

# EU Support to Innovation and Industry 4.0

**Signe Ratso, Deputy Director-General  
DG Research and Innovation**

**Industry 4.0 in practice  
May 29, Tallinn, Estonia**

# The Commission contribution to the informal EU27 leaders' meeting in Sibiu, 9 May 2019



Research and innovation is key to address effectively the pan European social challenges : protecting citizens, democracy and freedom ; building a greener and more inclusive future



Research and innovation is the main driver for economic growth

The Commission has proposed a € 100 billion research and innovation funding programme for seven years (2021-2027)





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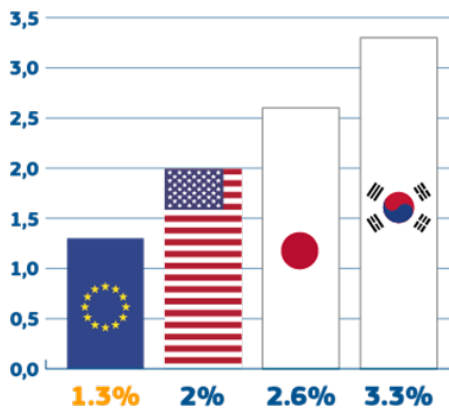
**'With growing international competition, Europe needs to act urgently on research and innovation. The proposed € 100 billion for the next EU research and innovation programme would be a huge boost.'**

**Carlos Moedas, Commissioner, 15/05/2018**

## While benefiting from world-class research and strong industries...

Our knowledge and skills are our main resources.

- 7% of the world's population
- 20% of global R&D
- 1/3 of all high-quality scientific publications

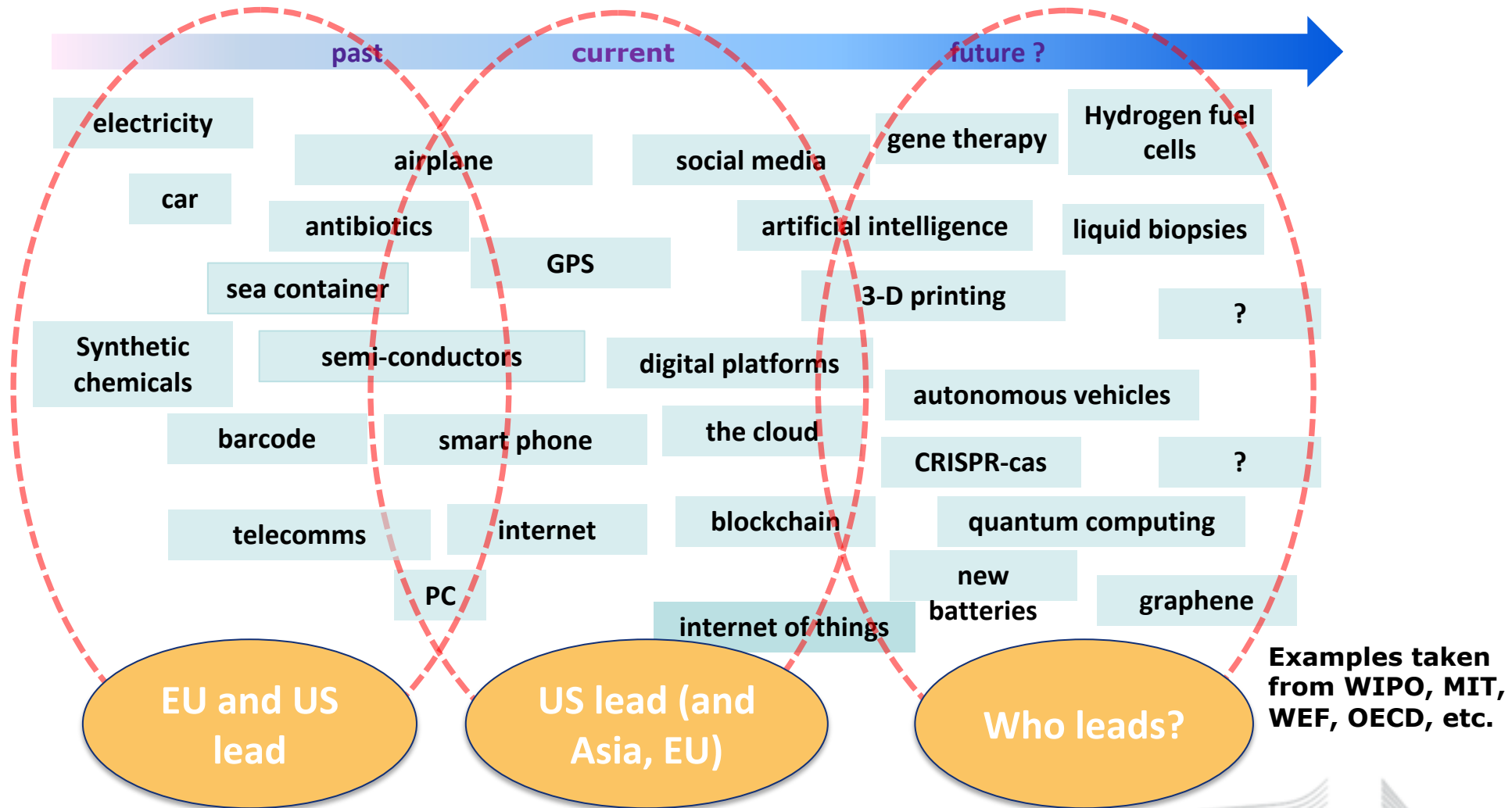


1.3%  
EU business  
R&D investment

**...Europe fails to transform leadership in science into leadership in innovation and entrepreneurship**

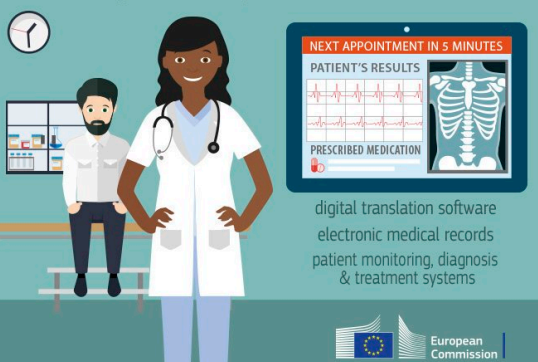


# Who will lead the next wave of breakthrough and disruptive innovation?



# DIGITISATION IS TRANSFORMING THE ECONOMY

## Today's hospital doctors need digital skills



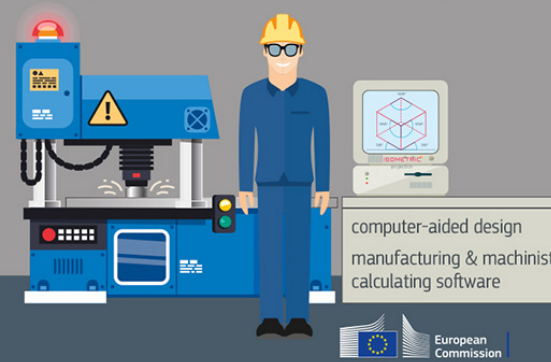
**Benefits:**

- facilitates communication between doctors & patients
- improves access to medical information
- allows doctors to save time and to treat more patients

digital translation software  
electronic medical records  
patient monitoring, diagnosis & treatment systems

European Commission #EUSkillsAgenda

## Today's industrial machine operators need digital skills




**Benefits:**

- faster manufacturing & reduced errors
- less hard, manual, repetitive tasks
- manufacturing processes more sustainable.

computer-aided design  
manufacturing & machinist  
calculating software

European Commission #EUSkillsAgenda

## Today's VET teachers need digital skills



**Benefits:**

- improved communication between teachers & students
- improved quality of learning
- increased safety

• Learning management systems  
• Virtual learning platforms  
• Digital simulation technologies

INTERACTIVE WHITE BOARD

European Commission #EUSkillsAgenda

## Today's farmers need digital skills



**Benefits:**

- improved decision making
- less repetitive & physically demanding tasks
- increased flexibility, productivity & animal health

Herd vaccination  
Automated irrigation  
Crop monitoring  
Farm management

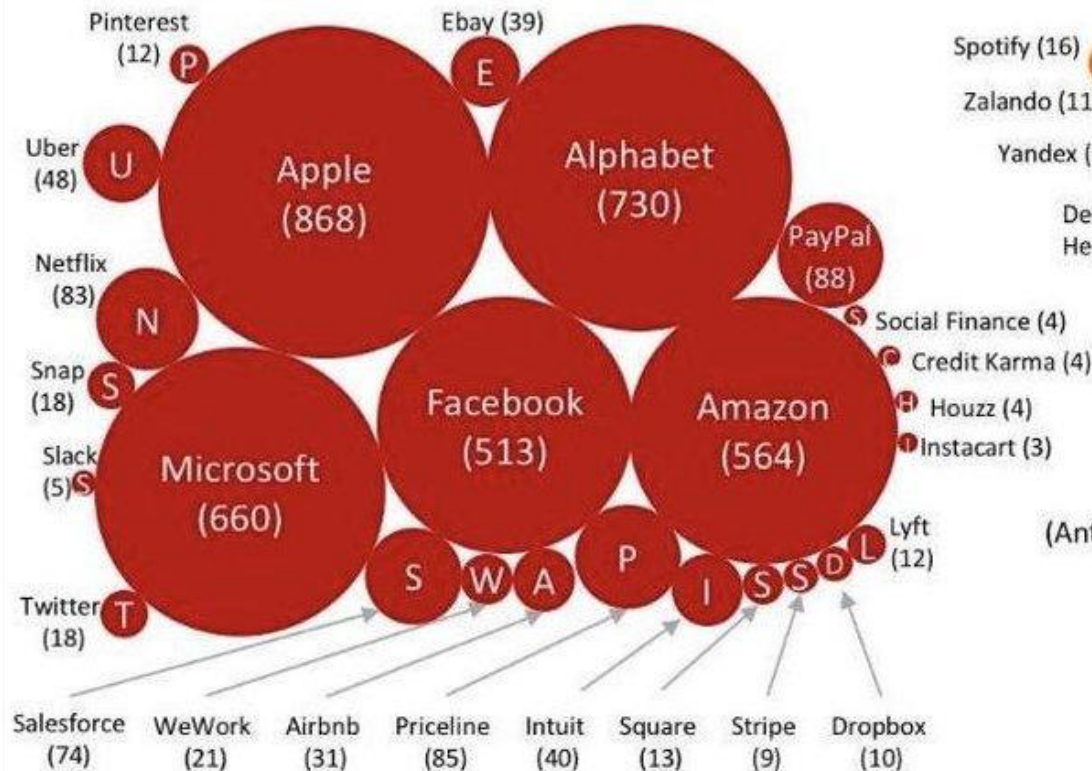
European Commission #EUSkillsAgenda

# Die Unwucht der Plattform-Ökonomie

Die 60 wertvollsten Plattformen der Welt (Mrd. Dollar (Börsenwert; jüngste Finanzierung / Stand 31. Dezember 2017))

## USA

(Anteil: 64% (2015: 67%))



## Europa

(Anteil: 3% (2015: 3%))



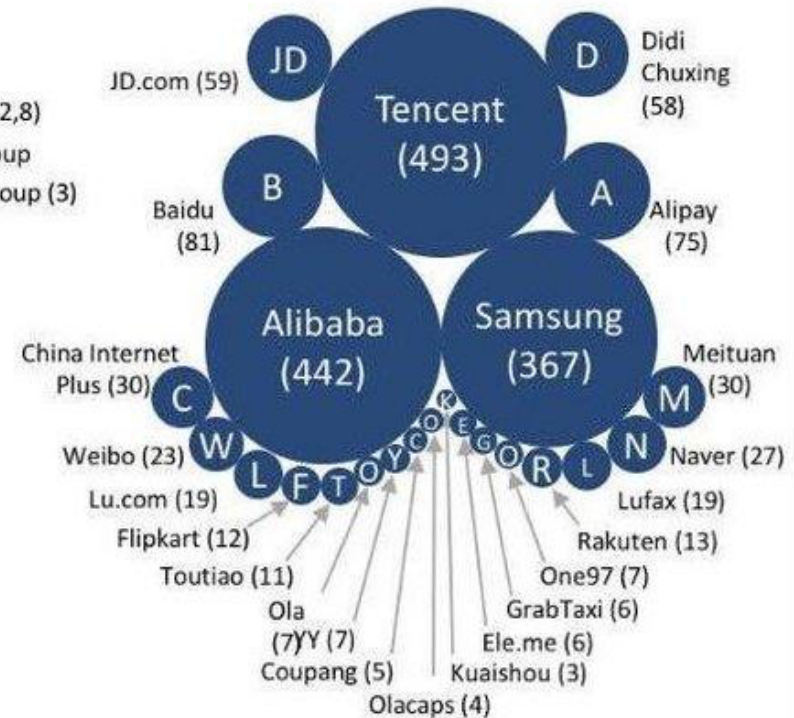
## Afrika

(Anteil: 2% (2015: 2%))



## Asien

(Anteil: 31% (2015: 28%))

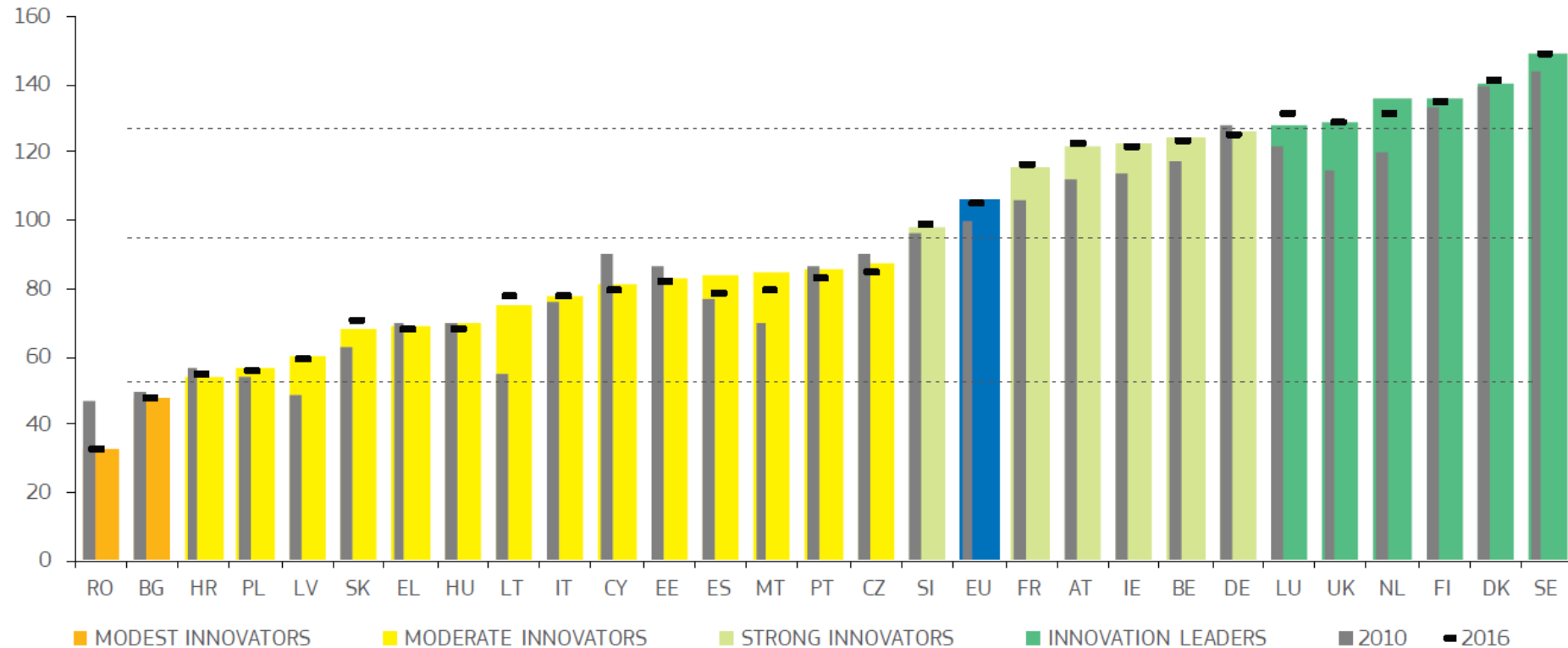


Quelle: Netzoekonom.de / Idee: Peter Evans

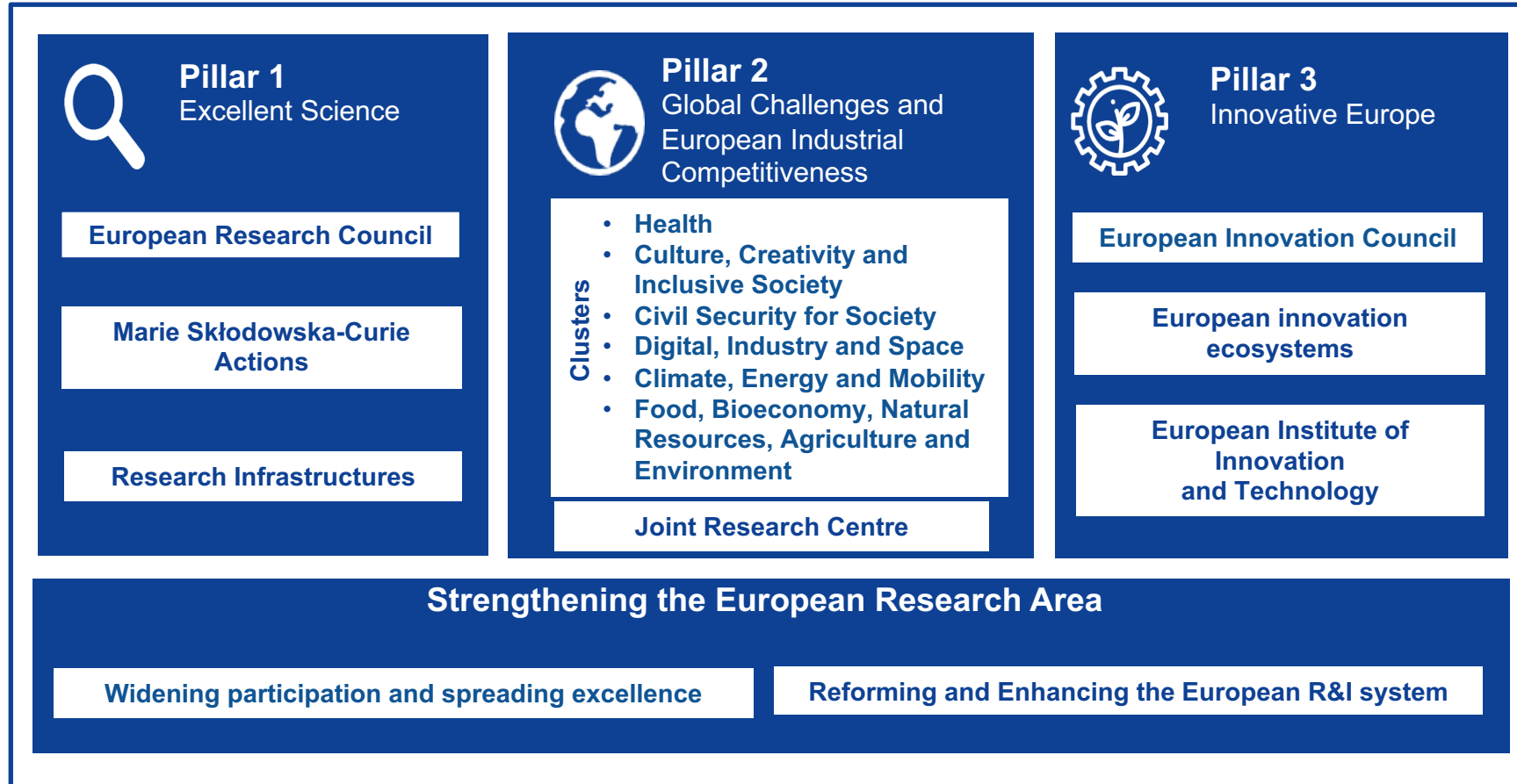


# European Innovation Scoreboard 2018

## Summary Innovation Index



# Horizon Europe: structure



**Sweetwoods : an Estonian  
success story in a bio based  
industry partnership : BBI JU**

**graanul invest**







# European Innovation Council

The EIC will support innovations with breakthrough and disruptive nature and scale up potential that are too risky for private investors.

**European  
Innovation  
Council**

**Helping innovators create markets of the future,  
leverage private finance, scale up their  
companies,  
Innovation centric, risk taking & agile, pro-  
active management and follow up**

Two complementary instruments bridging the gap from idea to investable project

**Pathfinder: grants**  
(from early technology  
to pre- commercial)

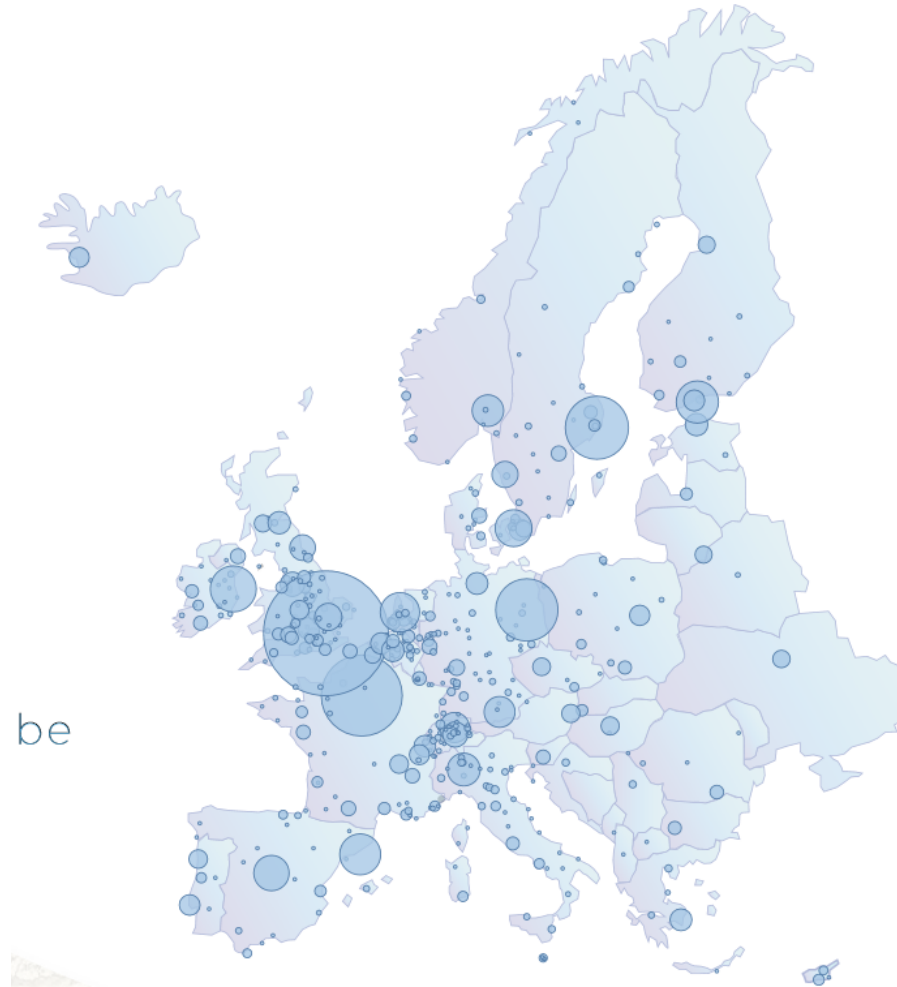
**Accelerator:**  
**grants & blended finance**  
(from pre-commercial  
to market & scale-up)



# Skeleton technologies : an Estonian success story in EU R&I



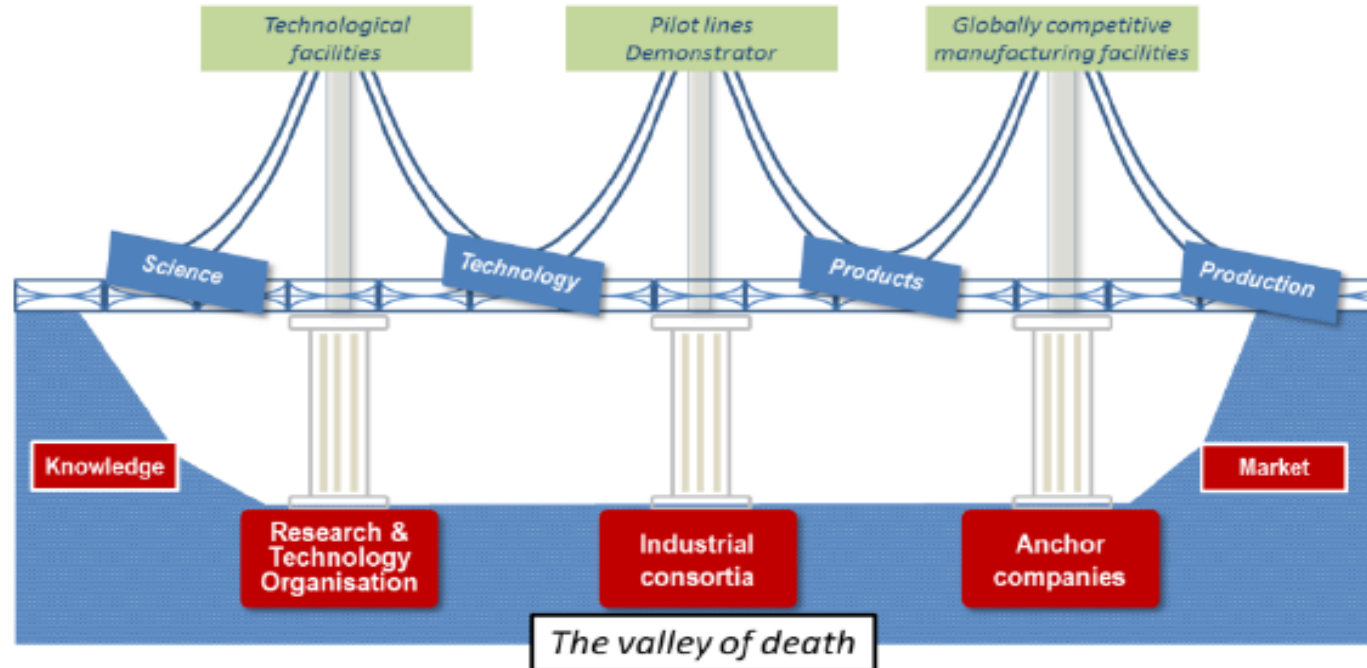
# European tech ecosystems are rich but can only reach their full potential if better interconnected



Map of the 476 European cities with at least one scale-up company, Startup Europe "Startup City Hubs in Europe" 2018 report



# Crossing the valley of death



TRL	1	2	3	4	5	6	7	8	9
	Basic Principles Observed	Technology Concept Formulated	Experimental Proof of Concept	Technology Validation In lab	Tech valid. In relevant environment	Demonstration In relevant environment	Demonstration In operational environment	System complete and qualified	Successful mission operations



# Technology Infrastructures

Facilities, equipment, capabilities and support services required **to develop, test and upscale technology to higher TRLs** whilst ensuring feasibility and regulatory compliance.

Public, semi-public or private status. Users are mainly industrial players, including SMEs, **seeking** to develop innovative technologies **towards commercialisation of new products**, processes and services.



# Importance of Technology Infrastructures



European Prosperity

- **Strong industry of key importance**

Competitive Economy

- **Requires Adaptation and Innovation**
- **Need to invest in new technologies**

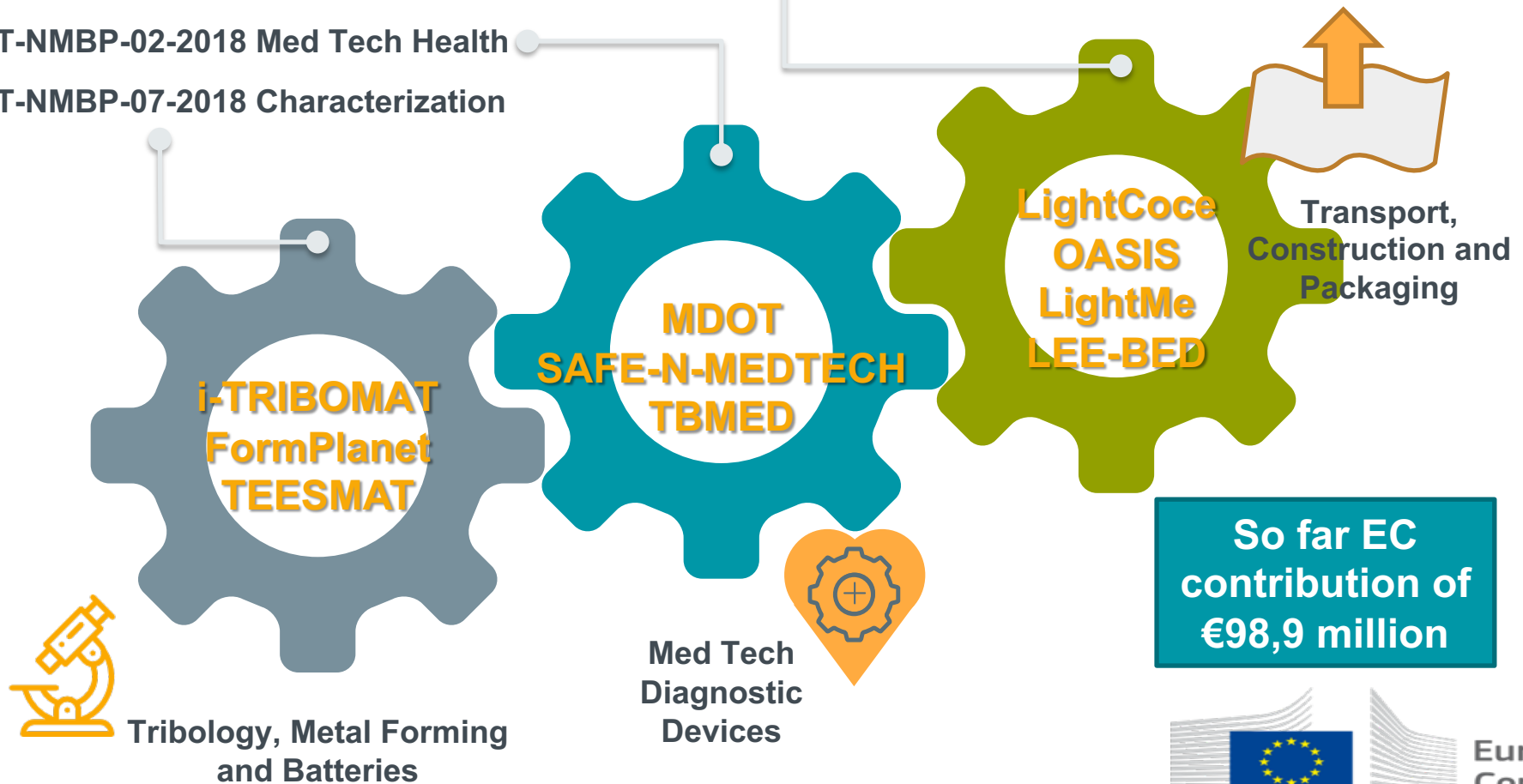
Technological Complexity

- **Need to test, validate and upscale new technology solutions**



# Open Innovation Test Beds – 10 projects started in 2019

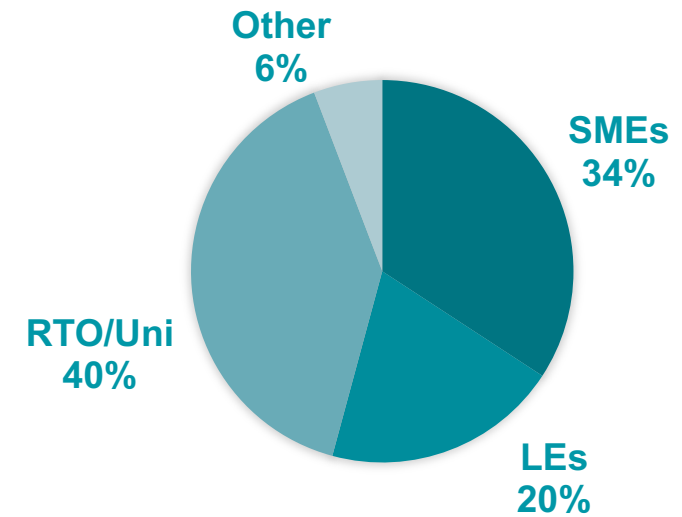
- DT-NMBP-01-2018 Lightweight
- DT-NMBP-02-2018 Med Tech Health
- DT-NMBP-07-2018 Characterization



# Open Innovation Test Beds – 10 projects started in 2019

Current participation reflects offers from most of Europe...

...but services open to all of Europe!



% of Participants by Type

# EUROPEAN RESEARCH & INNOVATION DAYS



**24 → 26**  
SEPTEMBER

**20**  
**19**

KANAL  CENTRE POMPIDOU  
Brussels, BELGIUM

**#RiDaysEU**  
**@EUScienceInnov**





Thank you!

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