# ITATECH e le politiche equity investments per il finanziamento del trasferimento tecnologico in Italia

**Workshop «Il Trasferimento Tecnologico: opportunità, finanziamenti e valutazione», Pisa 27 Novembre 2017**

# EIF & Tech Transfer

# What is the EIF?

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> **We provide risk financing to stimulate entrepreneurship and innovation in Europe**

## OBJECTIVE

To support **smart, sustainable** and **inclusive** growth for the benefit of European SMEs

## HOW

By offering a wide range of **targeted products to support SMEs and mid-caps**, ranging from venture capital to guarantees and microfinance

## WHERE

Working with financial intermediaries across the **EU-28 and EFTA countries, candidate and potential candidate** countries

# EIF helps businesses at every stage of their development

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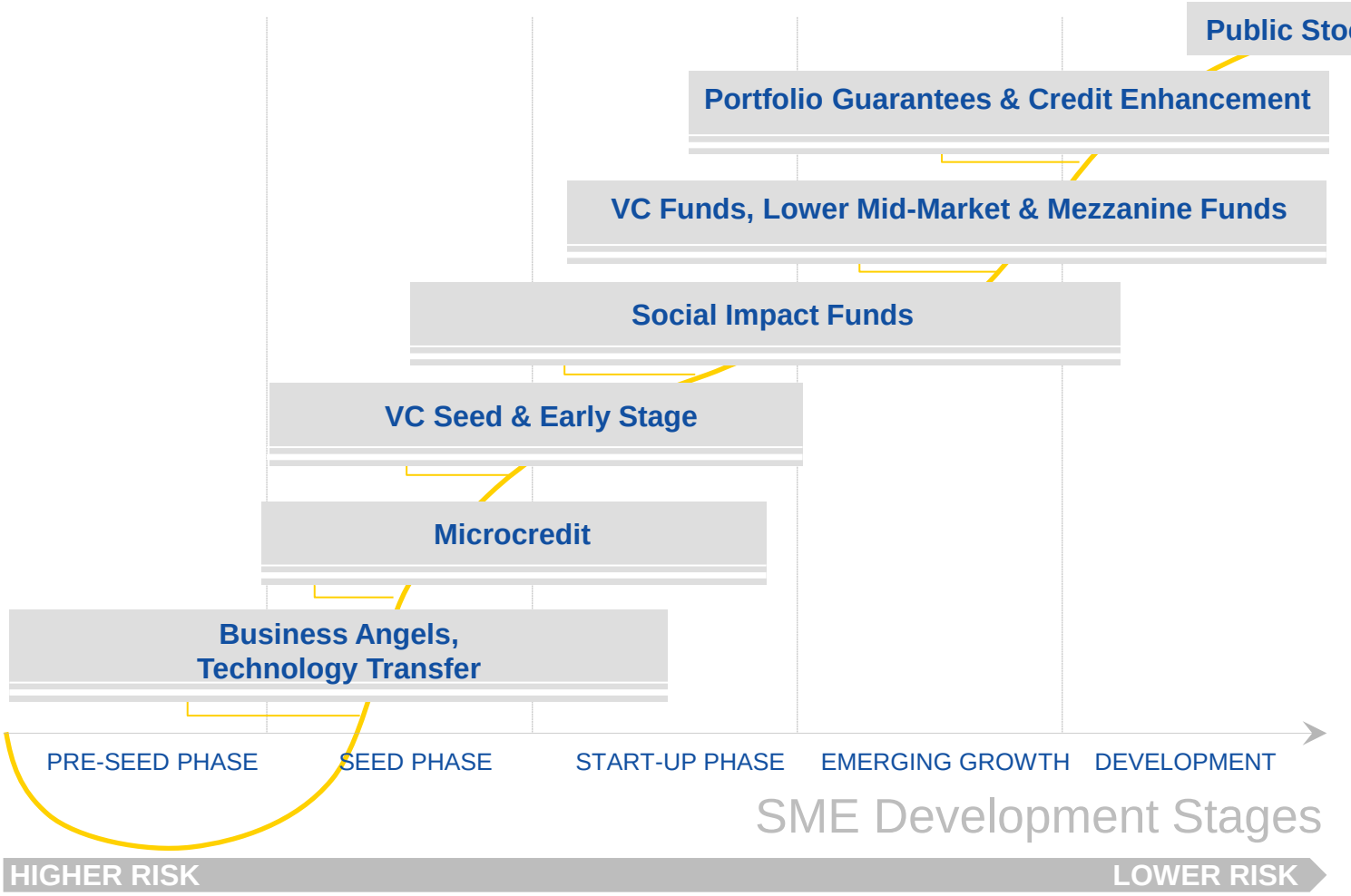

# TT investments seek to bridge gap between research & market

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**R&D**

**Technology Transfer**
**"technology IP"**

**Marketable Product**
**"prototype IP"**

## University / Research Organisation

**IP / Idea**

**Spin-out, licensing, collaboration (contract research)**

## Market

# Opportunities

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## Research organisations and their TTOs can seize opportunities to increase and catalyse their competitiveness for innovation

**Engage with industry, develop partnerships, and encourage contract research**

Build networks to meet economic reality; inward looking vs. outward

**Outsource with qualified and experienced partners willing to work in close collaboration**

Identify and work with trusted (fund) managers who can help select the best opportunities with commercialisation potential

**Become active participants in long-term TT vehicles / funds**

Research organisations to provide commitments for participating in TT structures, financially and / or with other resources

# TT & IP Investments

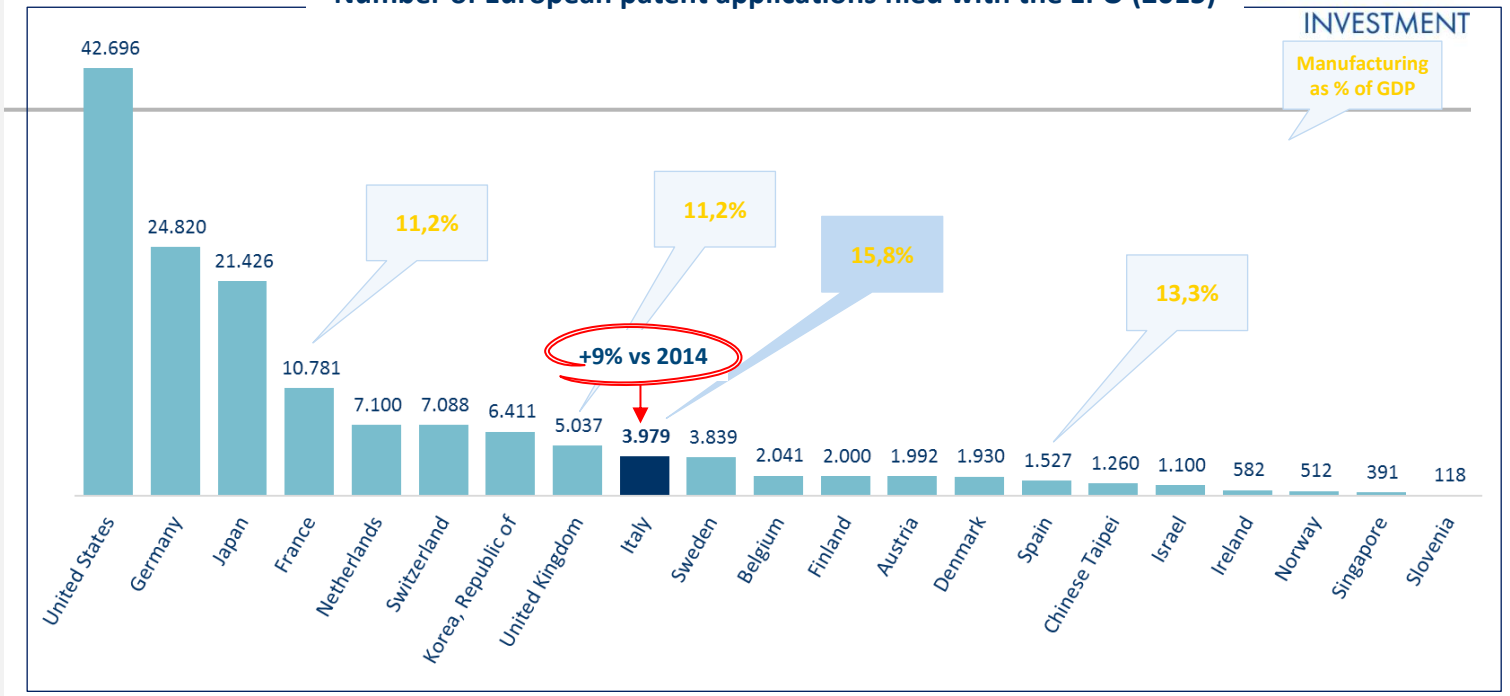
| | Year | Investment | Country | Fund Size |
|---|---|---|---|---|
| | **TT & IP Funds** | | | **EUR m** |
| 1 | 2006 | Leuven CD3 (Centre for Drug design and Discovery) | Belgium | 8 |
| 2 | 2006 | IP Venture Fund | UK | 37 |
| 3 | 2008 | Chalmers Innovation Seed Fund | Sweden | 17 |
| 4 | 2008 | Manchester UMIP Premier Fund | UK | 38 |
| 5 | 2009 | Karolinska Development | Sweden | 36 |
| 6 | 2010 | Leuven CD3 II (Centre for Drug design and Discovery) | Belgium | 16 |
| 7 | 2011 | Louvain Vives II | Belgium | 43 |
| 8 | 2011 | Telecom Technologies Transfert (3T) | France | 21 |
| 9 | 2012 | Demeter Cleantech seed fund | France | 45 |
| 10 | 2012 | Elaia Alpha fund | France | 46 |
| 11 | 2012 | Cancer Research Tech (CRT) Pioneer Fund (a) | UK | 30 |
| 12 | 2013 | Emertec 5 | France | 51 |
| 13 | 2013 | Epidarex II (formerly Rock Spring) | UK | 58 |
| 14 | 2013 | INRIA IT Translation | France | 30 |
| 15 | 2013 | IP Venture Fund II | UK | 36 |
| 16 | 2013 | Grand Ouest d'Amorcage Sante | France | 57 |
| 17 | 2013 | Auriga Bioseeds IV | France | 42 |
| 18 | 2013 | SINTEF Venture IV | Norway | 27 |
| 19 | 2014 | Cancer Research Tech (CRT) Pioneer Fund (b) | UK | 30 |
| 20 | 2014 | Diffusion Capital | Turkey | 30 |
| 21 | 2014 | Kurma Diagnostics | France | 35 |
| 22 | 2015 | ACT TTA Fund | Turkey | 23 |
| 23 | 2015 | Abingworth Pharma Co-development Fund | UK | 102 |
| 24 | 2015 | V-Bio Ventures | Belgium | 73 |
| 25 | 2015 | Thuja | Netherlands | 30 |
| 26 | 2015 | Quadrivium | France | 56 |
| 27 | 2015 | BeAble | Spain | 35 |
| 28 | 2016 | UCL Technology Fund | UK | 70 |
| 29 | 2016 | Carduso | Netherlands | 31 |
| 30 | 2016 | CD3 III | Belgium | 60 |
| 31 | 2016 | University Bridge Fund | Ireland | 61 |
| 32 | 2017 | GO Capital II* | France | 80 |
| 33 | 2017 | Advent France Biotechnology* | France | 70 |
| 34 | 2017 | Innovation Industries | Netherlands | 75 |
| 35 | 2017 | Vertis Venture 3 Tech Tfr Fund | Italy | 40 |
| 36 | 2017 | *[in progress - Q4 2017 closing]* | EU / EFTA | 50 |
| 37 | 2017 | *[in progress - Q4 2017 closing]* | EU / EFTA | 40 |
| 38 | 2017 | *[in progress - Q4 2017 closing]* | EU / EFTA | 100 |
| | **TOTAL** | | | **1,728** |

# Some statistics

# Innovation and R&D> Technology Transfer Gap

- The inventiveness of Europe's leading economies is also reflected in terms of patent filing activity
- Although Italy ranks **7th worldwide** in terms of **scientific papers** production, the delay in terms of total number of patent applications filed in a year is much more evident
- In 2015 **Italy** has in fact filed about 4,000 patent applications at the European Patent Office (+ 9% vs. 2014 but **less than 50%** compared to France)
- United States, Germany, France and Japan confirm instead the right interconnection between scientific production and patent activity

**Number of European patent applications filed with the EPO (2015)**




- ✓ This **huge gap** highlights the potential scope for scientific research in Italy to turn into **Technology Transfer opportunities**, especially considering a still vibrant and competitive manufacturing environment
- ✓ To close the gap with the main comparable economies, **Italy should double the resources for investments in innovation**, with the obvious need to effectively combine public and private resources in order to achieve a greater diffusion of innovation in the entrepreneurial ecosystem

Sources: Annual Report 2015 – At a glance, European Patent Office Database
World Bank Statistics, 2016

# Innovation and R&D> Technology Transfer Gap

**Scientific paper production (2015)**

| Rank | Country | Value (H-Index)[1] |
|---|---|---|
| 1 | United Kingdom | 1,015.00 |
| 2 | United States of America | 1,648.00 |
| 3 | Germany | 887.00 |
| 4 | France | 811.00 |
| 5 | Canada | 794.00 |
| 6 | Japan | 745.00 |
| **7** | **Italy** | **713.00** |
| 8 | Netherlands | 694.00 |
| 9 | Switzerland | 686.00 |
| 10 | Australia | 644.00 |
| 11 | Sweden | 614.00 |
| 12 | Spain | 591.00 |
| 13 | Belgium | 547.00 |
| 14 | Denmark | 518.00 |
| 15 | Israel | 496.00 |
| 16 | China | 495.00 |
| 17 | Austria | 449.00 |
| 18 | Finland | 443.00 |
| 19 | Korea | 424.00 |
| 20 | Norway | 402.00 |
| 21 | Russian Federation | 390.00 |
| 22 | India | 383.00 |
| 23 | Brazil | 379.00 |
| 24 | Poland | 371.00 |
| 25 | Hong Kong (China) | 359.00 |
| 26 | New Zeland | 351.00 |
| 27 | Singapore | 349.00 |
| 28 | Ireland | 332.00 |
| 29 | Greece | 326.00 |
| 30 | Hungary | 301.00 |

GAP

**Venture Capital investments (2015)**

| Rank | Countries | VC investments ($/mln) |
|---|---|---|
| 1 | United States | 59.698,50 |
| 2 | Total Europe | 4.220,13 |
| 3 | Canada | 1.825,63 |
| 4 | Israel (2014) | 1.165,00 |
| 5 | Japan (2014) | 1.105,29 |
| 6 | Korea | 1.087,46 |
| 7 | United Kingdom | 951,93 |
| 8 | Germany | 928,47 |
| 9 | France | 757,86 |
| 10 | South Africa (2014) | 352,72 |
| 11 | Switzerland | 289,29 |
| 12 | Australia | 288,49 |
| 13 | Sweden | 180,84 |
| 14 | Netherlands | 180,50 |
| 15 | Spain | 173,55 |
| 16 | Austria | 122,87 |
| 17 | Finland | 118,19 |
| 18 | Denmark | 86,34 |
| 19 | Ireland | 84,03 |
| 20 | Belgium | 68,30 |
| 21 | Portugal | 65,08 |
| 22 | Norway | 62,20 |
| 23 | Russian Federation | 59,00 |
| **24** | **Italy** | **51,33** |
| 25 | New Zealand | 43,59 |
| 26 | Hungary | 27,67 |
| 27 | Poland | 21,72 |
| 28 | Slovak Republic | 9,91 |
| 29 | Luxembourg | 5,94 |
| 30 | Estonia | 4,12 |

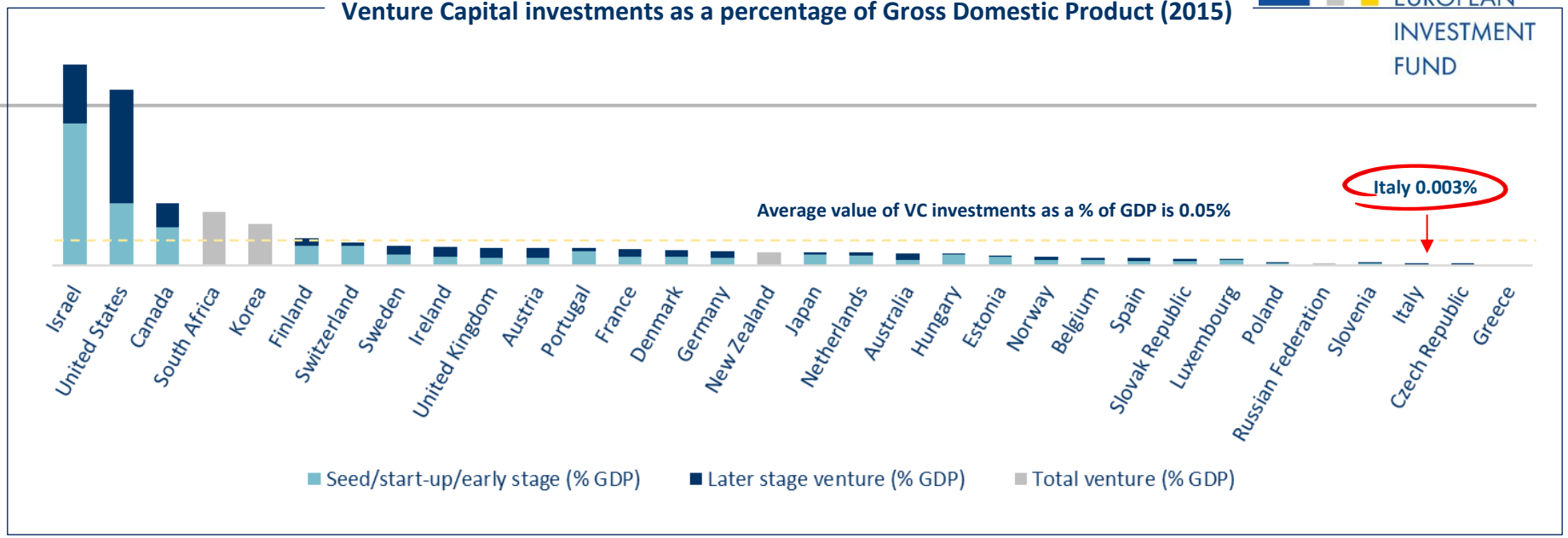
- In Italy there is a **stark contrast** between the **high quality of research and vibrant manufacturing environment** versus a level of commercialisation of R&D much lower than the EU average
- While Italy ranks **7th worldwide** in terms of production of **scientific papers**, it only occupies the **24th position** in terms of total **venture capital (VC) investments** (a proxy for innovation finance), presenting a very significant gap relative to peer countries like France and Germany
- Although Venture Capital investments do not necessarily derive from TT initiatives, they represent a good proxy of the level of development of the ecosystem for innovation and of how much basic research is translated into commercial activities
- There is a poor dissemination of the "**public procurement**" innovation (according to the World Economic Forum, Italy is at the **114th place in the world in terms of public demand for technologically advanced products** and fragmentation of spending on a variety of subjects that limit the necessary economies of scale)
- **Corporate and Large Corporate are still not sufficiently geared towards open innovation and have R&D** rates lower than competitors of the most advanced countries

**The gap becomes apparent by comparing not only the R&D investments, but also the patent filing activity of most OECD Countries….**

Sources: Entrepreneurship at a Glance, 2016 – OECD 2016
Global Index Innovation 2016

(1) The h-index is an author-level metric that attempts to measure both the productivity and citation impact of the publications of a scientist or scholar. The index is based on the set of the scientist's most cited papers and the number of citations that they have received in other publications

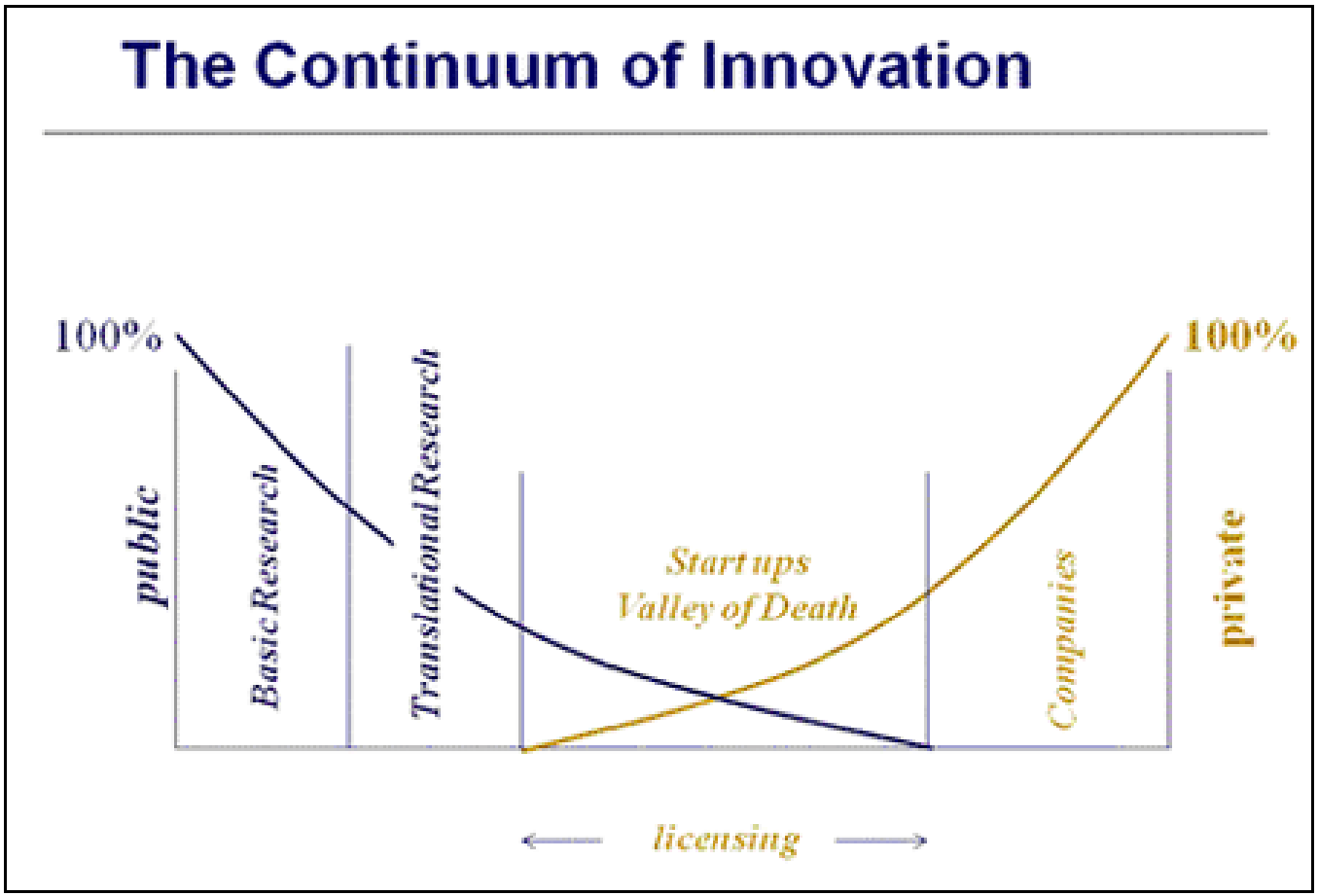
# Innovation and R&D> Venture Capital Investments_OECD Countries Comparison




- **Venture Capital investments** represent the **ability** of a country to **invest in R&D** and in Innovation to support the birth of new enterprises
- In the majority of OECD Countries, investments in ***Venture Capital*** account for a small percentage of GDP – the average value is about **0.05%**
- **Israel** and the **United States**, countries in which the venture capital industry is more developed and in which investments account for **0.4% and 0.3% of GDP respectively**, are an exception
- In **Italy**, venture capital investments as a percentage of GDP is **only** about **0.003%**
- **Italy shows a huge gap** of venture capital investments compared to others European countries – above all France, United Kingdom and Germany

Source: Entrepreneurship at a Glance, 2016 – OECD 2016

# Il “market failure”



# TT in Italy and ITAtech

# Current TT funding options

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- Own resources
- Grants
- Traditional VC
- Contract research
- Internal PoC funds

# ITAtech: the "agent for change" in TT landscape

**A joint initiative by Cassa Depositi e Prestiti (CDP) and the European Investment Fund (EIF) to finance technological transfer and innovation fostering growth in Italy**

In Italy there is a **stark contrast** between the **high quality of research and vibrant manufacturing environment** versus a level of commercialisation of R&D much lower than the EU average

## Vision

Improving the Italian innovation ecosystem through the commercialisation of **Italian research into products and services** which are used for the concrete benefit of society

## Mission

The f**irst Equity Investment Platform in Italy** fully dedicated to the development of Technology Transfer to establish ad hoc investment funds

## Objectives

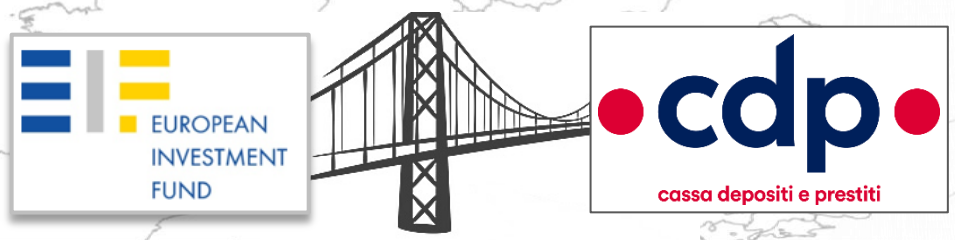
- Accelerate the **commercialisation of italian R&D**
- Foster the establishment of many **leading professional TT teams**
- Generate **economic returns** for all the stakeholders involved
- Develop a TT ecosystem through **partnerships with market participants**

**ITAtech is an ambitious, highly selective Investment Platform supporting areas of excellence who wants to play a useful role as an agent for change inside and around academic institutions**

# EIF & CDP joining forces for the equity financing of SMEs

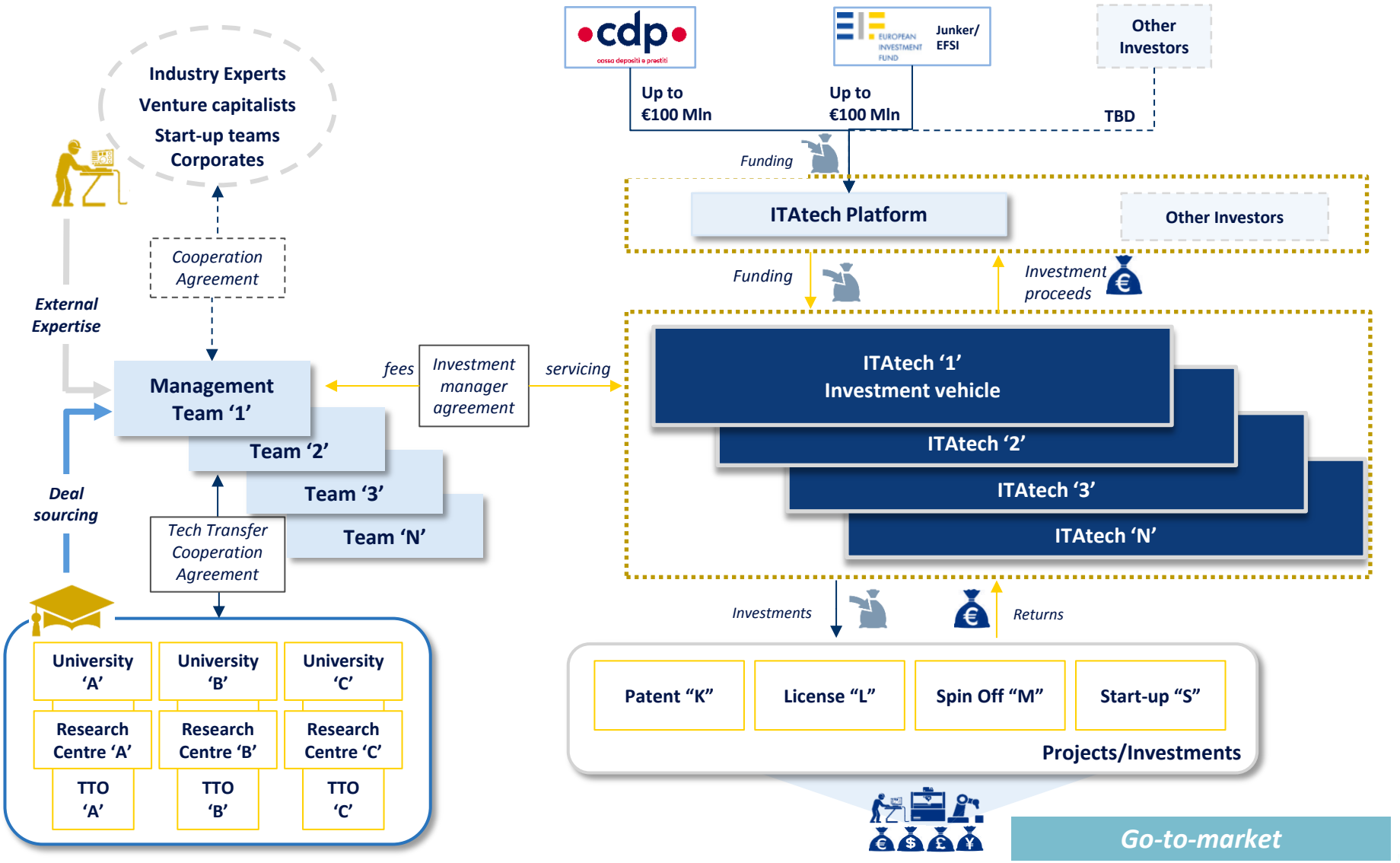
EIF, part of the EIB Group, is the **specialist provider of risk finance to benefit SMEs across Europe**, by designing, promoting and implementing equity and debt financial instruments. In technology transfer in Europe EIF has financed more than 30 dedicated investment funds totaling about 1,5Bn.

CDP is the Italian Development Institution with the mission to promote the development of national economic-industrial system. CDP finances activities to support national growth through postal savings products under state guarantee and the issuance of bonds.




- **CDP** and **EIF have joined forces** in the area of **equity investments** in Italy, financing SMEs, Mid-Caps and innovation
- EIF and CDP are firmly convinced that the development of adequate financial instruments for funding innovation across different stages is considered an important pillar of the country competitiveness
- Under their partnership, the first initiative that CDP and EIF have launched is the **"ITAtech Platform"**, whose co-financing Agreement has been signed on 16th December 2016. Through ITAtech, CDP and EIF will jointly provide **up to EUR 200 m** to finance **a dedicated investment program in the field of technology transfer**

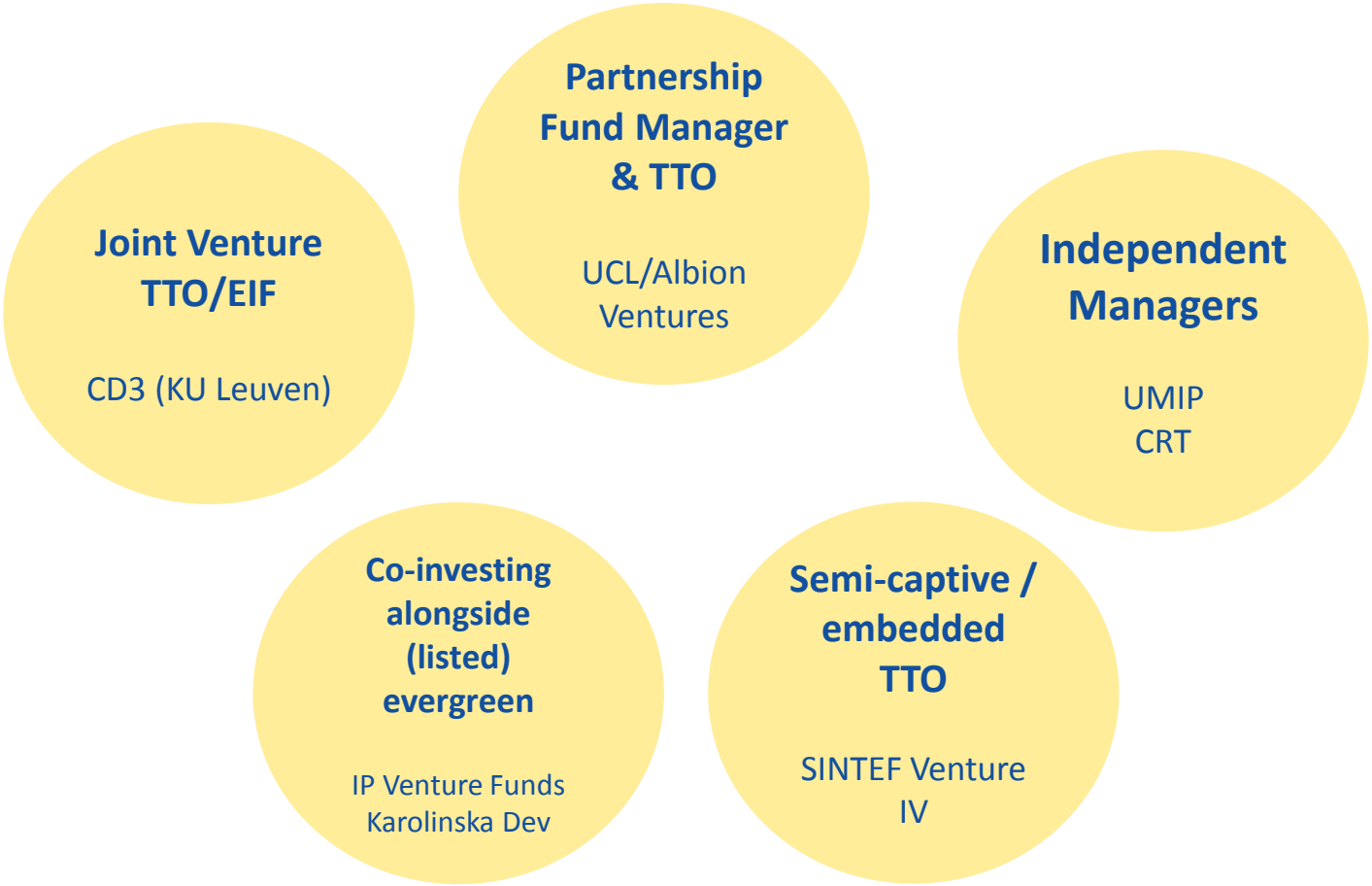
# ITAtech Investment Structure




Confirmed investment/agreement

Possible investment/agreement

# TT investment models (examples)



# Investment process and indicative timelines

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**9-12 mths**

**First Screening** → **Second Screening** → **Due Diligence** → **Board Approval**

| Understand concept | Investment readiness | Stress testing and verification | Legal documentation |
|---|---|---|---|
| Based on preliminary questionnaire / concept note | Physical meeting (typically in Luxembourg), opportunity to articulate investment opportunity, understand EIF | EIF team conducts on site visits (min. 2 days). May, or may not lead to term sheet | After EIF BoD approval, legal docs drafted on behalf of Manager. EIF review Importance of legal counsel |

# Investment considerations

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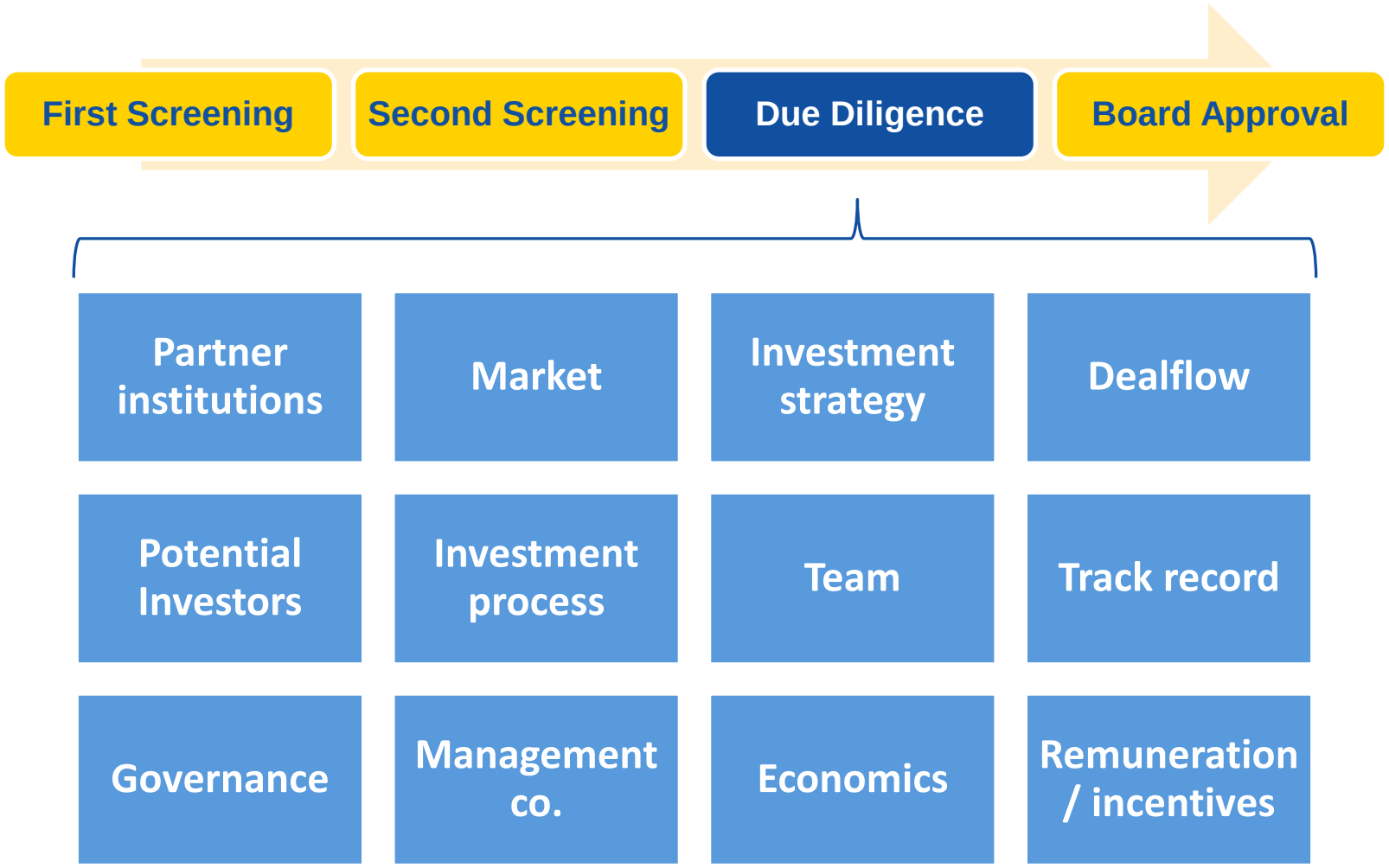

# Conclusions

# First Results

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Vertis Venture 3
Technology Transfer
Fondo chiuso di Venture Capital

Compagnia di San Paolo

# Lessons learnt/critical points

- Access to good science
- Close collaboration of investment vehicle with TTO; Build trust
- IP adequately protected under relevant legislation
- Incentives to managers - alignment of interests with long-term focus, up to 15-20yrs
- Min critical size ca. EUR 30m.
- Spin-out is not the only route
- “One size fits all” TT policies do not work
- Support from highest levels within research organisations
- Presence of an entrepreneurial systems beyond the research setting

# Thank you for your attention