

# Insights from the 2022 SRIP report

Conference on Euro area's  
productivity and competitiveness  
in the new challenging times

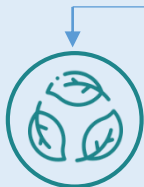
30 June 2022

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European Commission



## Research and Innovation

to



Build forward better  
in a post-pandemic world

*Transformative R&I  
for sustainable development*



(Re)gain competitiveness

*Prosperity in the digital age  
and competitive sustainability*



Think the unthinkable  
(and be ready for it)

*Resilience, preparedness  
and technological sovereignty*

*How to make the best of R&I?*



*Leverage businesses,  
institutions and people*

*Investing and valorising*



*Connect actors and  
address disparities*

*Diffusing*



*Ensure R&I-friendly  
conditions*

*Enabling*

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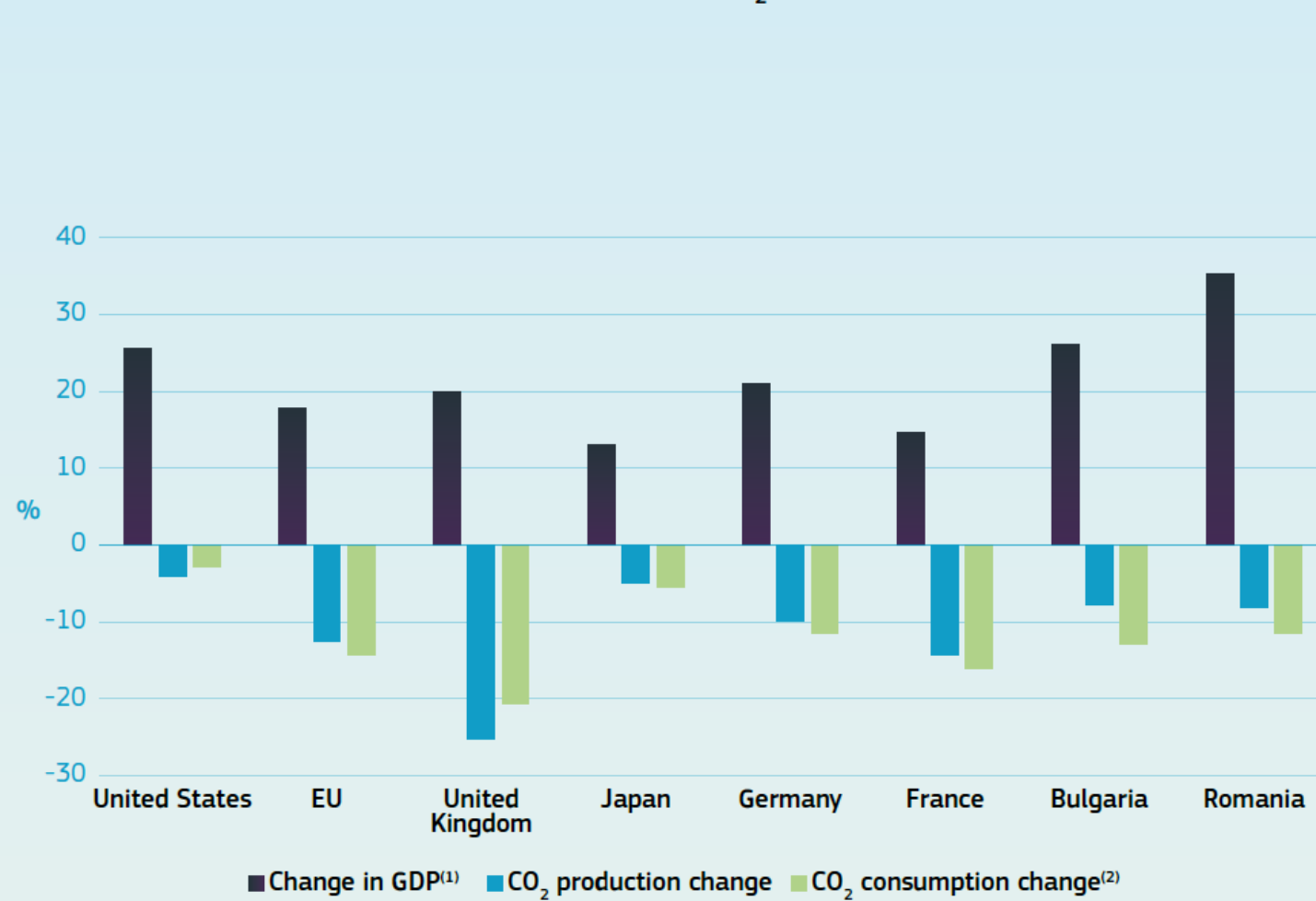
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# Productivity, innovation and green transition

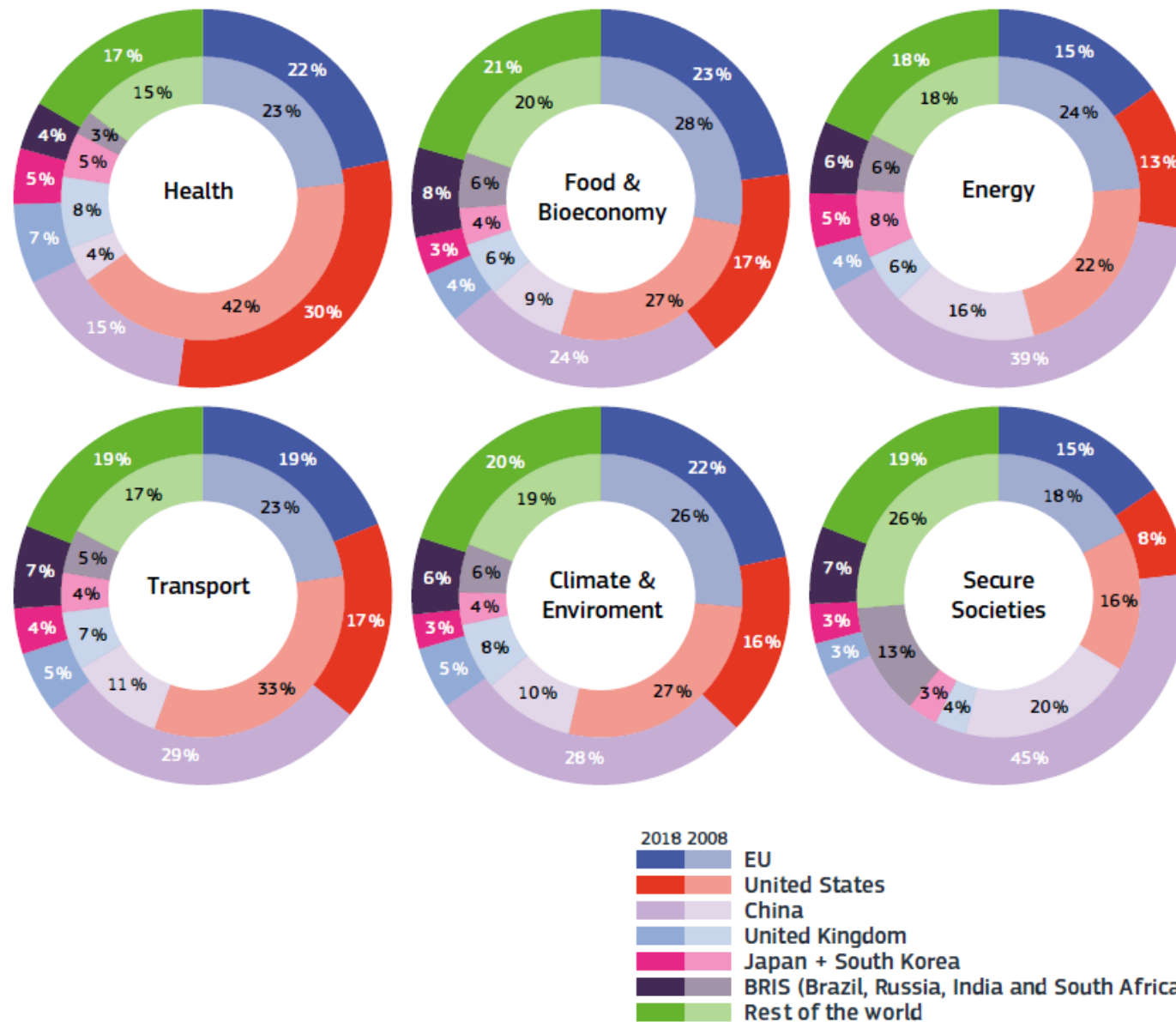
Figure 4.1-2: Percentage change in GDP and CO<sub>2</sub> emissions between 2009 and 2019



Increasing economic prosperity while reducing CO<sub>2</sub> emissions is possible



**Figure 6.1-21: World shares (%) of the top 10% highly-cited scientific publications<sup>(1)</sup> by Horizon 2020 Societal Grand Challenges, 2008 (interior) and 2018 (exterior)**



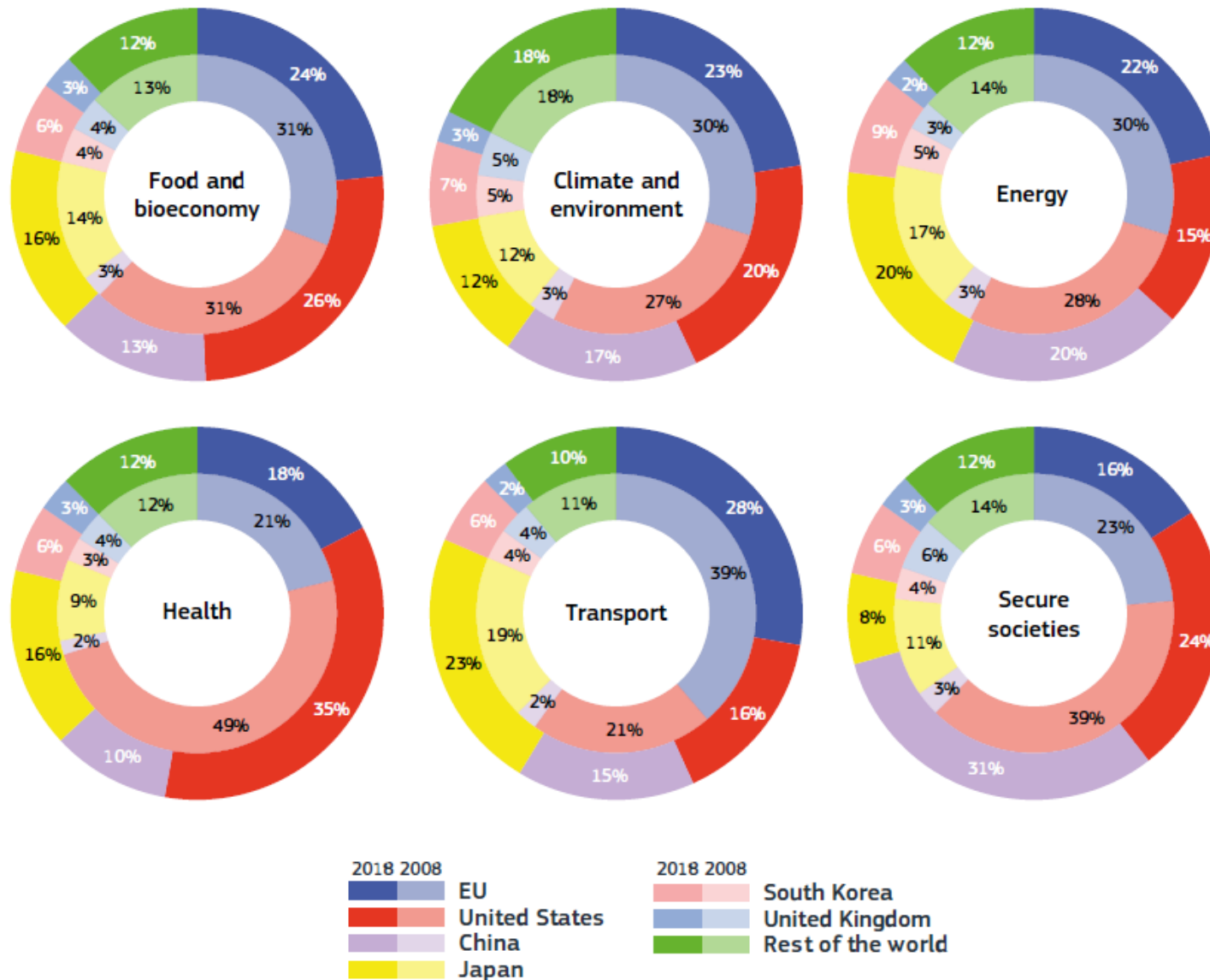
## R&I and societal challenges (1)

The EU has the second-highest world share of the top 10 % most-cited publications in all Societal Grand Challenges.





**Figure 6.3-15: Share in the world (%) of patent applications filed under the PCT<sup>(1)</sup> by country/region and Horizon 2020 Societal Grand Challenge, 2018 (exterior) and 2008 (interior)**

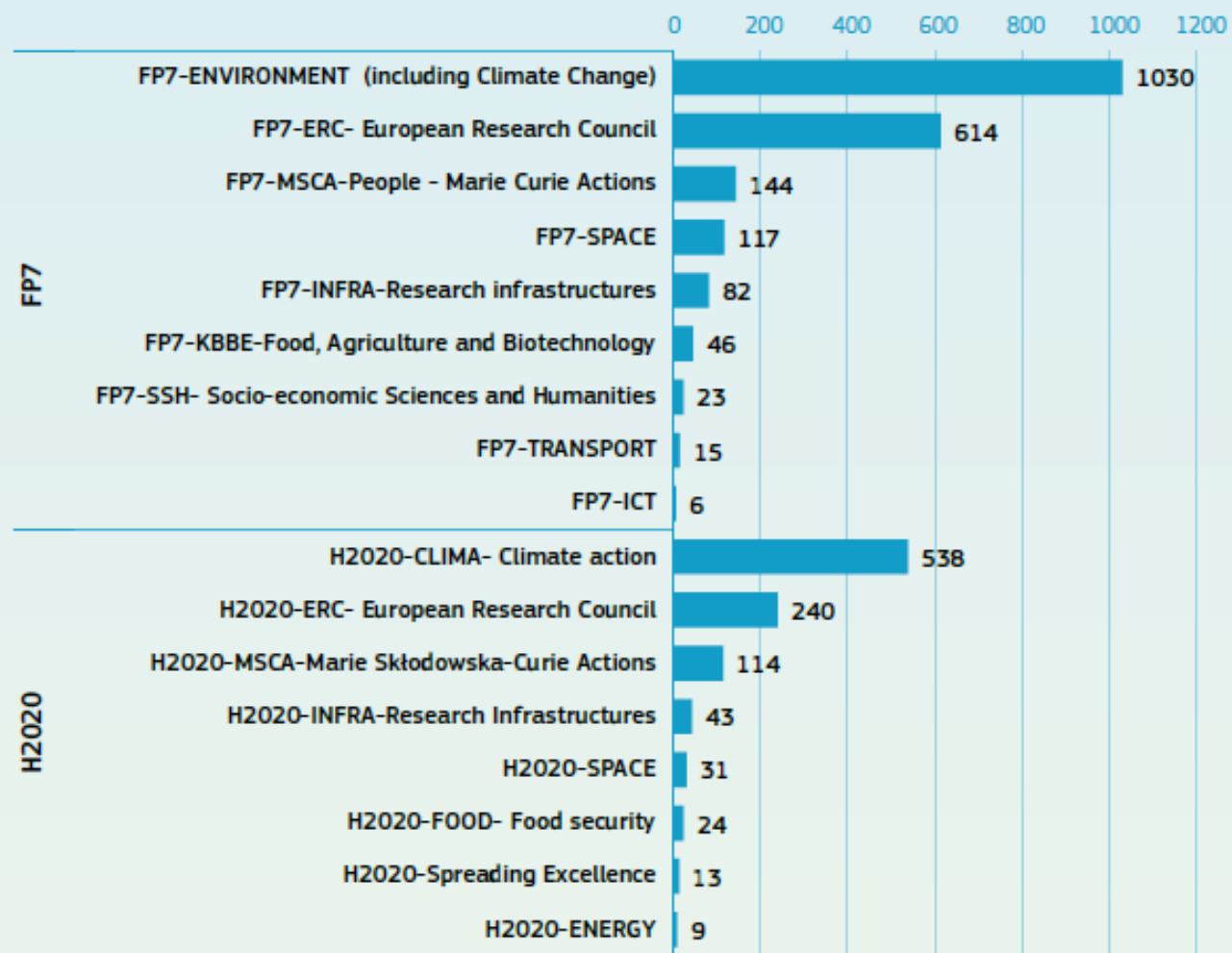


## R&I and societal challenges (2)

The EU remained the top worldwide patent applicant in the fields of climate & environment, energy and transport.



Figure 3-21: Publications referenced in IPCC reports by FP sub-programmes



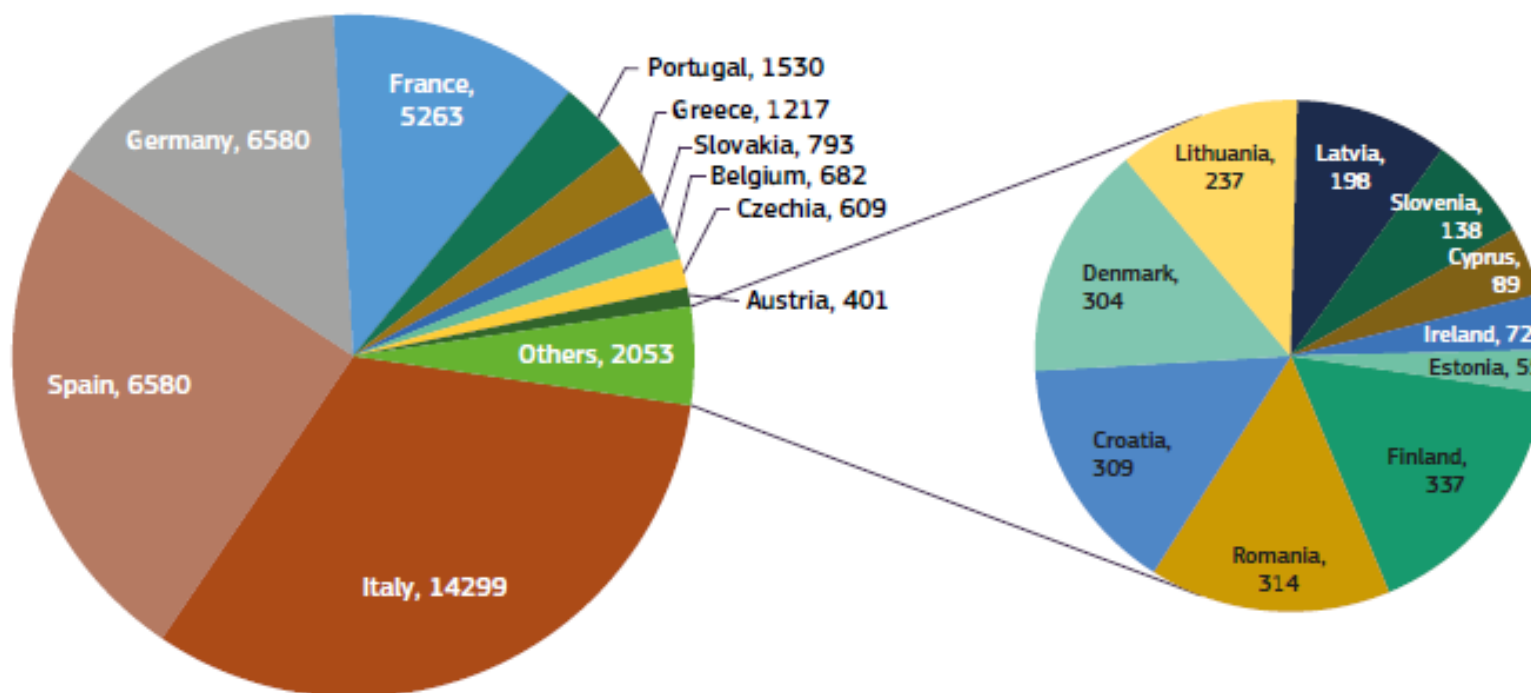
Science, Research and Innovation Performance of the EU 2022

## Contribution of EU R&I FP to evidence in IPCC reports

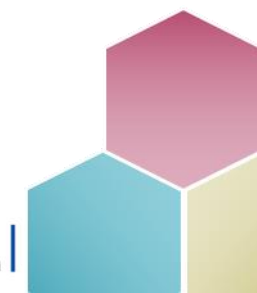
Over 2,500 publications cited by the IPCC (about 12% of the total references) have been totally or partially funded by the EU funding.

# R&I in the Recovery and Resilience Facility

**Figure 1-15: Absolute expenditure allocation to R&I projects in Recovery and Resilience Plans per Member State (EUR million)**



R&I is an indispensable component of the RRF, both to deliver on Europe's recovery and to make Europe's green and digital transformation a reality





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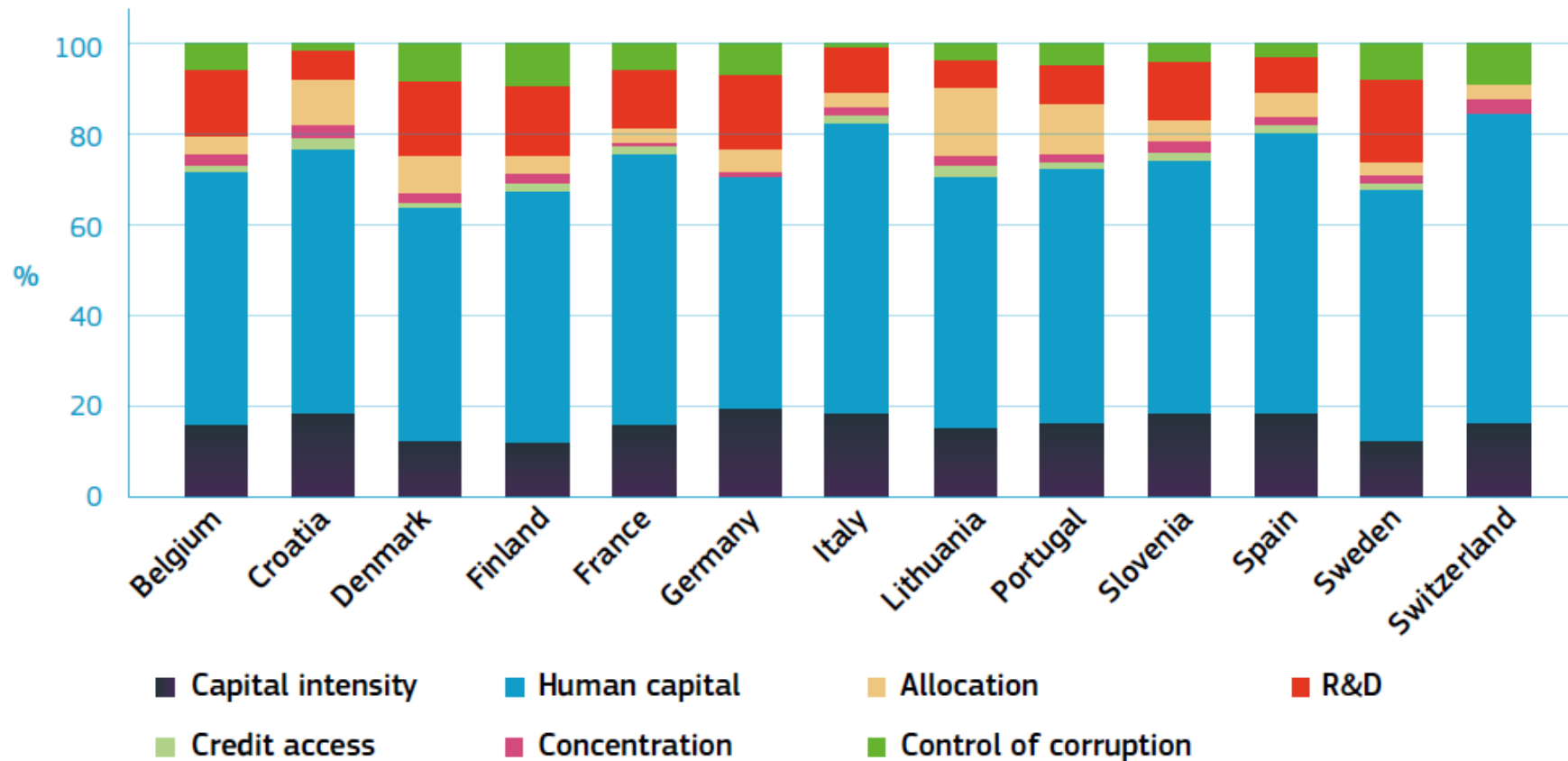
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# Productivity as engine of competitiveness

Figure 4.1-7: Explained contribution to labour productivity (2016)

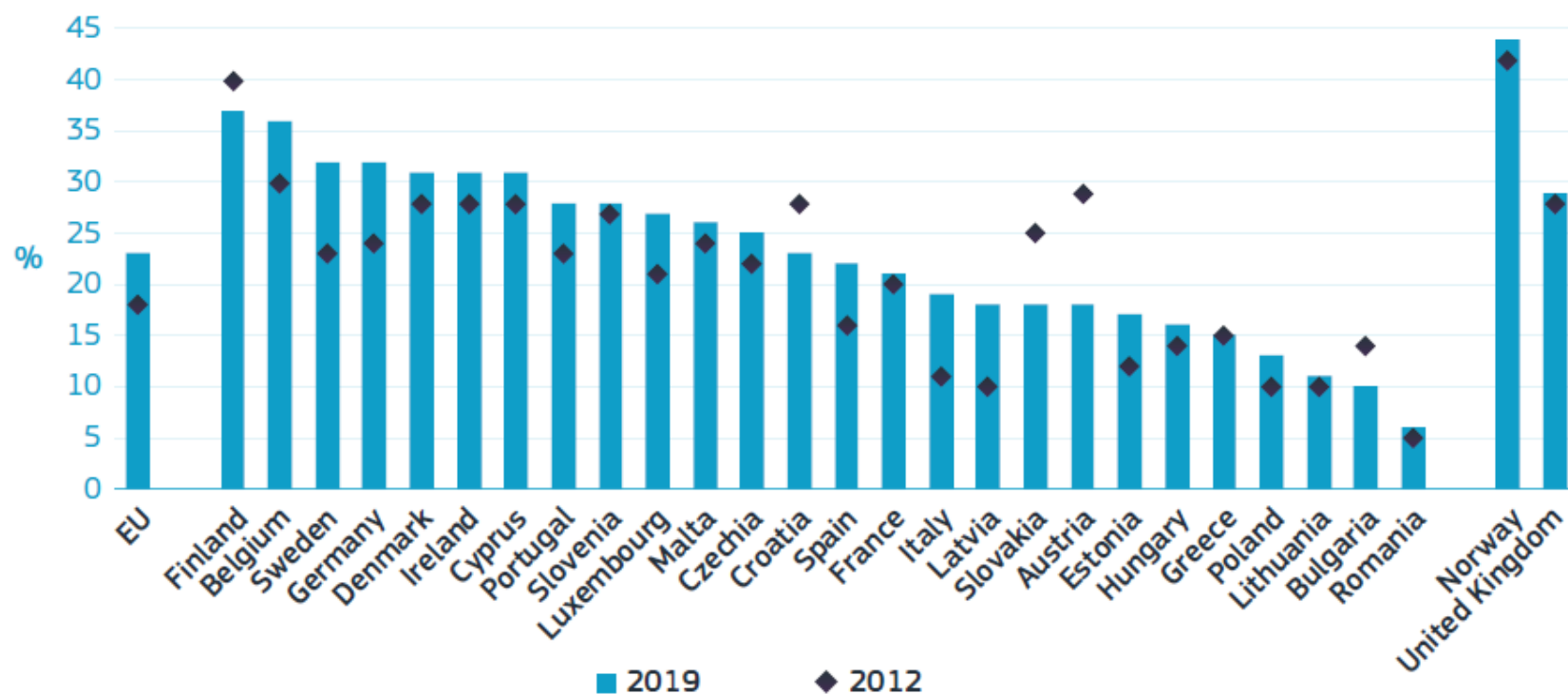


Human capital is the most crucial contributor toward labour productivity, followed by physical capital and R&D investments.



# Human capital and ICT

Figure 4.3-12: Enterprises that provided training to upgrade ICT skills of their personnel

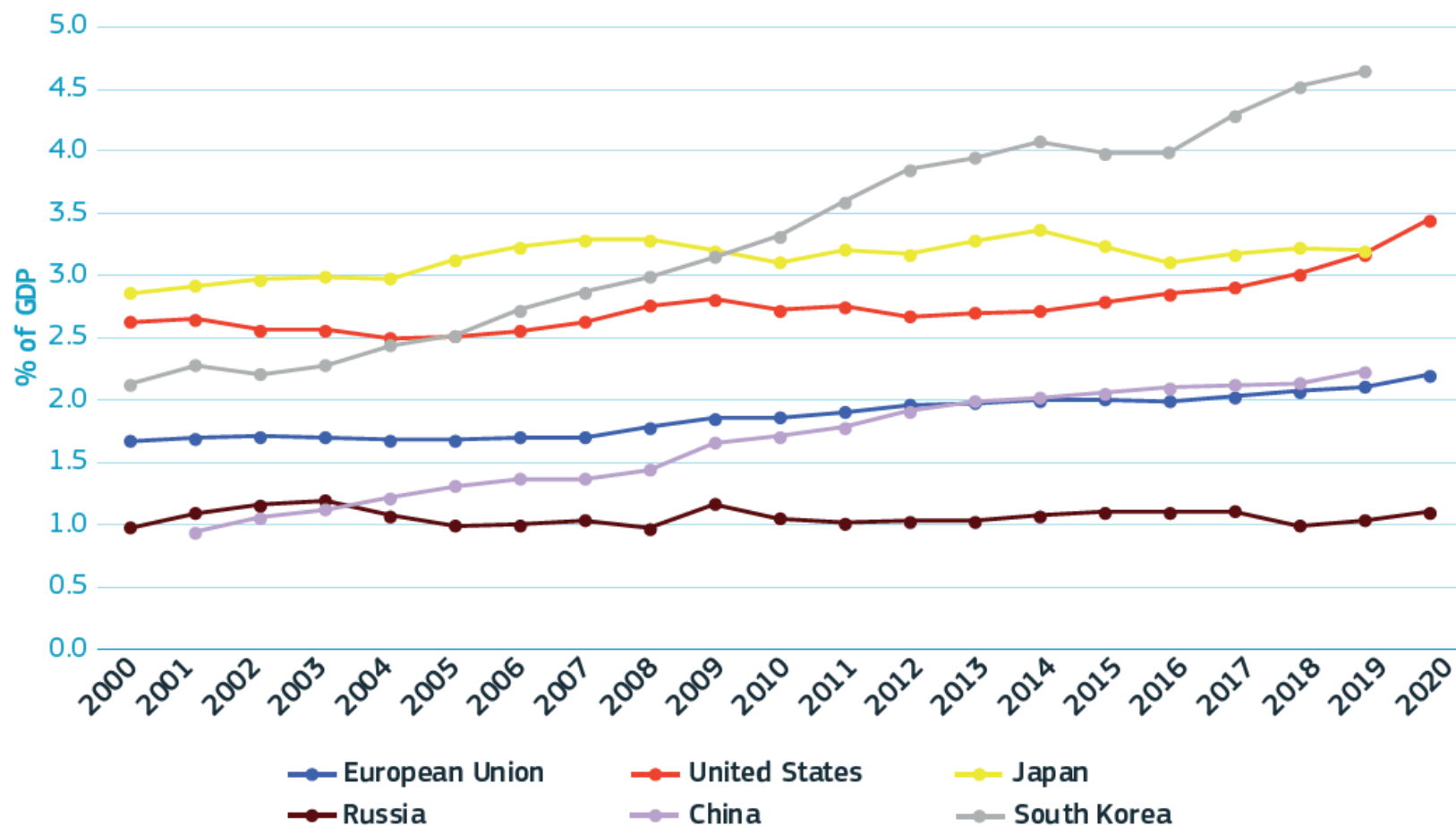


Given the rising importance of digital skills in the work environment, more and more firms are training their personnel in ICT skills.

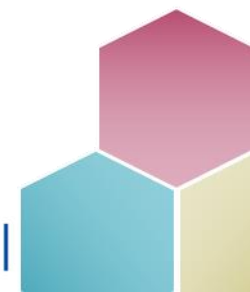


# R&D intensity

Figure 5.2-2: R&D intensity in % of GDP, 2000-2019 (2020 for EU)

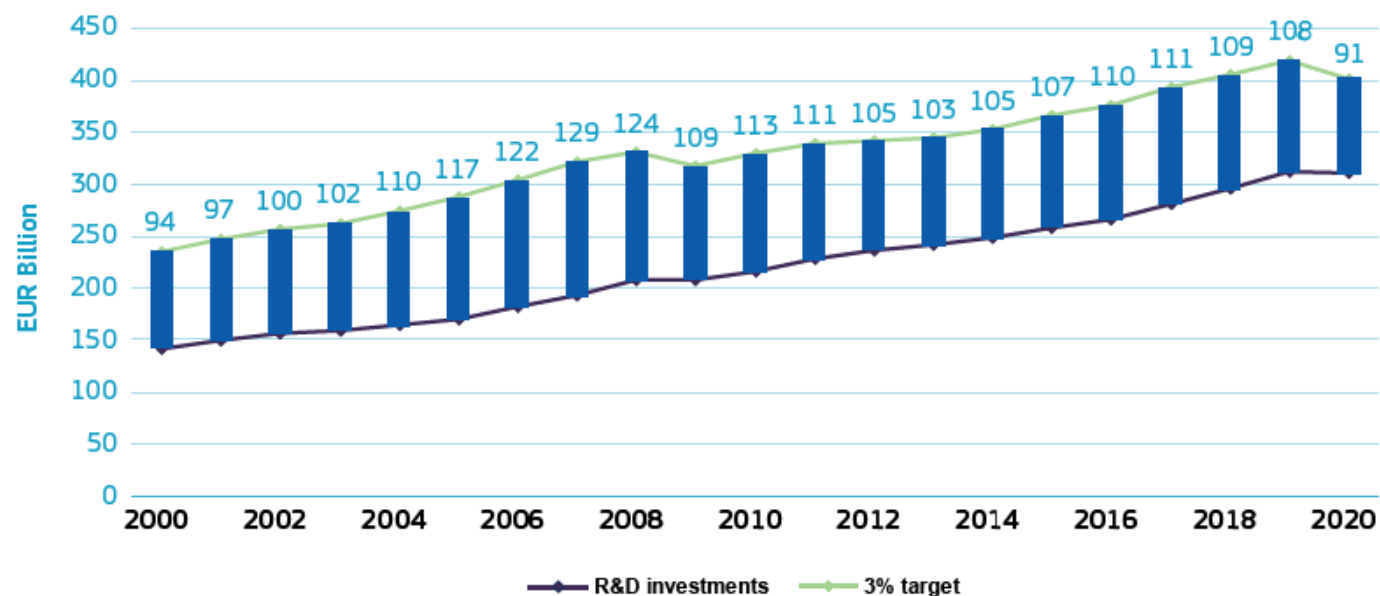


R&D intensity marginally increasing, but at slower pace than in main competitors.



# R&D investments and targets

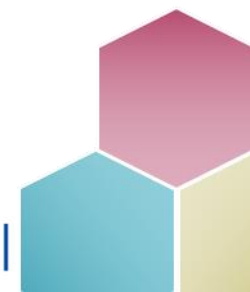
**Figure 5.2-9: R&D investment gap in the EU, 2000-2020**



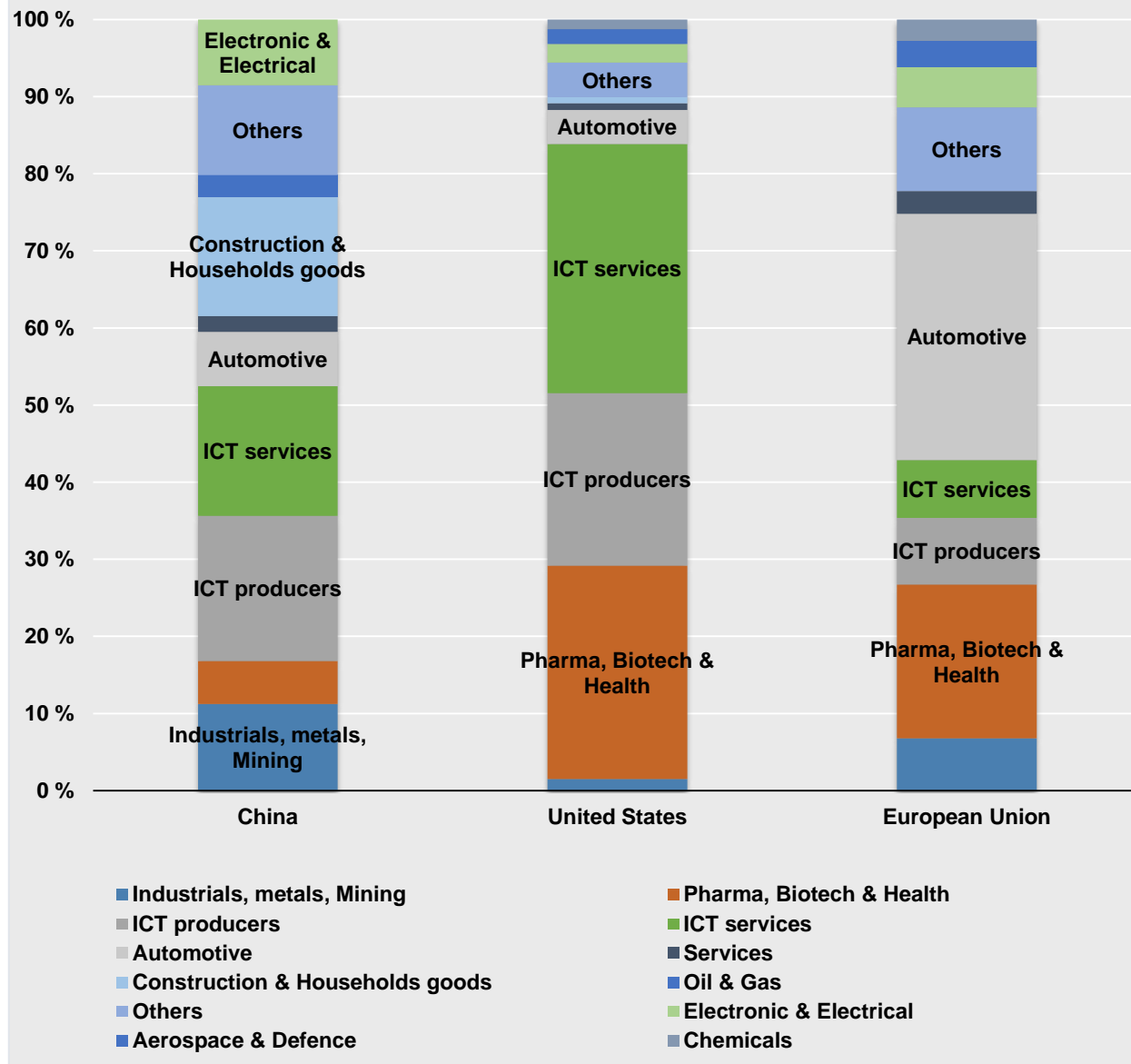
The target of investing 3 % of GDP in R&D was set at the 2002 Barcelona European Council and subsequently confirmed in the Europe 2020 strategy (European Commission, 2010).

Science, Research and Innovation Performance of the EU 2022

Source: DG Research and Innovation, Chief Economist - R&I Strategy & Foresight Unit based on Eurostat (online data code:rd\_e\_gerdfund)



**Figure 5.2-8** Sectoral distribution of R&D investment by country/region, considering the top 2500 R&D investors worldwide, 2020



## Sectoral composition of R&D

The sectoral composition of the European economy can explain the lower business R&D intensity in the EU. Less than 50 % of EU corporate R&D expenditures is in the high R&D-intensity sectors.





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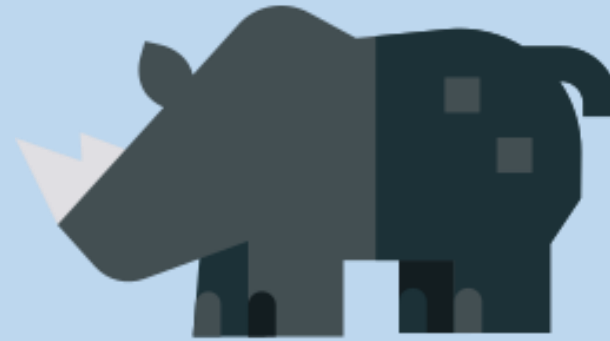
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# Bringing resilience to an unstable world



Black swans



Grey Rhinos

*European Commission, DG R&I*

- **Foresight, Preparedness, Flexibility, Response**
- Frame more accurately **what we know**
- More emphasis on **long-run risk assessment**



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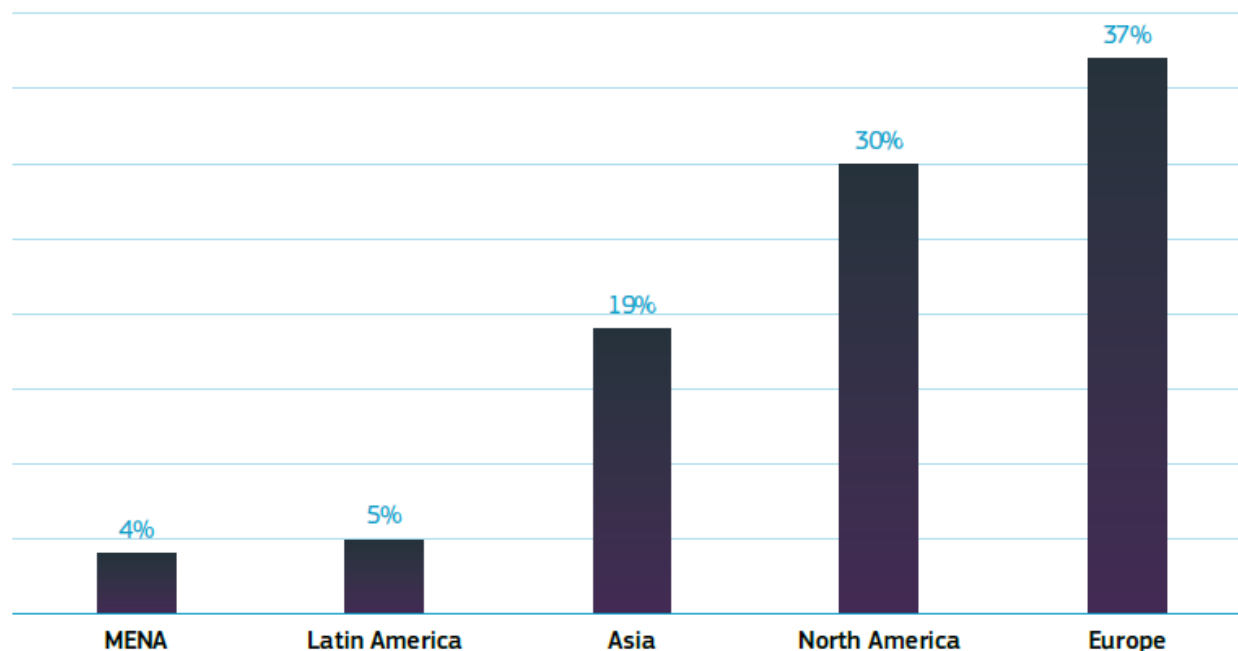
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# Start-ups and scale-ups play a pivotal role in fostering innovation and addressing the challenges of the twin transition

Figure 4.2-8: Share of emerging start-up ecosystems by world region, 2020



- The EU lags behind its main international competitors in terms of start-up ecosystems\* (with North America and Asia hosting respectively 50% and 27% of Top 30 ecosystems in the world.)
- Nevertheless, the EU performance is improving and, in 2020, the EU was in the lead in terms of emerging ecosystems\*\*

Science, Research and Innovation Performance of the EU 2022

Source: Startup Genome, 2021

Note: Emerging ecosystems are defined as ecosystems at the early-stage of their growth

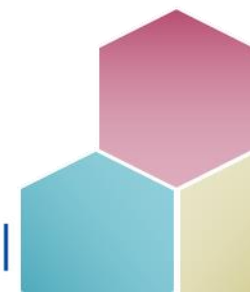
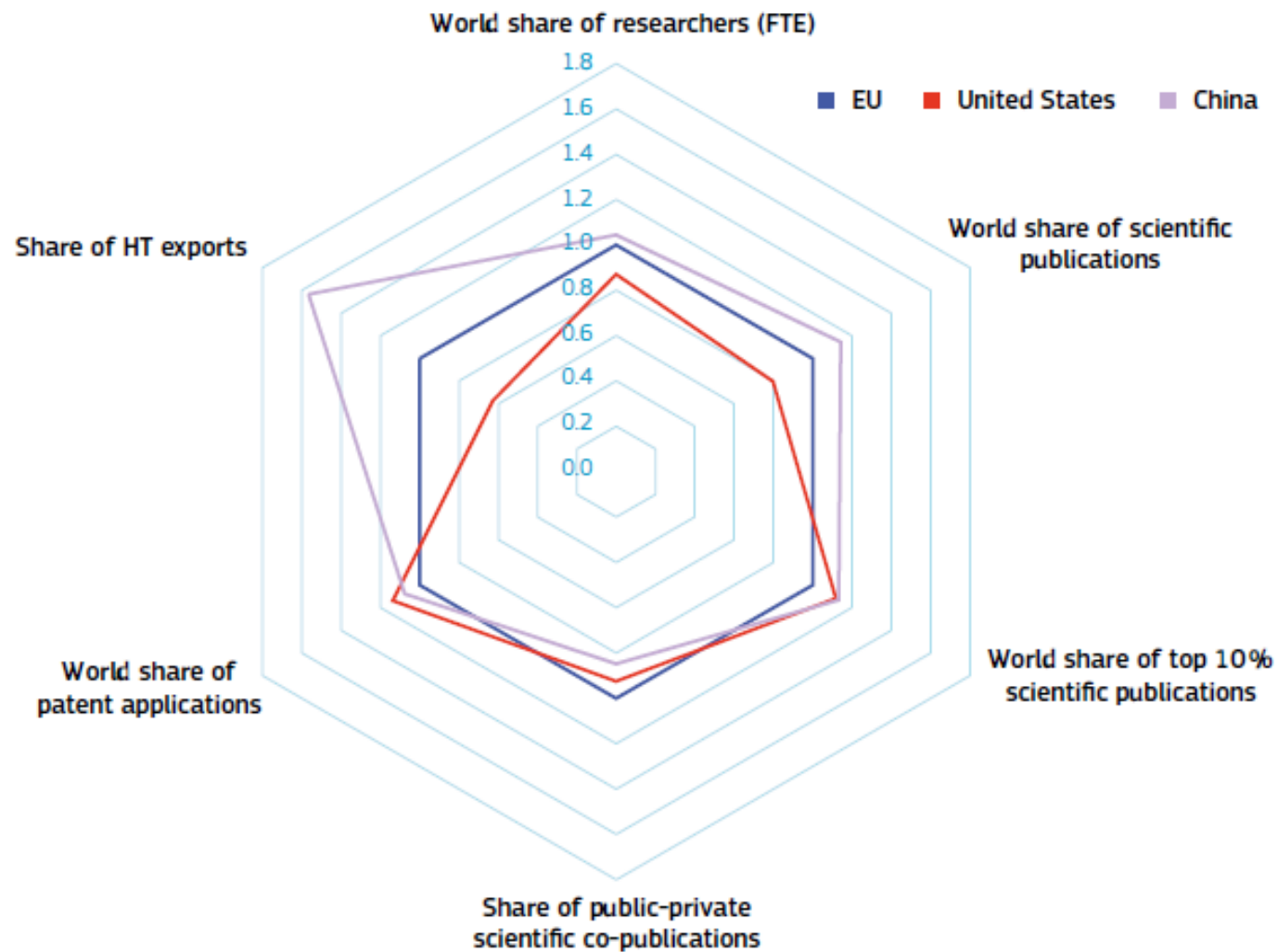
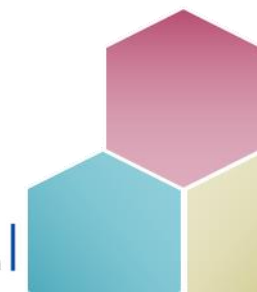


Figure 6.3-29: Knowledge valorisation approach, latest available year



## Knowledge valorisation

More efforts are needed to bridge the gap between basic research, innovation and marketable solutions.



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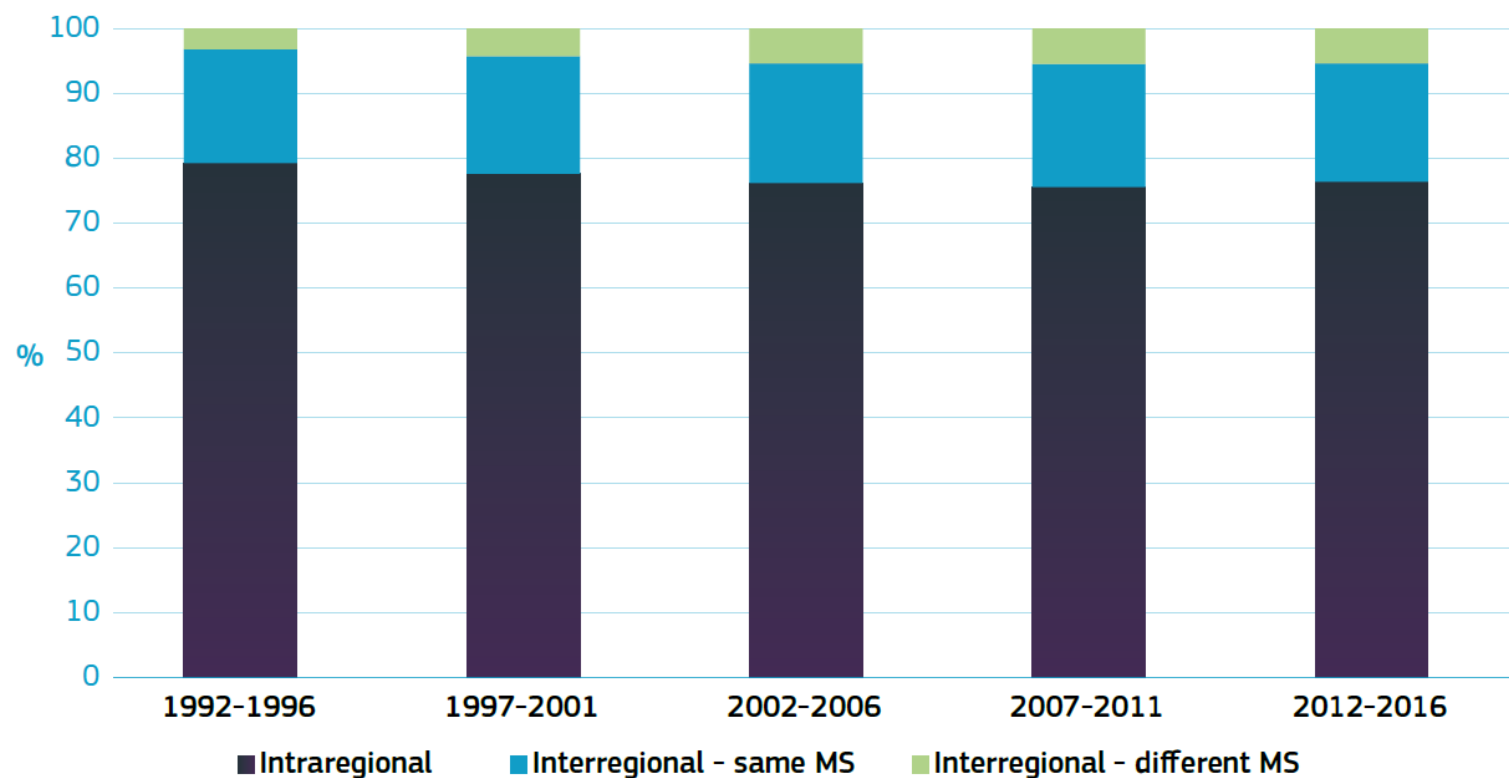
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# EU innovation divide

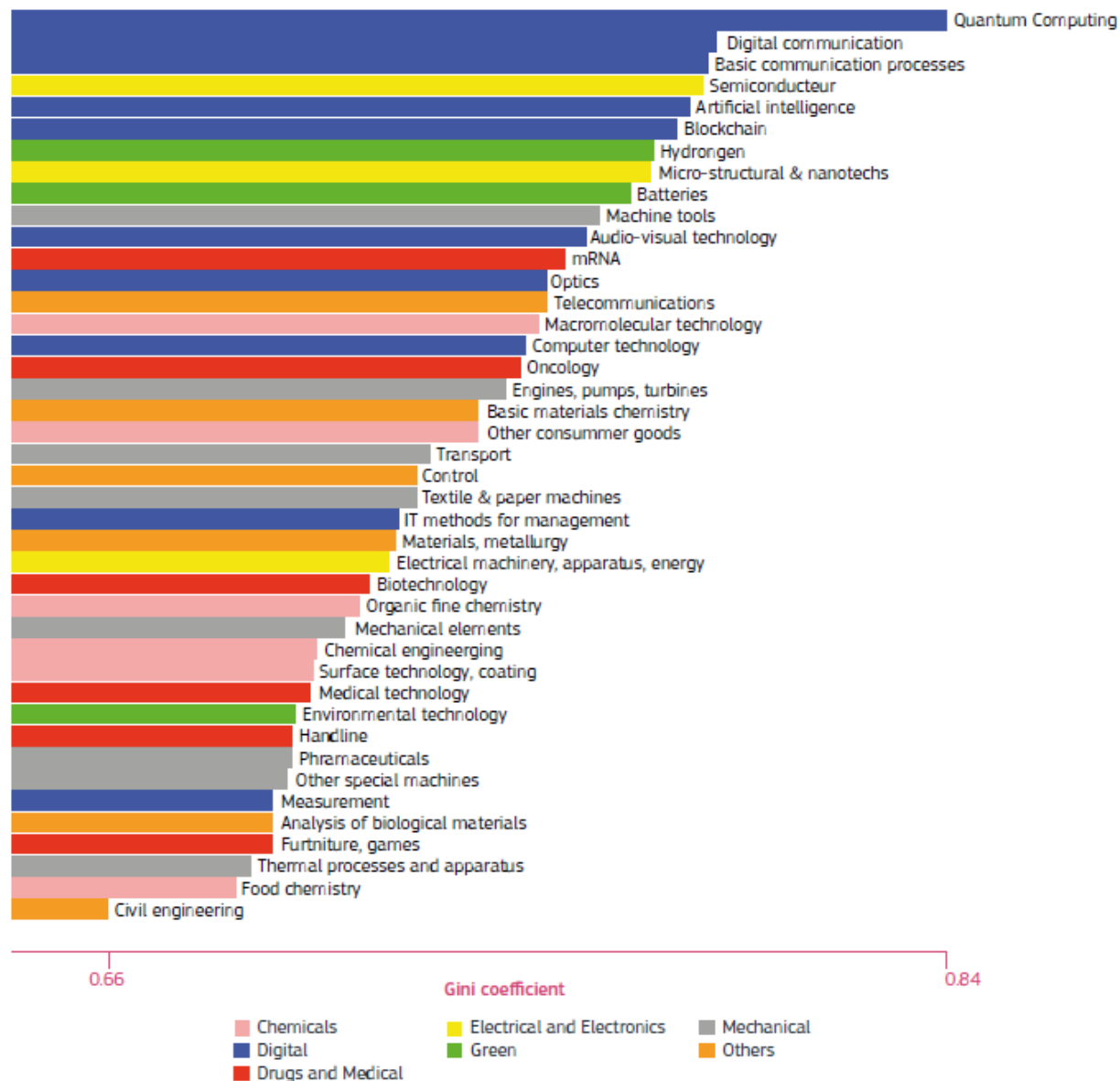
**Figure 2.2-16:** Inter- and intra-regional collaboration in patenting (co-patenting) in Europe over the period 1992-2016



Interregional co-patenting remains very limited in the EU, even if it has slightly increased from 1992 to 2016

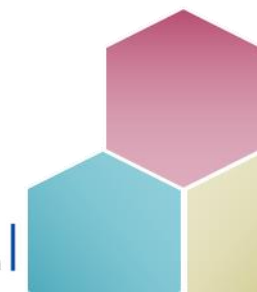


Figure 14-4: Spatial concentration of core technologies



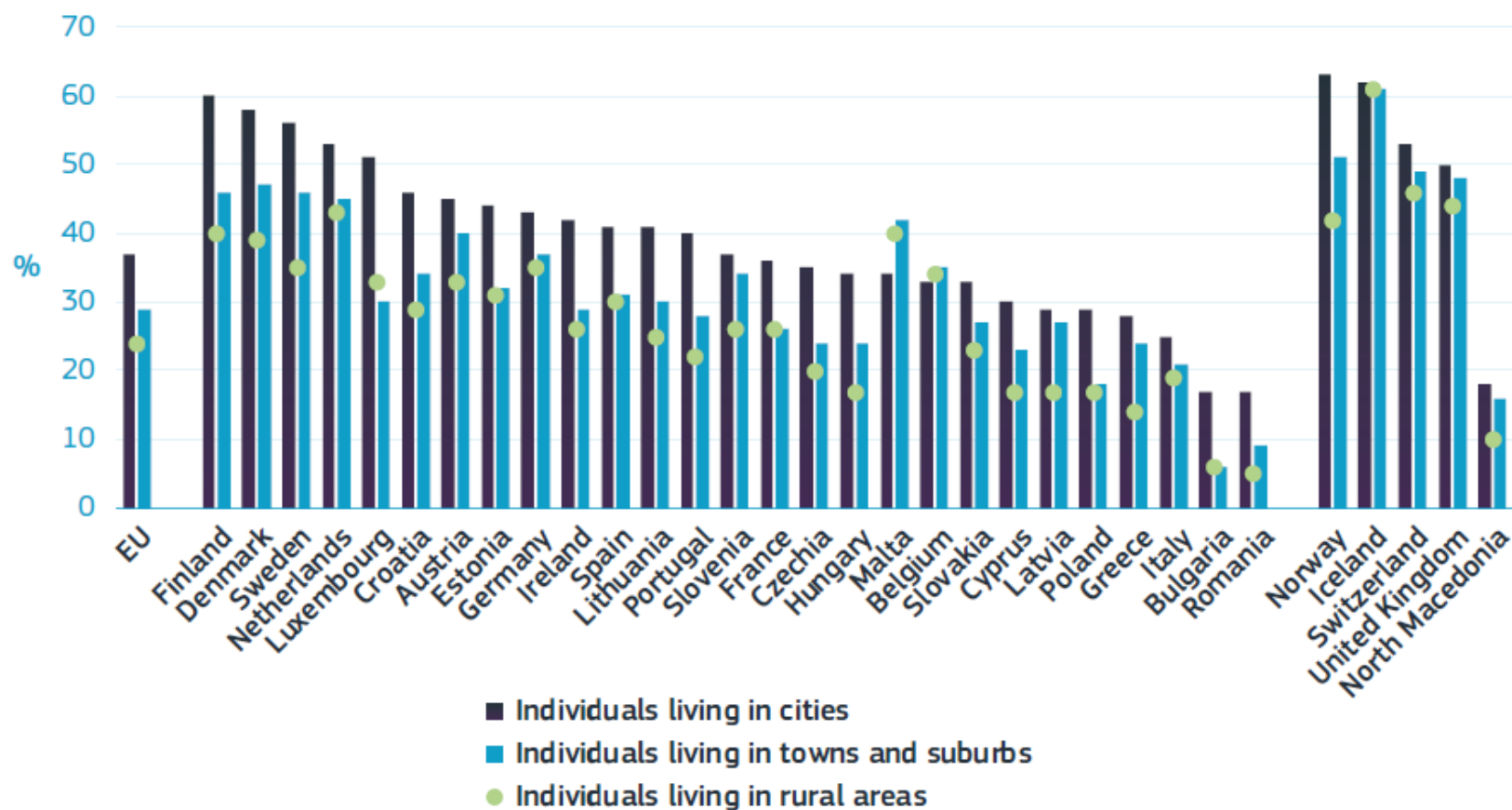
## Geography of innovation

Complex technologies are heavily concentrated in a few regional ecosystems. It is essential to take into account this real-world pattern and design an EU-wide place-based innovation policy.



# EU skills divide

**Figure 4.3-11: Individuals who have above-basic overall digital skills by urban group (2019)**



Individuals living in cities have higher digital literacy than those living in towns, suburbs and rural areas



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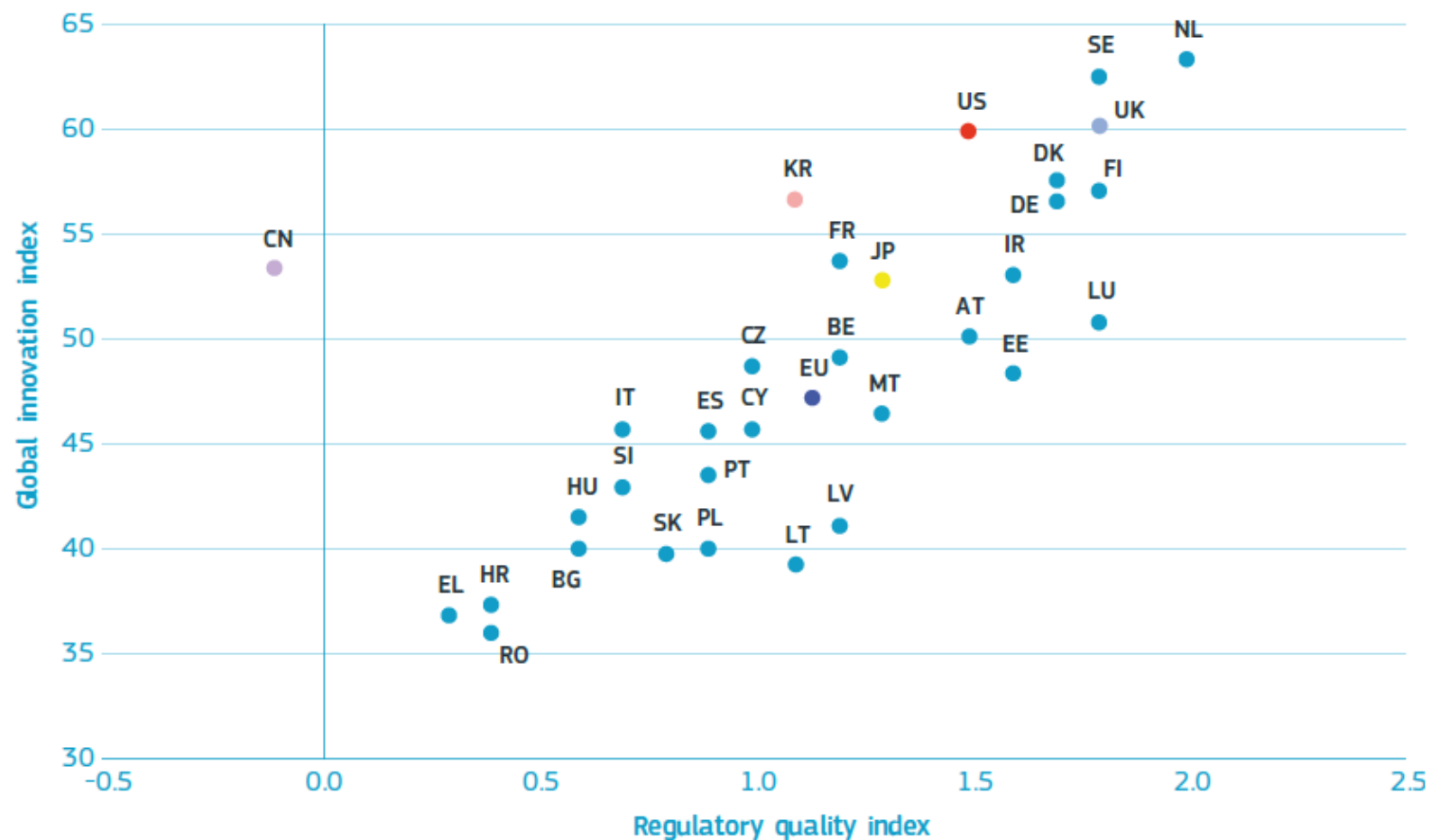


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Figure 7.2-4: Regulatory quality index and global innovation index, 2020



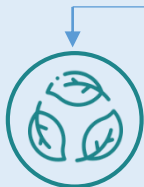
Regulatory  
quality

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Source: World Bank

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Coming soon ...

