in
manufacturing
industry

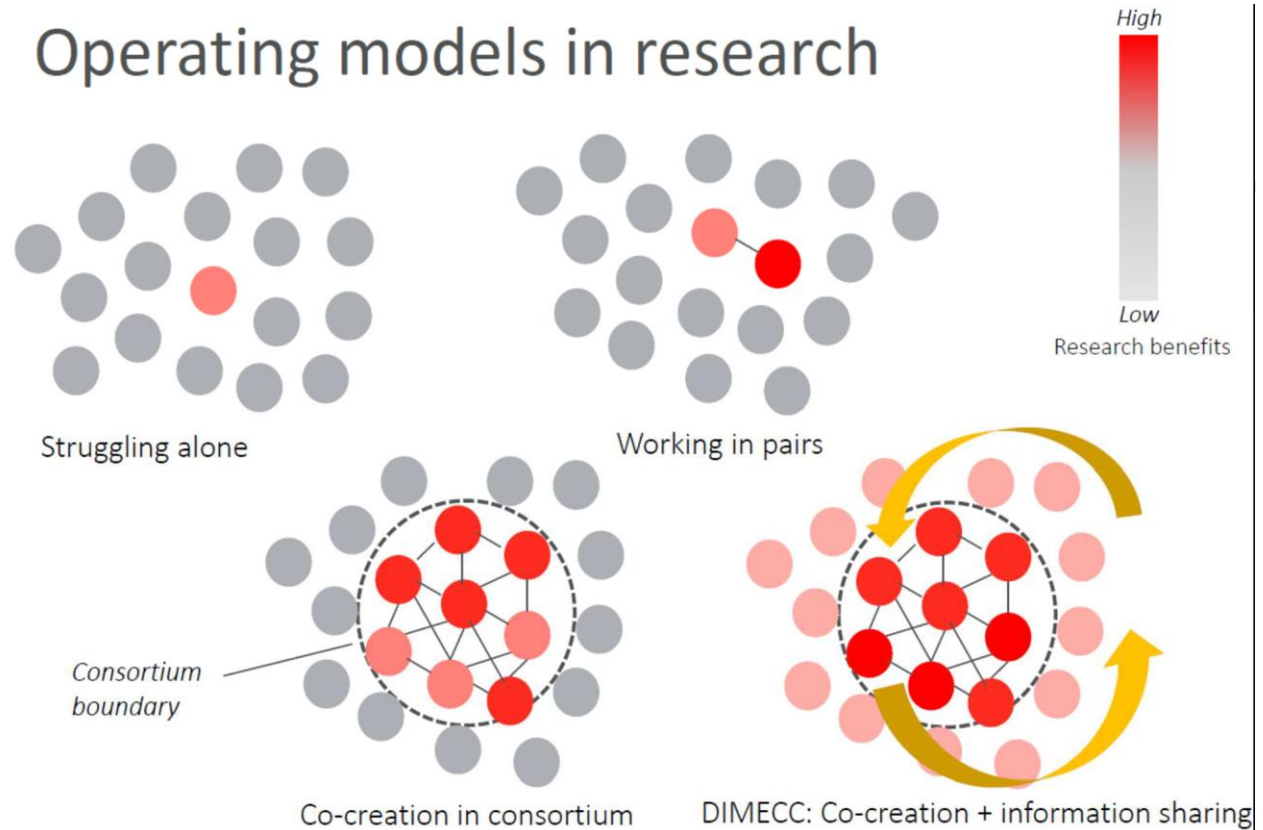
Dimecc

- DIMECC stands for Digital, Internet, Materials & Engineering Co-Creation.
- DIMECC is the leading breakthrough-oriented co-creation ecosystem that speeds up time to market. Our innovation platform makes leaders and winners meet. Our network consists of 2.000+ R&D&I professionals, 400+ organizations, 69 shareholders and 10+ co-creation facilitators.

The value of DIMECC platform:

- It is not connected to any specific project, time, or theme.
- It evolves according to the needs of participants and creates consortiums on a continuous basis.
- It supports participants independently from public funding decisions and policies.

Operating models in research



CLIC

CLIC Innovation Ltd is an open innovation cluster with the mission of facilitating creation of breakthrough solutions in bioeconomy, circular economy and energy systems. We are owned by leading international companies and Finnish research organizations committed to create sustainable solutions for the world

CLIC is owned by 30 large, international companies and 16 Finnish universities and research institutes: [CLIC Shareholders](#)

R² Data Labs

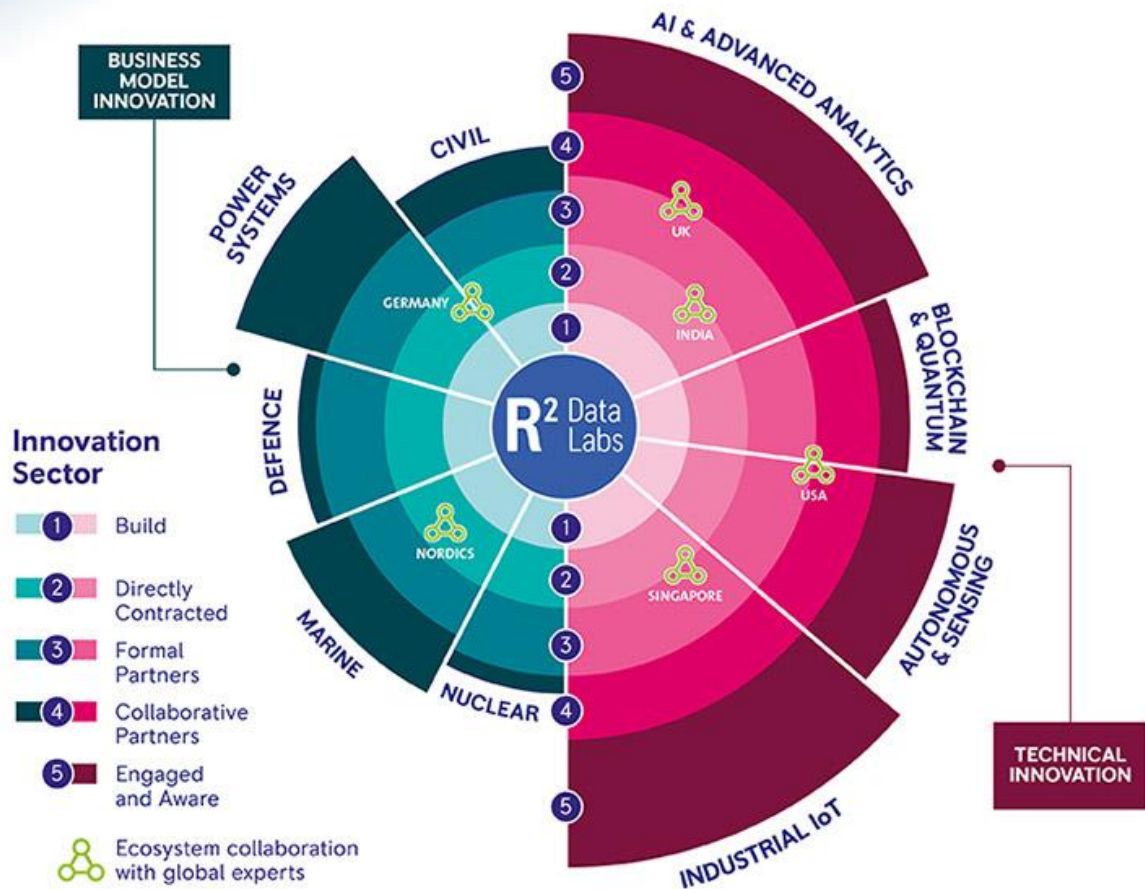
Data Innovation Ecosystem Hubs

Building a global network of advanced digital capability to support Rolls-Royce customers.

Collaborating with global experts to provide best in business solutions, empowering data to deliver more.



A Rolls-Royce solution



Organization models

- Individual with strong mandate
- Coordination team (Steering group) consisting both researchers and user communities
- Coordination organization with clear mandate

In all cases it is necessary to generate future vision, define objectives the roadmap and knowledge map as well as identify critical partners for the programs



Thank you

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