



Joint Research Centre

Introducing the Competence Centre on Technology Transfer

**NCP Info Session
16 December 2021**

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JRC, European Commission**

MADE IN CHINA 2025 STRATEGY AIMS TO MAKE CHINA A WORLD LEADER IN 10 KEY INDUSTRIAL SECTORS:

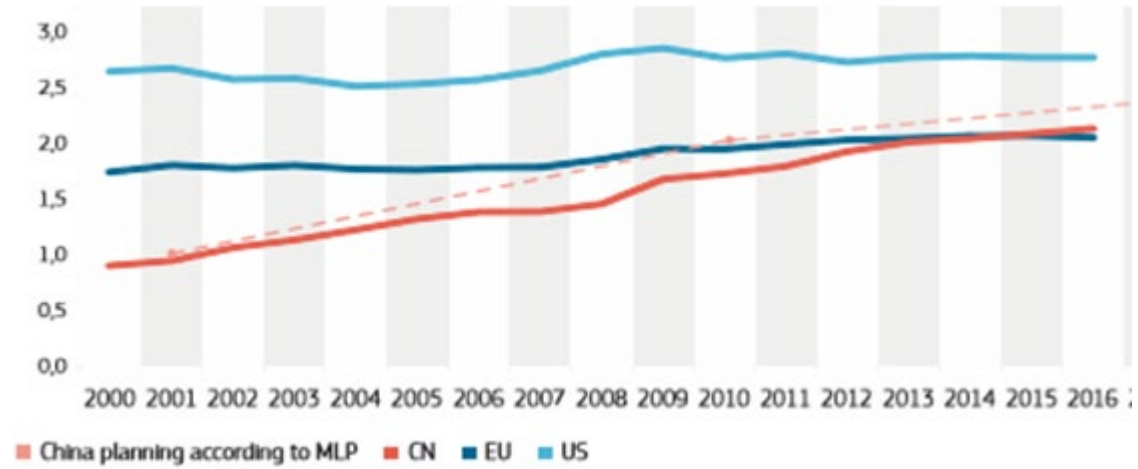
- Next-generation IT
- Advanced rail
- Aerospace and aviation
- Maritime engineering
- New vehicles
- Electrical equipment
- Agricultural machinery
- New materials
- Numerical control machinery / robotics
- Biopharmaceutical & medical devices



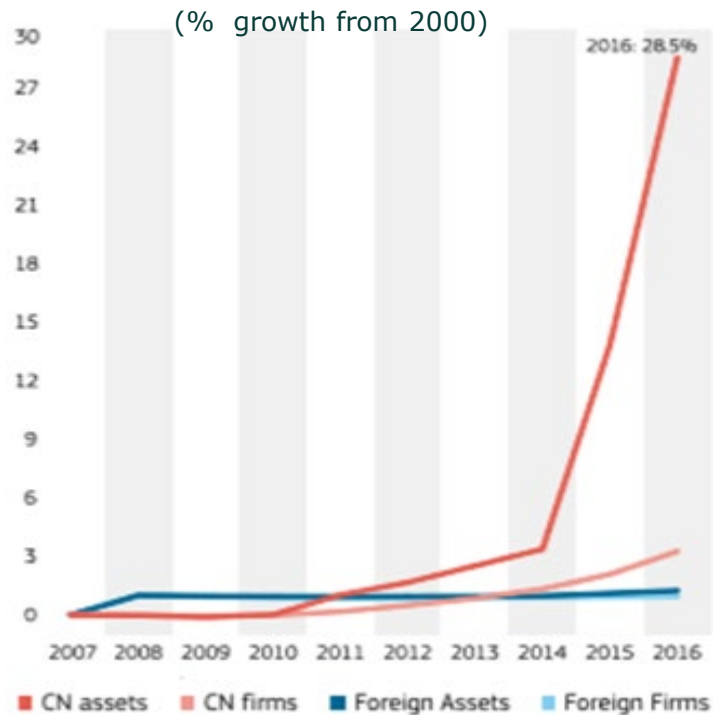
Patent Applications at EPO (2018)

| | |
|--------------|-----------------------|
| EU-15 (West) | 67,884 (1/3 from DE) |
| EU-13 (East) | 1,246 (1/3 from PL) |
| US | 42,300 |
| China | 8,330 (x2 in 3 years) |
| Japan | 21,712 |

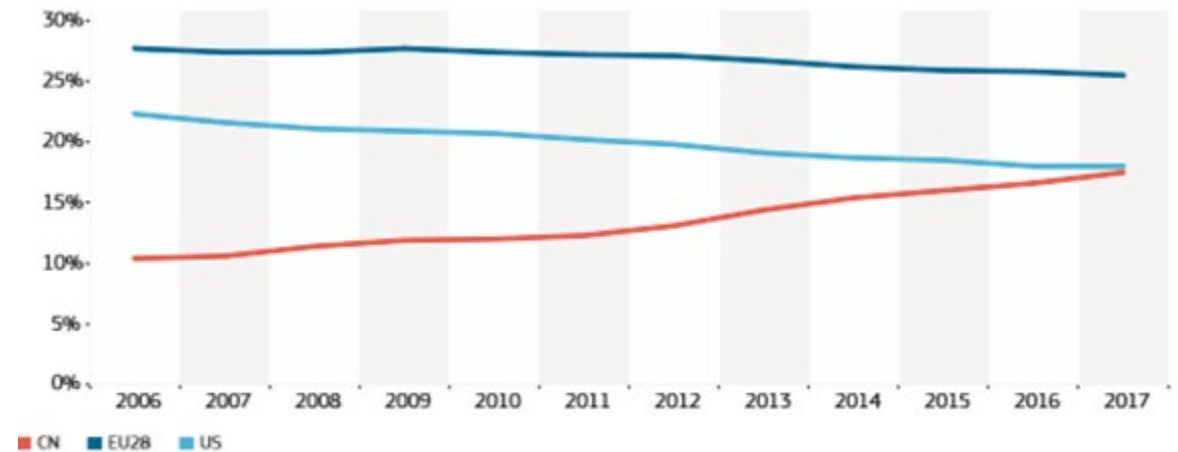
R&D Intensity



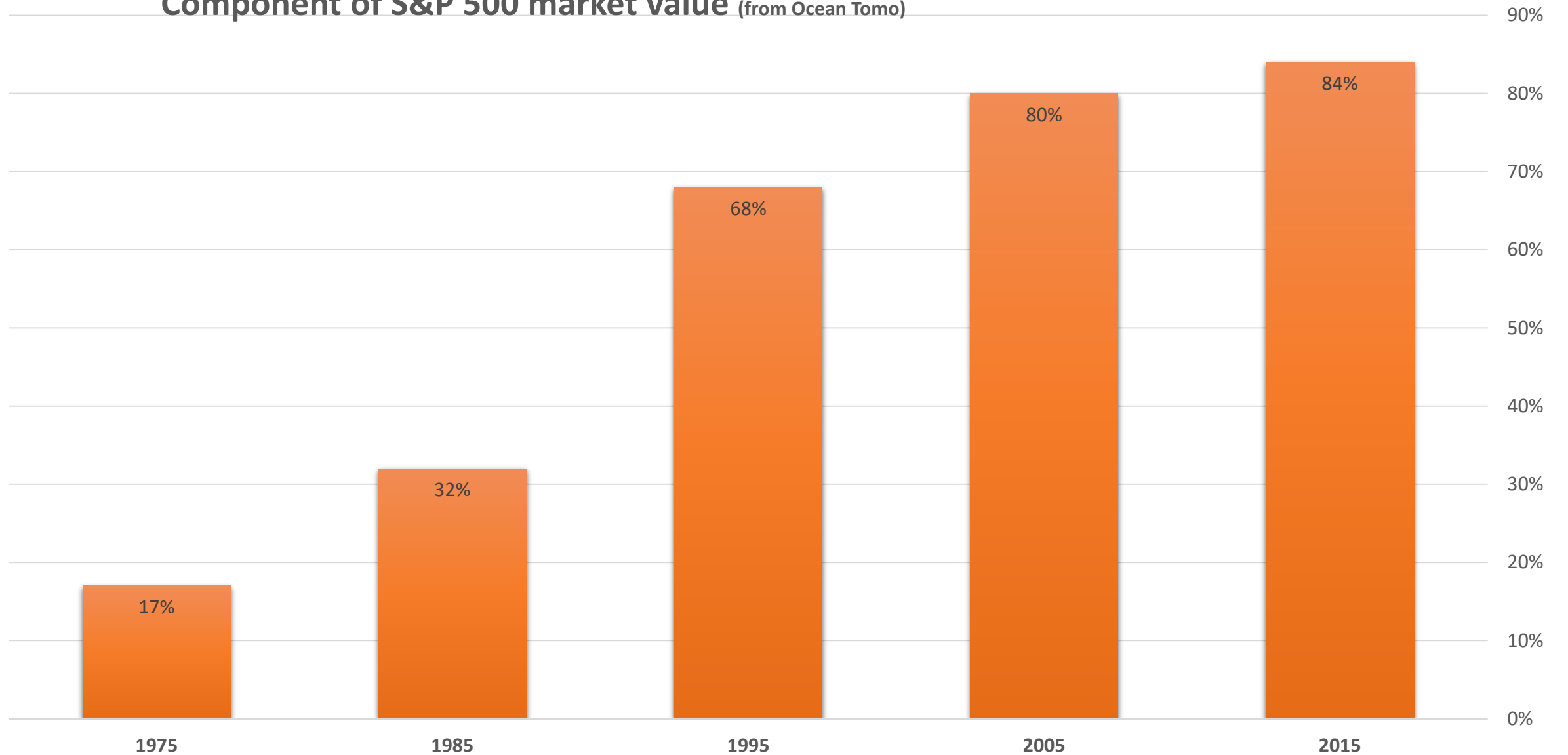
Chinese Shares in European Firms



World Share of High Impact Publications



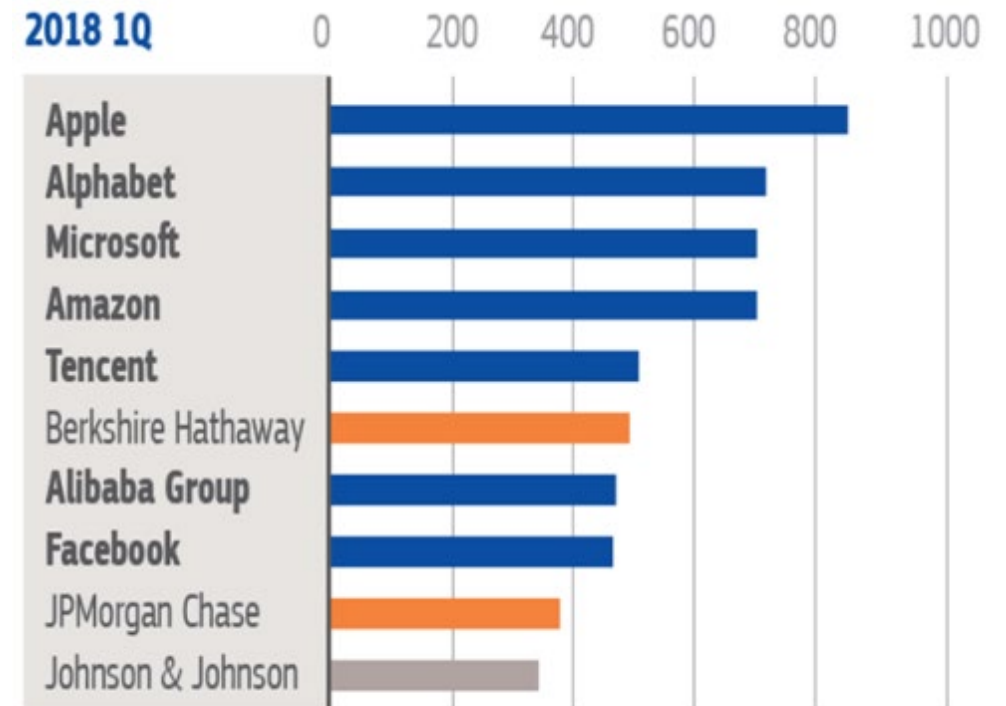
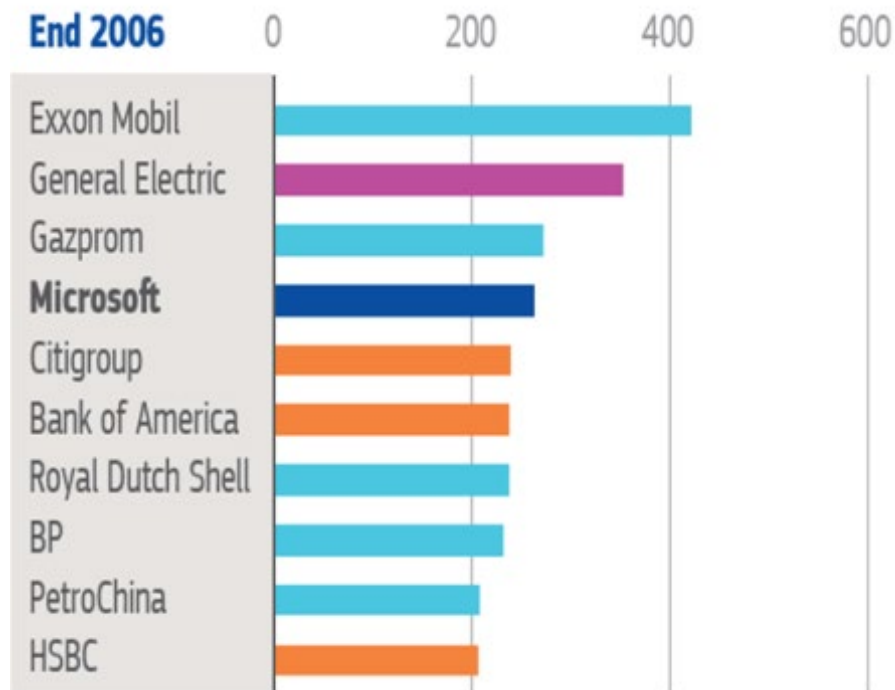
Component of S&P 500 market value (from Ocean Tomo)



Share of intangible Assets

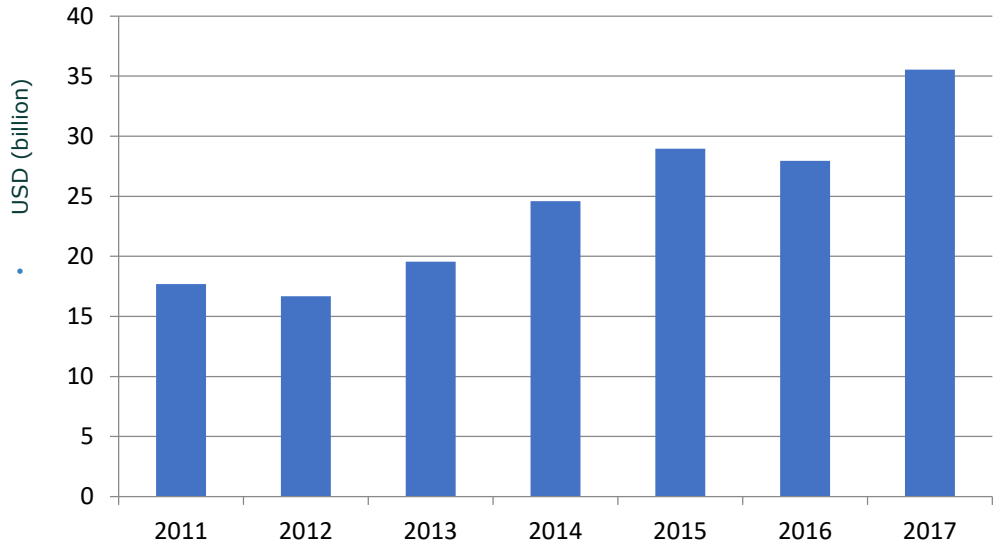
Market valuation in billion US dollars

Energy Financials Health care Industrials IT



Source: Bloomberg, ycharts

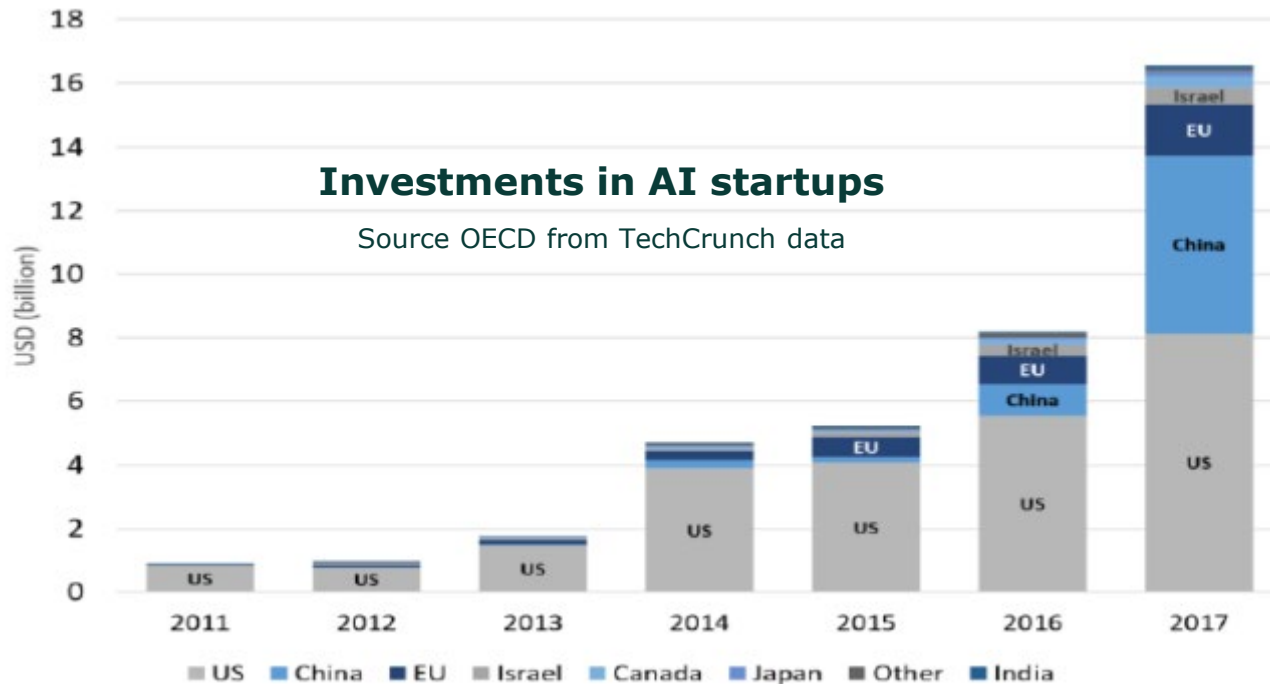
The Advent of Artificial Intelligence



- Exponential growth of AI startups (15b\$ in 2017 from 1b\$ in 2012),
- US leads but China is catching up very fast
- Europe is growing but at slower pace
- Investment in AI startups reached 50% of total investment in start-ups in OECD)
- AI share expected to grow
- Different shares depending on applications

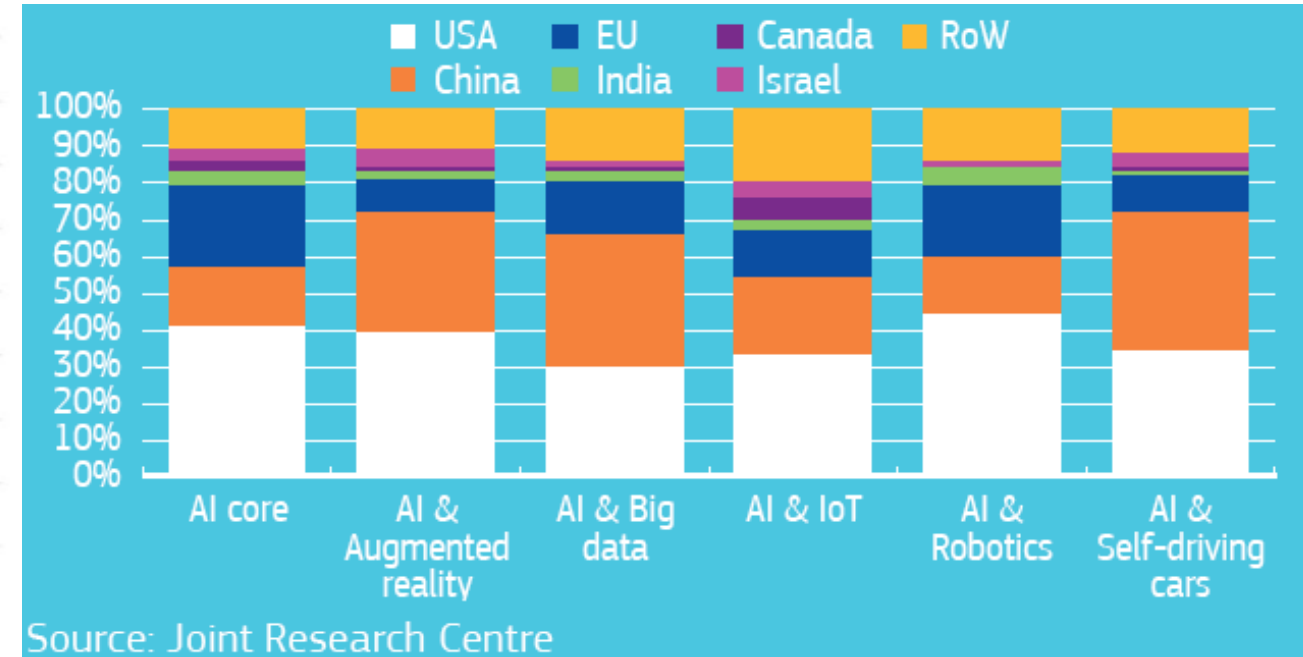
Investments in startups (and early stage) in OECD

Source JRC elaboration of OECD data



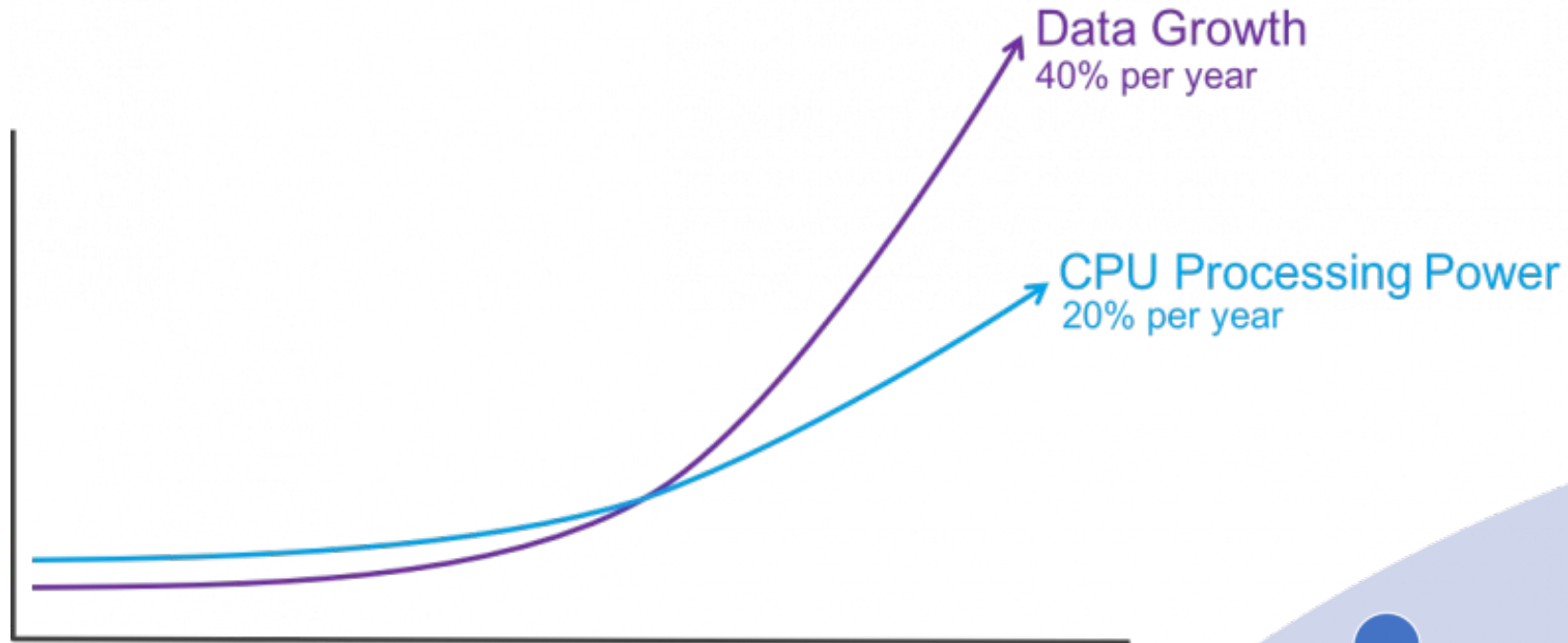
Investments in AI startups

Source OECD from TechCrunch data



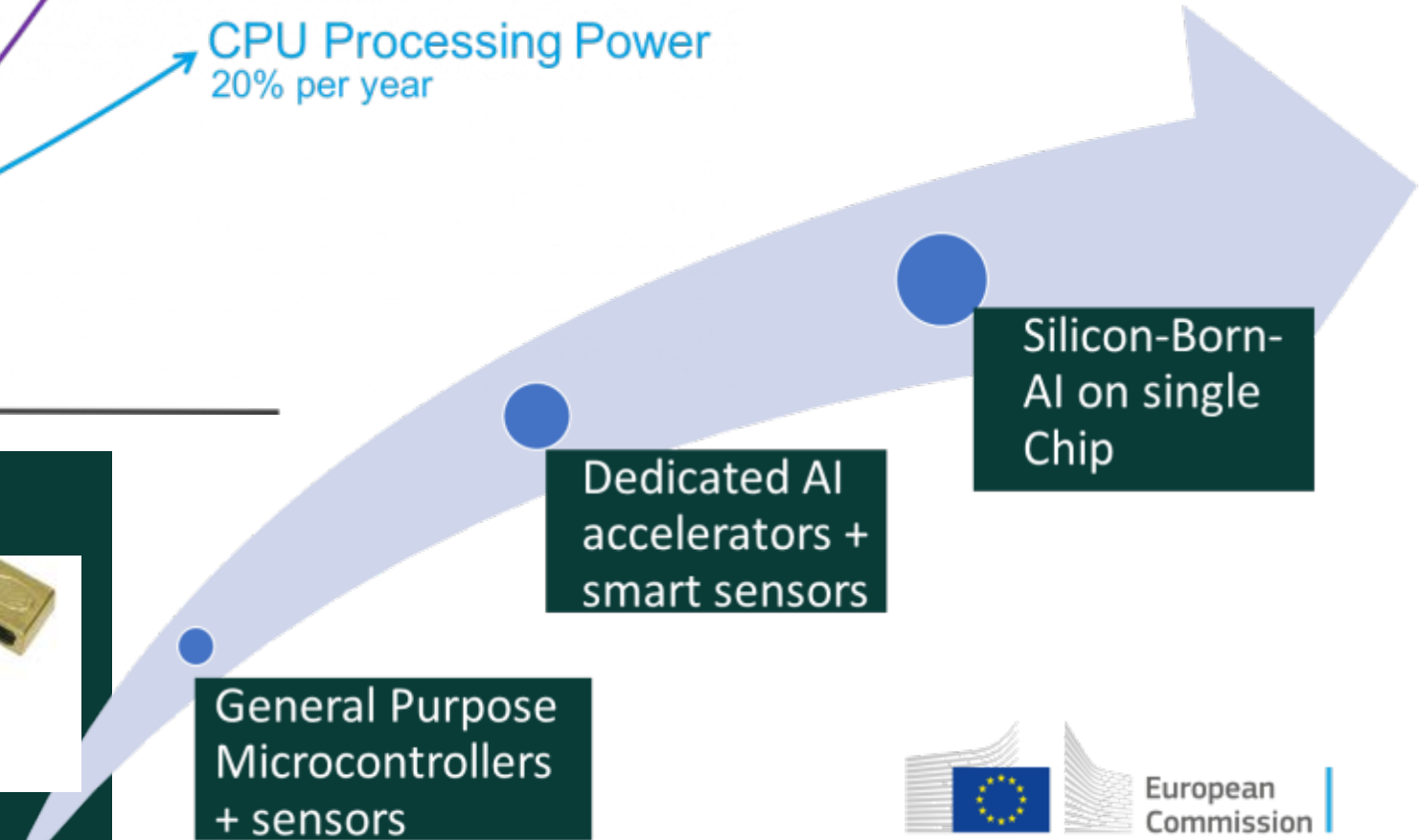

Source: Joint Research Centre

Data Vs Computing Power




Technological solutions emerge

- New powerful chips
- Edge and Fog computing
- Quantum computing ...



Deep-Tech Start Ups



How to Exploit the Untapped Potential of RTOs' Deep-Tech Start-Ups in Europe

12 April 2017

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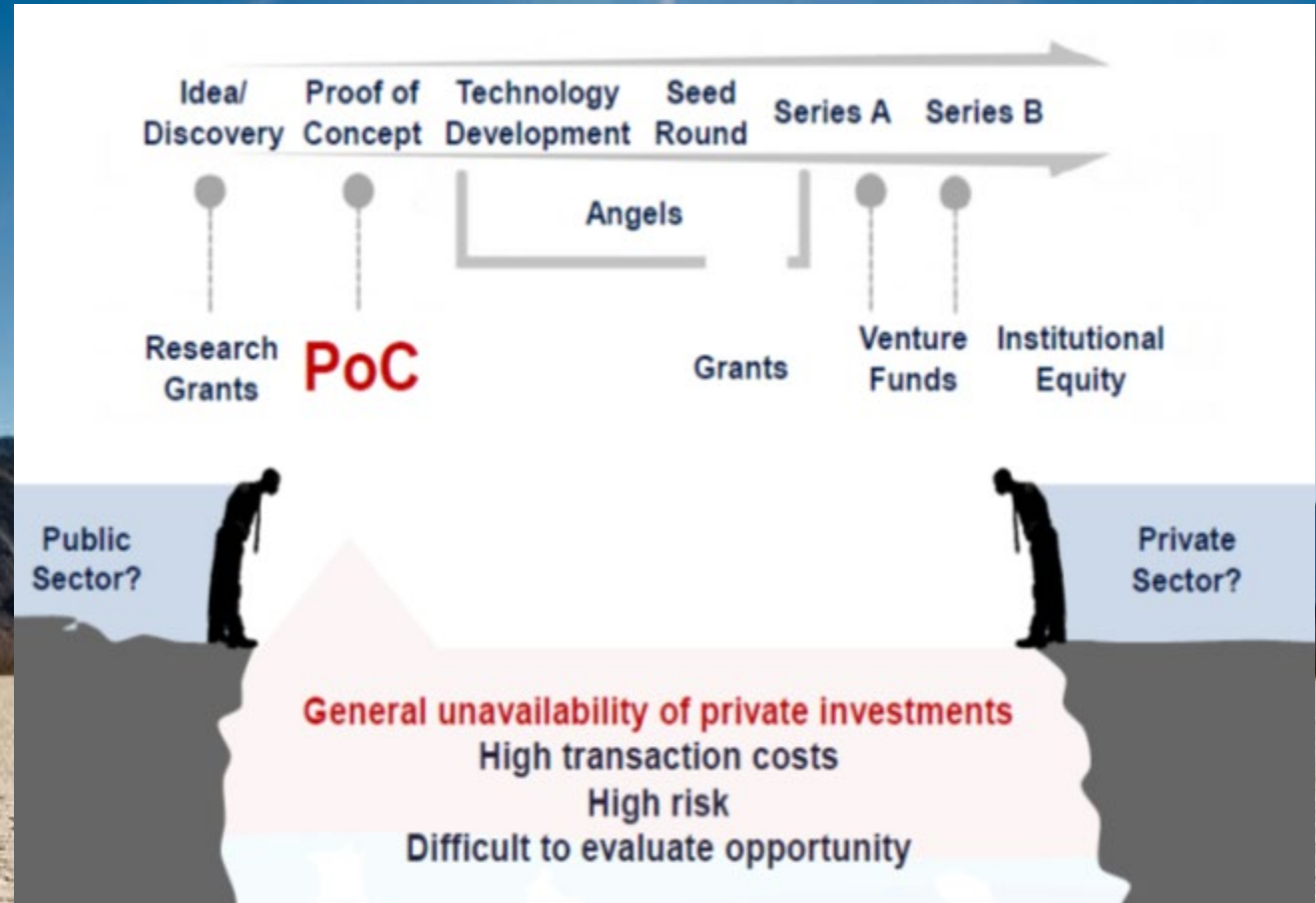
- **Deep-tech start-ups** are key to Europe's competitiveness and industrial renewal, delivering high socio-economic impact
- **Contrary to US-type digital companies**, EU-type deep-tech start-ups have great life expectancy and low rate of failure
- Need **higher financial support** early on, even though they tend to balance out at a later development stage
- They heavily rely on **patent protection**

*"Research transforms
money into
Knowledge..."*



*....Technology Transfer
transforms knowledge
into money"*

*Geoffrey Nicholson,
3M, father of Post-It*



Competence Centre for Technology Transfer

- Single reference point for expertise on technology transfer at the EC
- To support EU policy development, from upstream concept stage to the downstream implementation phase
- To deepen understanding and knowledge of technology transfer through research and aggregation of results and best practices

The Technology Transfer Ingredients

Framework

IP framework

Institutional Processes

People

Finance

Proof of Concept

Industrial scale-up

Private Equity (VC)

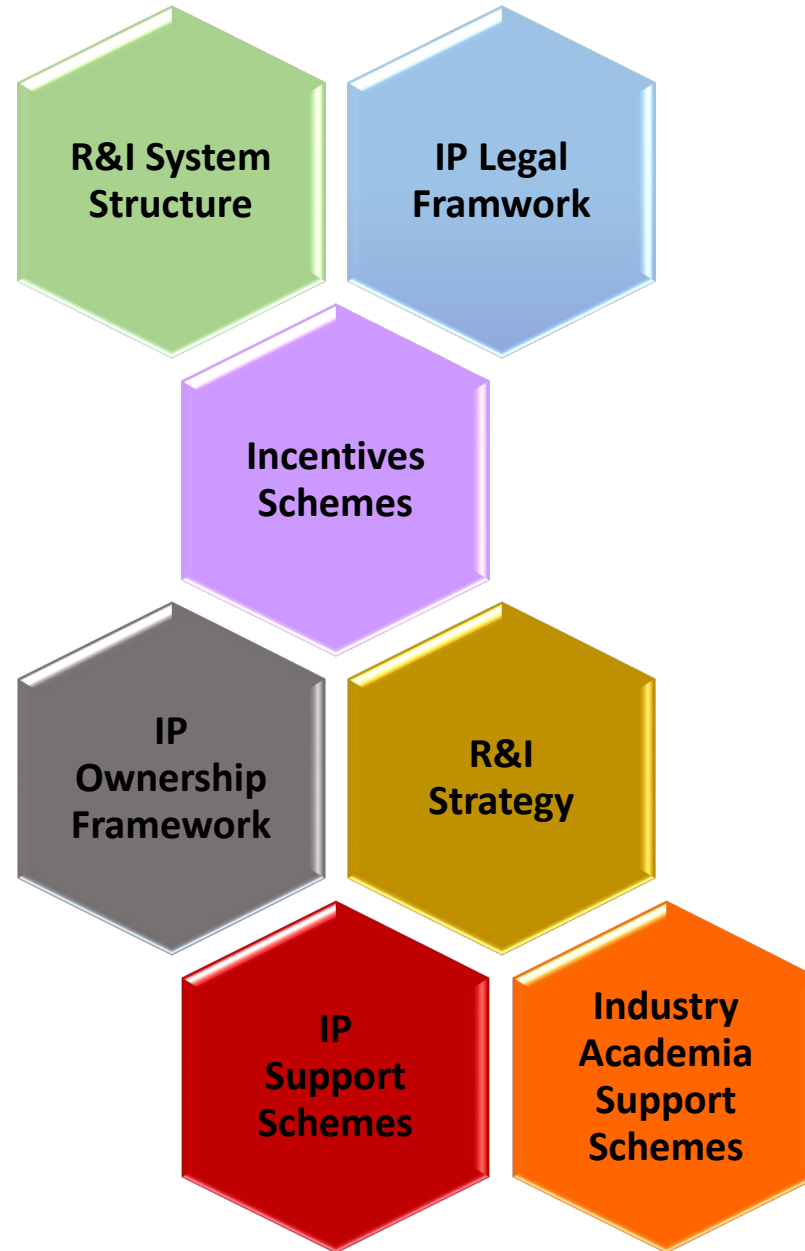
Places

Plan

Orchestrate

Manage

S3



TT Offices Procedures

Licensing Policies

ND/NCAs

IP policies

Spin-off
Policies

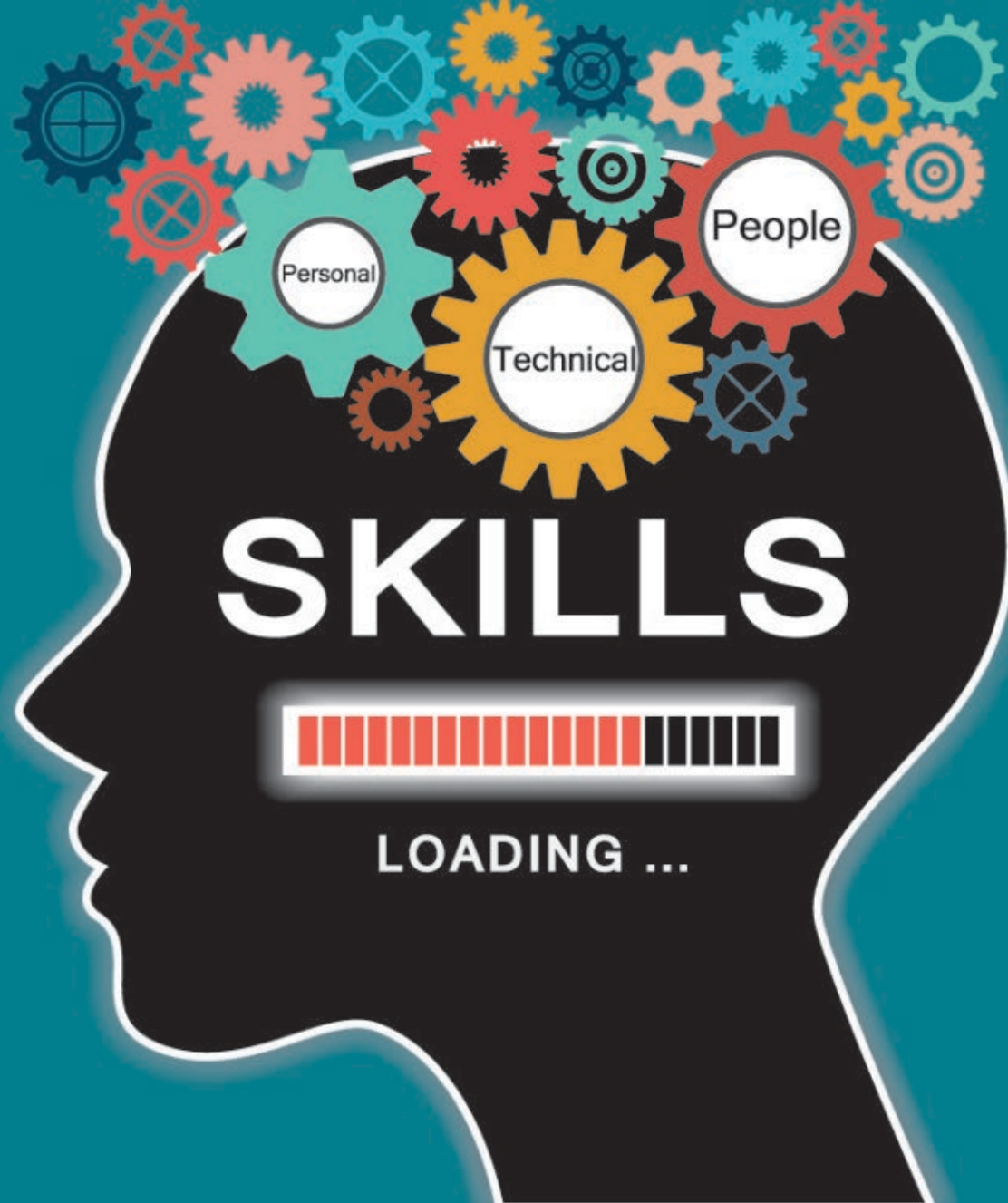
Material
Transfer
Agreements
Policies

Disclosure
policies

ETC

PoC Support

Contract
Research
policies



- Technology Scouting
- IP Identification
- IP Generation (patentability, freedom to operate, etc.)
- IP Management (valuation, evaluation)
- IP Licensing
- IP Assignment
- Dispute Resolution (arbitration and mediation)
- Spin-off Creation and Management
- Investor Relations
- Entrepreneurship



Urban Innovation Hubs on the rise in Europe

Paris - Station F (opened on 29/6/17)

Hosts up to 1000 start ups (3000 desks), 38,000 m², 310m x 58m, 20 accelerator programs, dismissed freight station, hotel (800 rooms) + restaurant (1000 seats)

Lisbon - Criativo do Beato (gradual opening)

35,000 m² in 20 buildings in former army food factory, 200m€ VC fund + tax incentives, plans for 100,000 m² extension to 3000 start ups

London - Plexal (opened on 12/6/2017)

6,300 m² incubator in Queen Elisabeth Olympic Park (250ha). 800 desks, several acceleration programs.

Milan - Arexpo (masterplan in development)

New S&T park in Expo 2015 area of 100ha, focus on health, big data, agrifood and biotech. Includes university, hospital and large research centre.



Studies

- IP collateralisation and securitisation (2016)
- PPPs in Science and Technology Parks and Innovation Districts (2020)
- Corporate Venturing (2020)
- TT Metrics I (2020)
- TT Tools (2021)
- TT Metrics II (exp. 2021)
- Innovative investment models for Innovation districts (end 2021)
- Impact investing for the Western Balkans (end 2021)

Supporting EC DGs with Expertise and Competences

- RTD – Conception and ex-ante evaluation of InnovFin TT
- DG NEAR – Coordination of TT related capacity building measure in the Western Balkans
- DG NEAR - Regional proof of concept support scheme for the Western Balkans
- DG REGIO – Assessment and recommendations on improving operational performance of Sofia Tech Park
- DG REGIO – Strategic Evaluation of Bulgarian Centres of Competence and Centres of Excellence
- DGs RTD/NEAR – Benchmarking study of TT ecosystems in 12 neighbourhood countries
- DG COMP – Study on the application of the state-aid regulation to RDI organisations
- DG REGIO - Strategic evaluation of the technology transfer and IPR protection systems of Bulgaria, Croatia and Romania
- INTPA – Medicines and Vaccines manufacturing in Africa
- Slovakia

30+ Public Research Organizations
200.000 staff
35.000 patents
4.200 Startups
5.200 software

