

Digital Transition is Existential for Europe



Conference of Rectors and Presidents
of European Universities of Technology

Dublin 22 Sept 2023

Paul Timmers

Oxford University, KU Leuven, European University Cyprus, iivii

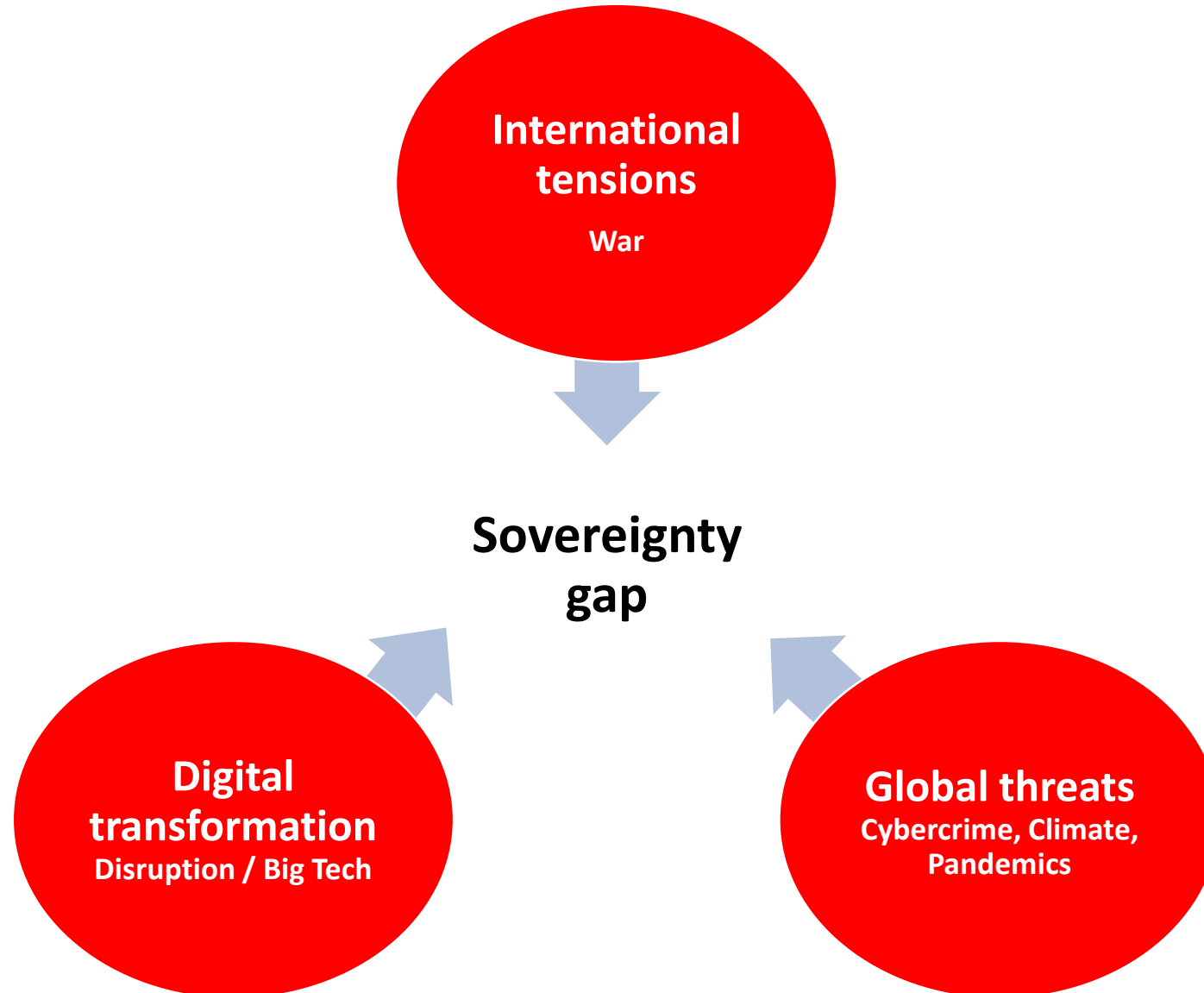
paul.timmers@iivii.eu

Digital transition is existential for Europe

We are at risk of losing our values, our
knowledge, our jobs, our sovereignty

Agree / Disagree?

A matter of sovereignty



Sovereignty at stake

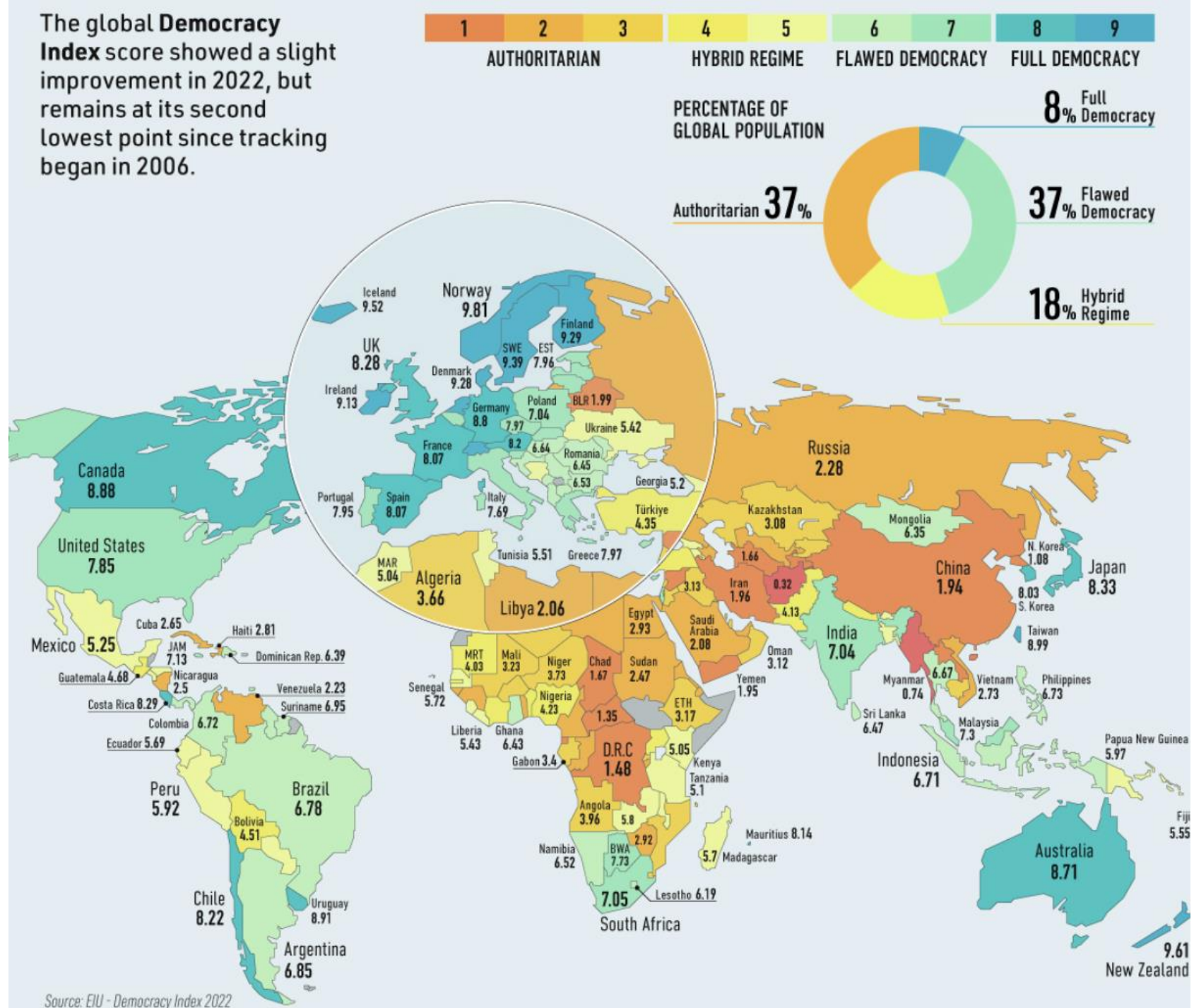
Is our sovereignty really eroding and being undermined?

TOP 10 EMERGING CYBER- SECURITY THREATS FOR 2030



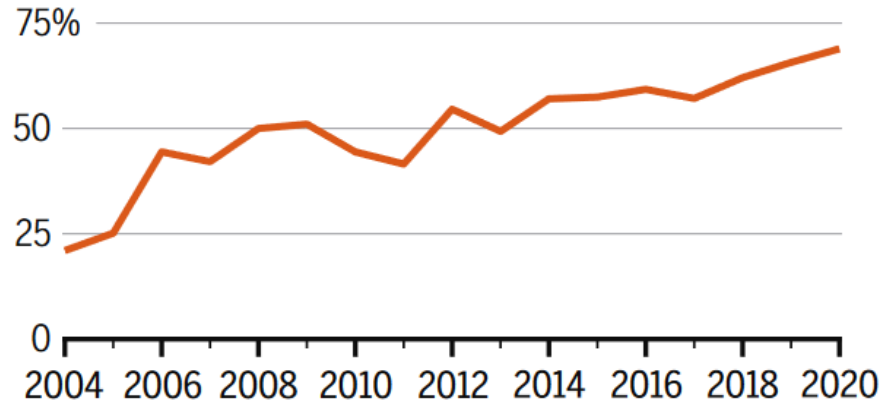
Support
for
democracy
is eroding
since 2006

The global **Democracy Index** score showed a slight improvement in 2022, but remains at its second lowest point since tracking began in 2006.

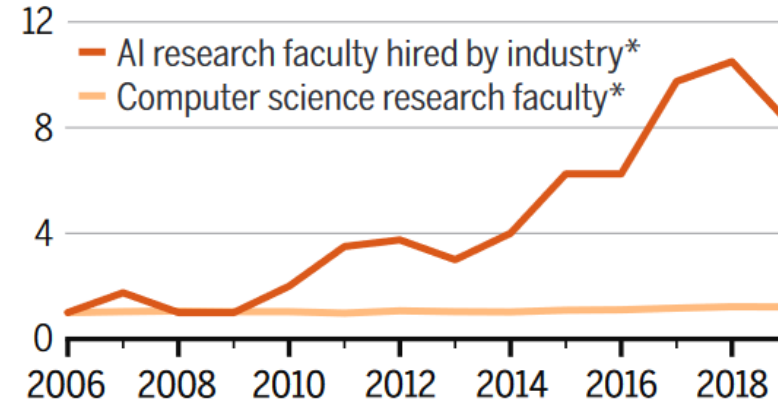


Power of Private Sector

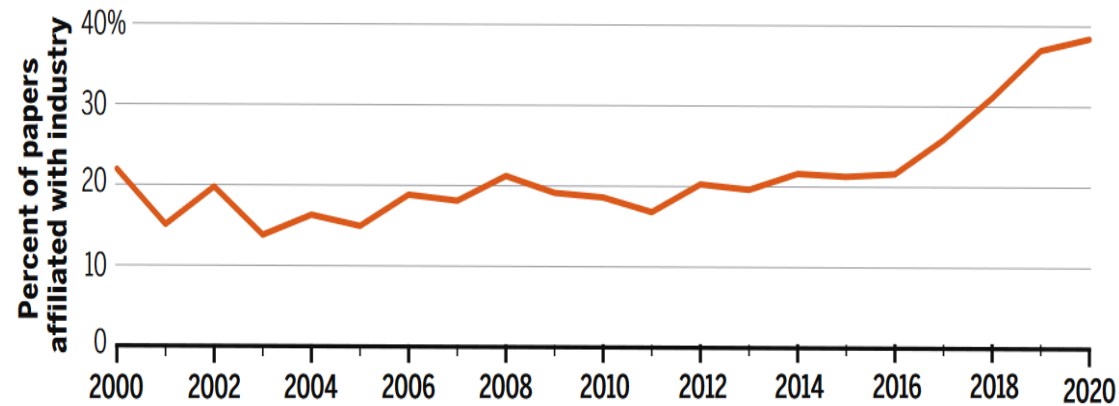
Percent of AI PhDs hired by industry



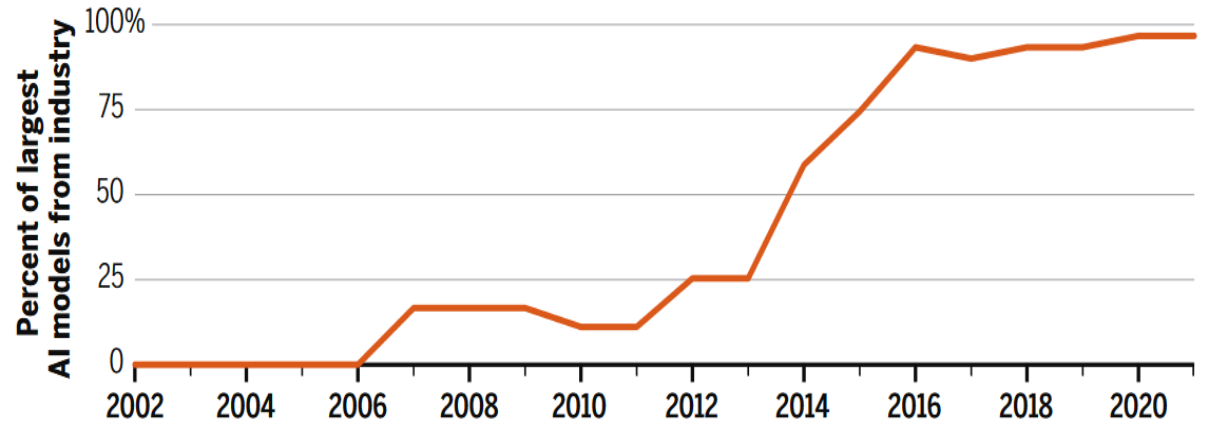
AI research faculty hired by industry



Publications by industry at leading AI conferences



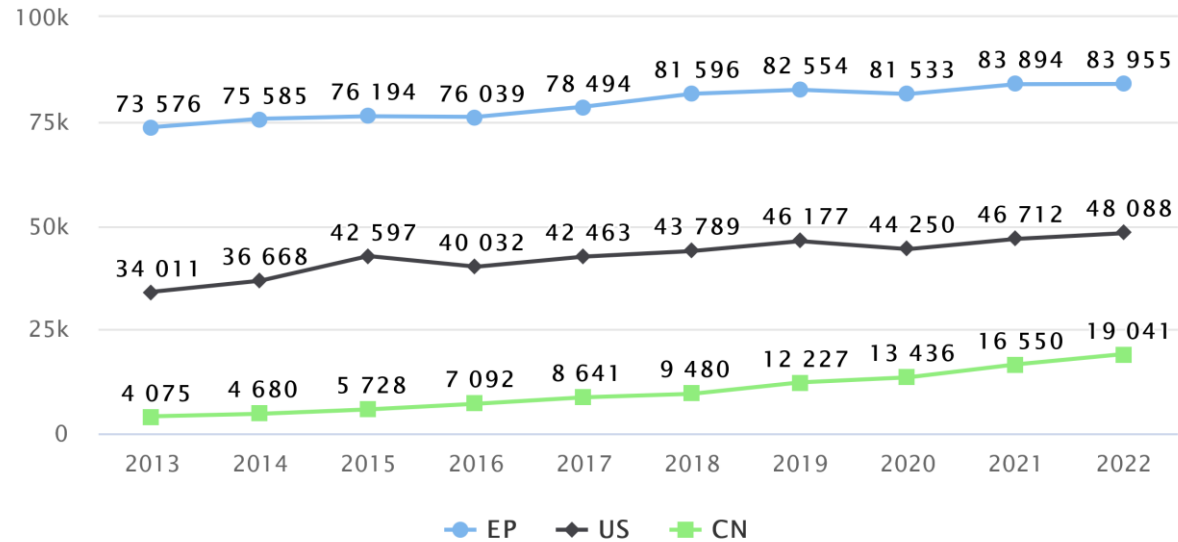
Percent of the 10 biggest AI models that are from industry



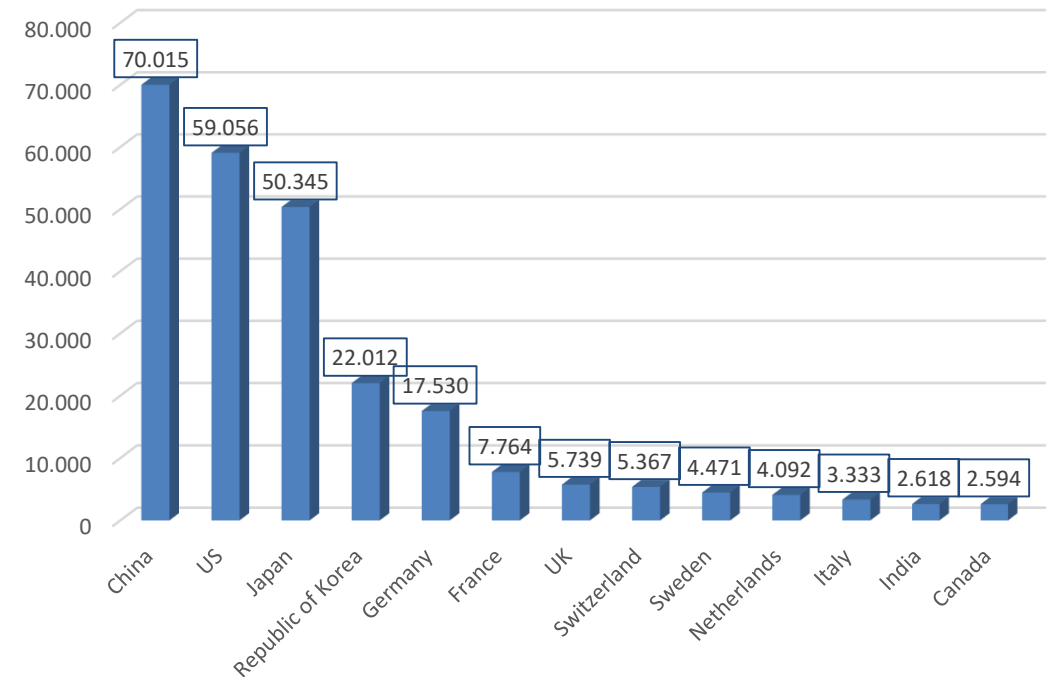
European and International Patents

Rise of China

European patent applications 2013 to 2022



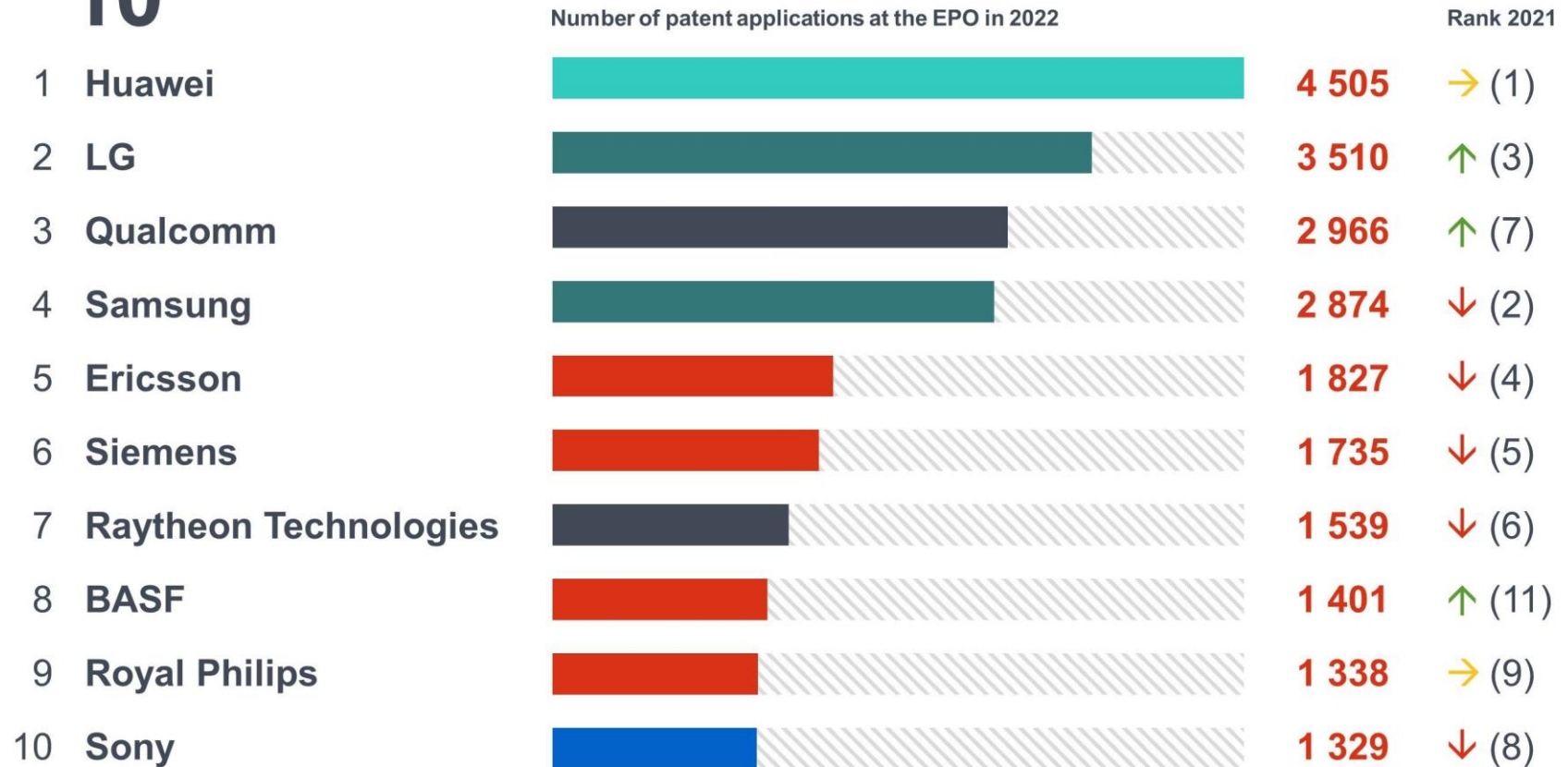
WIPO (international) Patents 2022



European
companies
falling
behind

Top ten applicants 2022

TOP 10



■ EPO states

■ United States

■ P.R. China

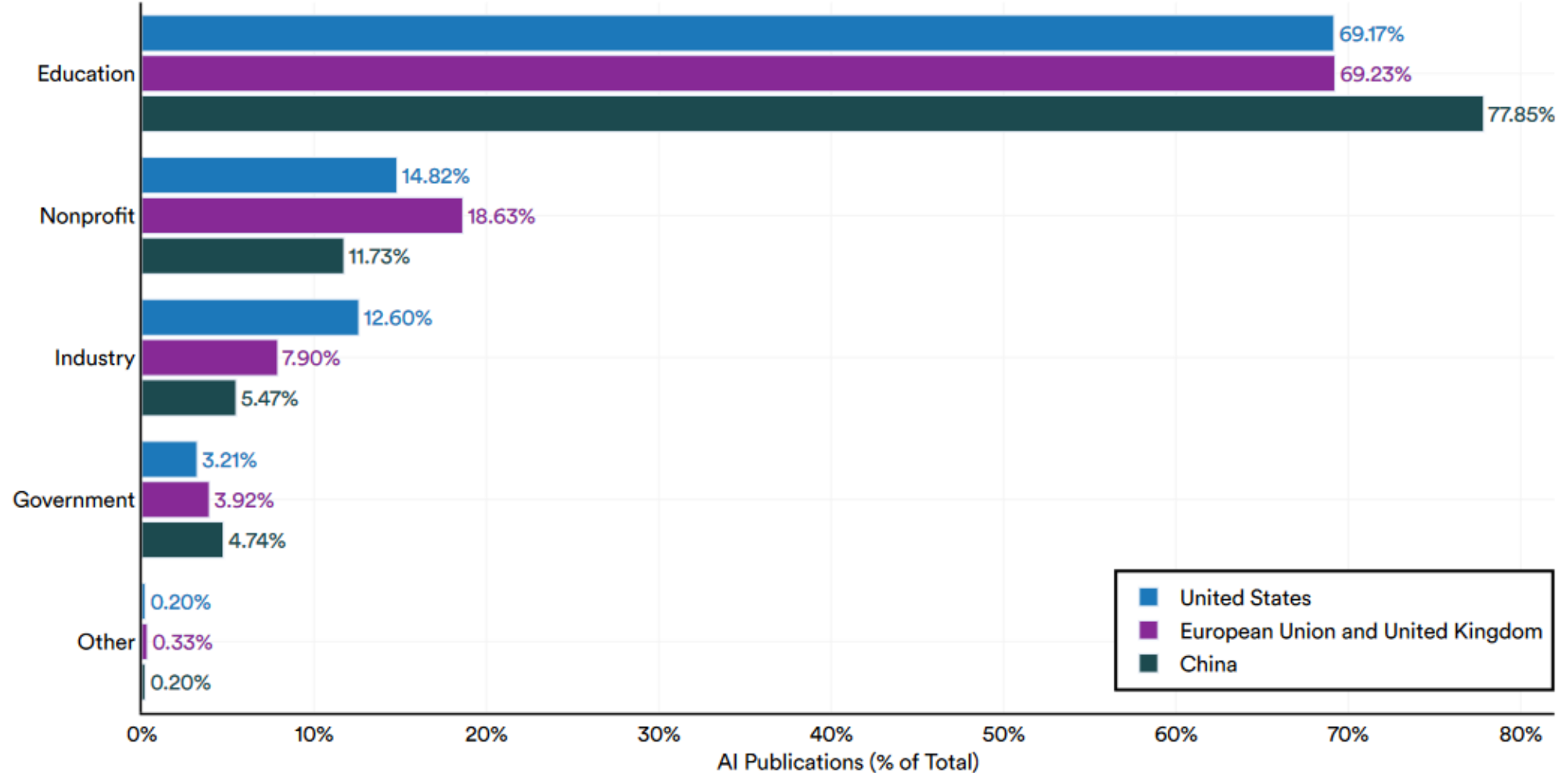
■ R. Korea

■ Japan

AI publications

AI Publications (% of Total) by Sector and Geographic Area, 2021

Source: Center for Security and Emerging Technology, 2022 | Chart: 2023 AI Index Report



Taking the lead in knowledge and innovation

China overtakes Japan as world's top car exporter

© 19 May



GETTY IMAGES

China's car exports were boosted by demand for electric vehicles and sales to Russia

China 'greatest threat' to Dutch economic security, Dutch intelligence says



Source: MIT, 19.12.2018

The man turning China into a quantum superpower

Jian-Wei Pan, China's "father of quantum", is masterminding its drive for global leadership in technologies that could change entire industries.



It came out of a collaboration between a team led by Pan and another led by Anton Zeilinger, a quantum physicist at the Austrian Academy of Sciences. Zeilinger was Pan's doctoral supervisor in the 1990s, and he saw potential in the young Chinese student.



can we do this? **Good policy will simultaneously confront, compete and co-operate with China.**

[Alex Younger](#) FT, September 15 2023

Sovereignty is at stake

- Erosion and undermining of our sovereignty is real
- Defending sovereignty – a role for European universities?
 - Option 1: Science is global – collaborate on global common goods
 - Option 2: In friends we trust – strategic partnering with the likeminded
 - Option 3: Put sovereignty on our risk of lists - risk management

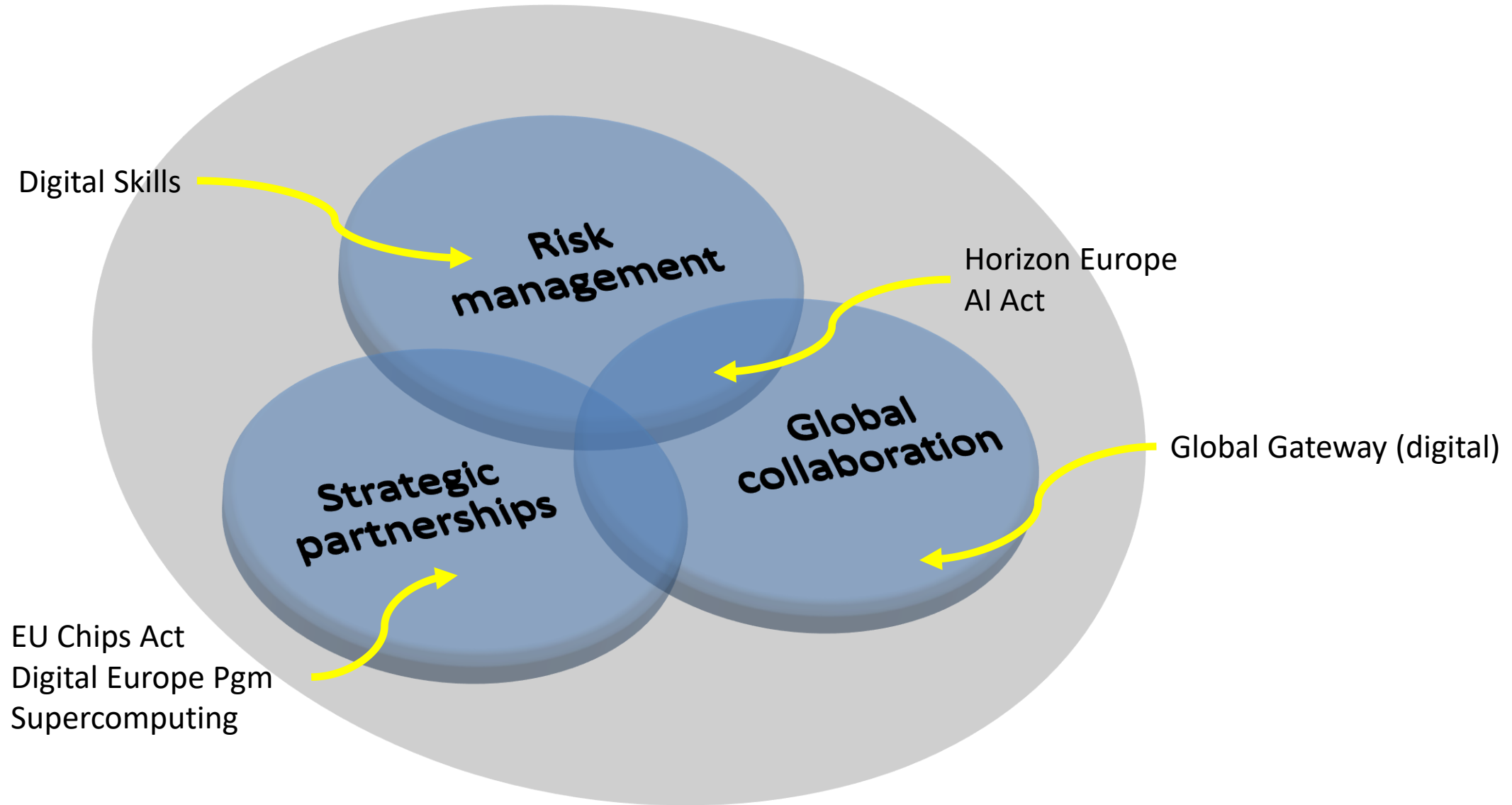
We need capabilities, capacities, control: **strategic autonomy**

Strategic autonomy

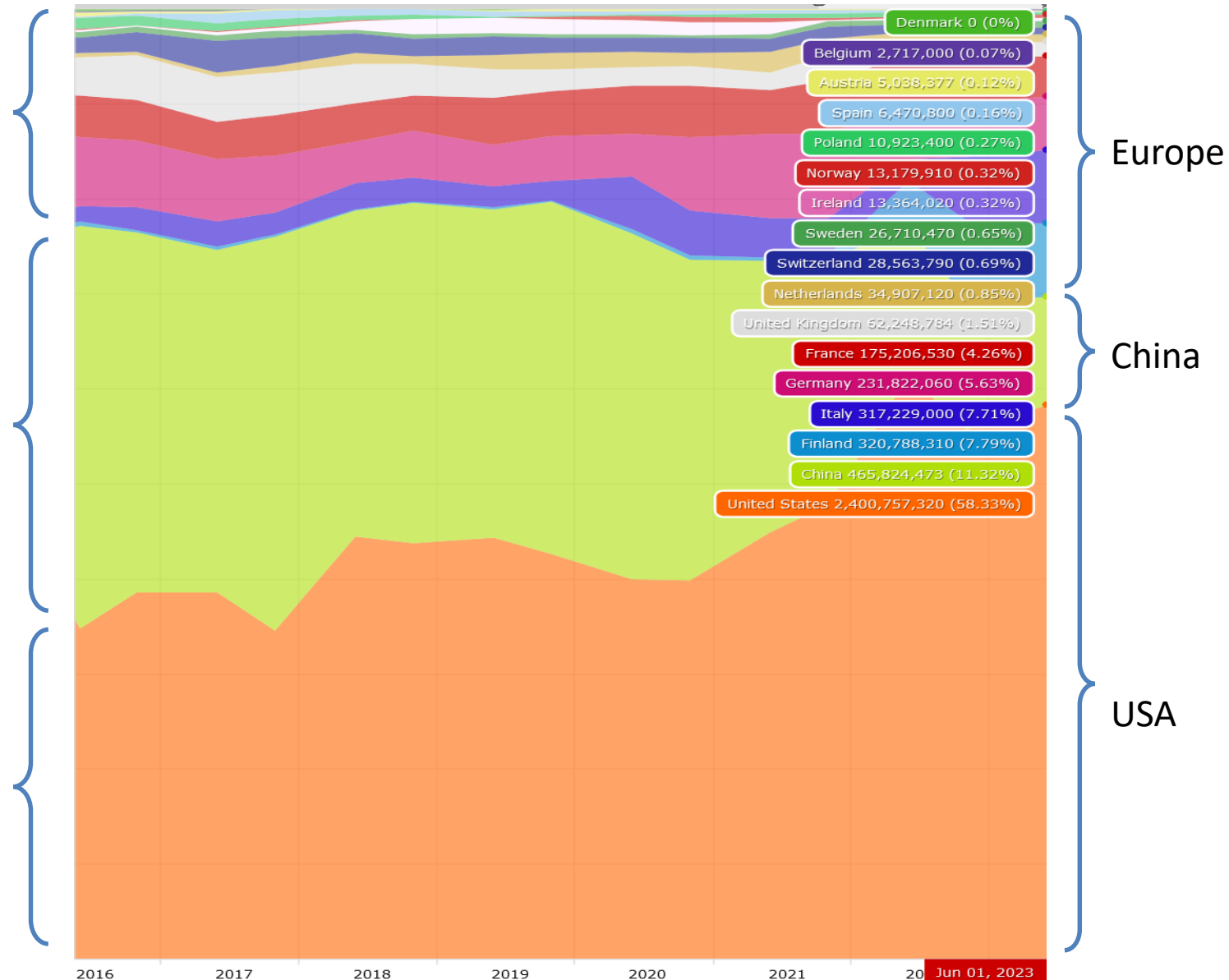


Is Europe fighting back?

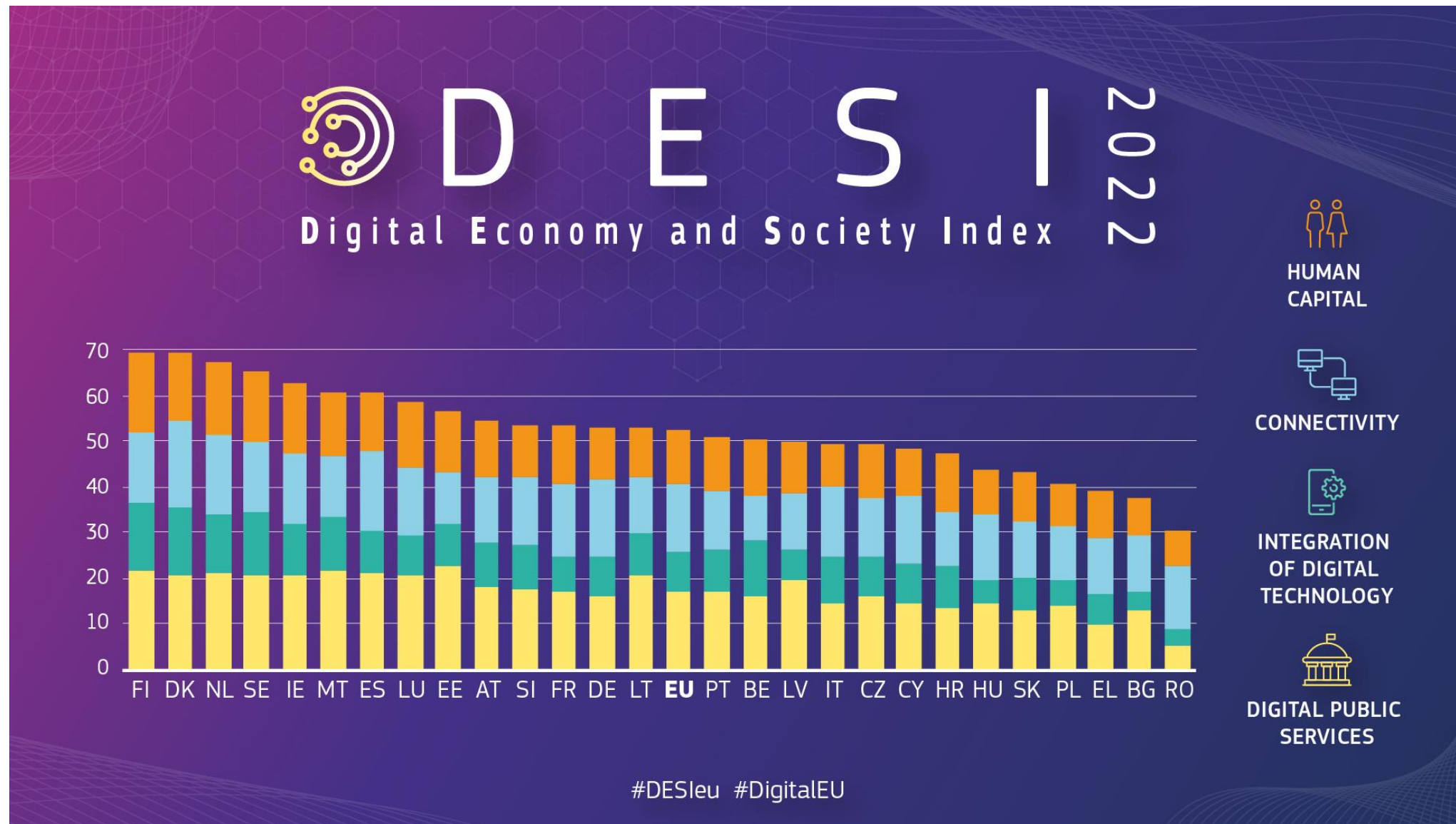
Strategic autonomy in EU digital policies



EU rising in supercomputing



Is EU's DESI helpful?



Strategic autonomy in European S&T



EU begins defending our sovereignty

- Erosion of our strategic autonomy is real, EU sovereignty is at risk
- EU in defense of sovereignty:
 - Faster and more EU-level decisions: COVID, Defense, Digital, ...
 - More strategic partnerships *and* new partners, India, Global Gateway, ...
 - Increased defense spending
 - Some integrated sovereignty policy such as Chips Act (R&D + industrial)
 - New term: economic security
- But ... still far behind and falling behind in AI, automotive, skills, defense, ...

Are Europe's universities defending our sovereignty?

- Science is global – collaborate on global common goods
 - Align research and values, e.g., AI architectures for people, peace, planet
- In friends we trust – strategic partnering with the likeminded
 - Responsible and accountable engagement with partners
- Put sovereignty on our list of risks:
 - Educate our young generation on the value of 'what belongs to us'
 - Study and model risks for our values, knowledge, jobs, autonomy
 - Research policy-making that is multi-perspective and 10-30 years ahead



*"My desire to be well-informed is currently
at odds with my desire to remain sane."*

Thank you!