10. *Power: the Digital Divide, in Europe and Globally*

Outline

1) Hypotheses
2) What is the Digital Divide?
3) Origins of the Digital Divide
4) Dimensions of the Digital Divide
5) Global Digital Divide
6) Digital Divide in Europe
7) AI and the Digital Divide
8) China‘s Levereage (Rare Earths)
9) Conclusion
10) Questions

1) Hypotheses

1.) Artificial Intelligence is widening the digital divide

2.) China's dominance in rare earth supply chains undermines the strategic autonomy of other countrys

2) What is the Digital Divide?

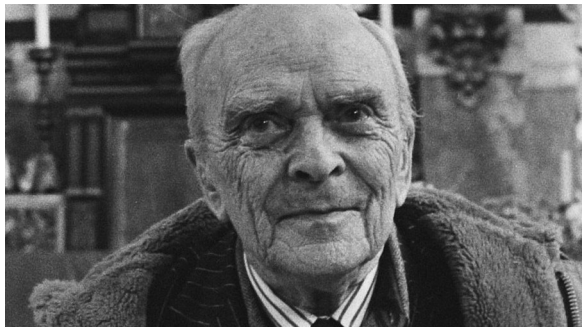
The gap between those who have access to digital technologies and those who do not

→ Connectivity is a key source of power in the 21st century

→Economies, governments, militaries, information flows and communication depend on digital networks

→The digital divide is not limited to developing countries. It exists both between and within states

3) Origins of the Digital Divide



1980 – MacBride Commission (UNESCO)

- Report: *Many Voices, One World*
- Focus on unequal global information flows
- Concern that developing countries were marginalized in international communication

1984 – Maitland Commission (ITU)

- Report: *The Missing Link*
- Highlighted disparities in telecommunications access (Africa – Tokio)
- Argued that communication infrastructure is essential for development

1990s – Rise of the Internet

- Term Digital Divide becomes widely used
- Focus shifts from communication networks to digital technologies and internet access

4) Dimensions of the Digital Divide

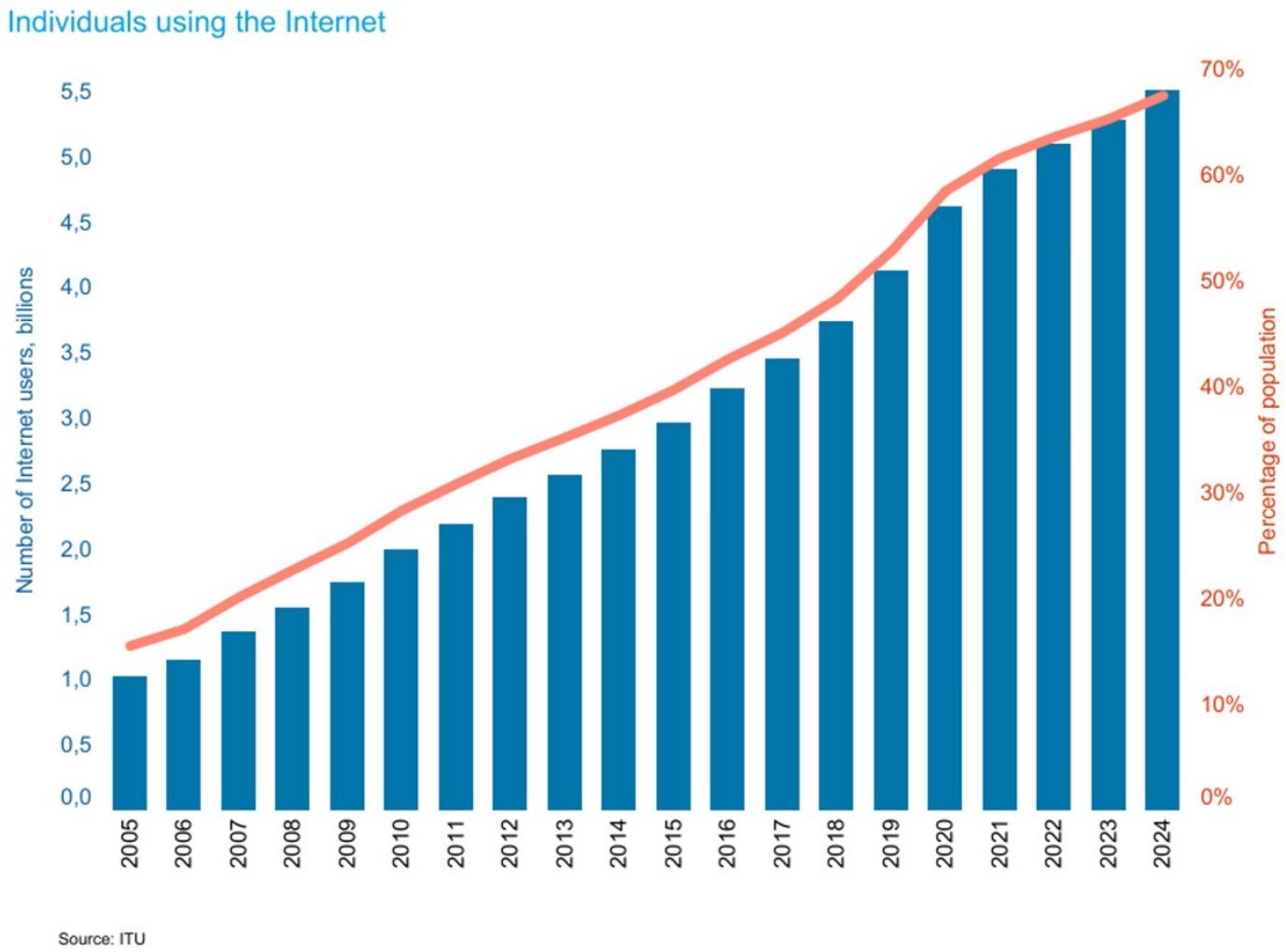
1. Availability
Is digital infrastructure available?

2. Affordability
Can individuals and households afford access?

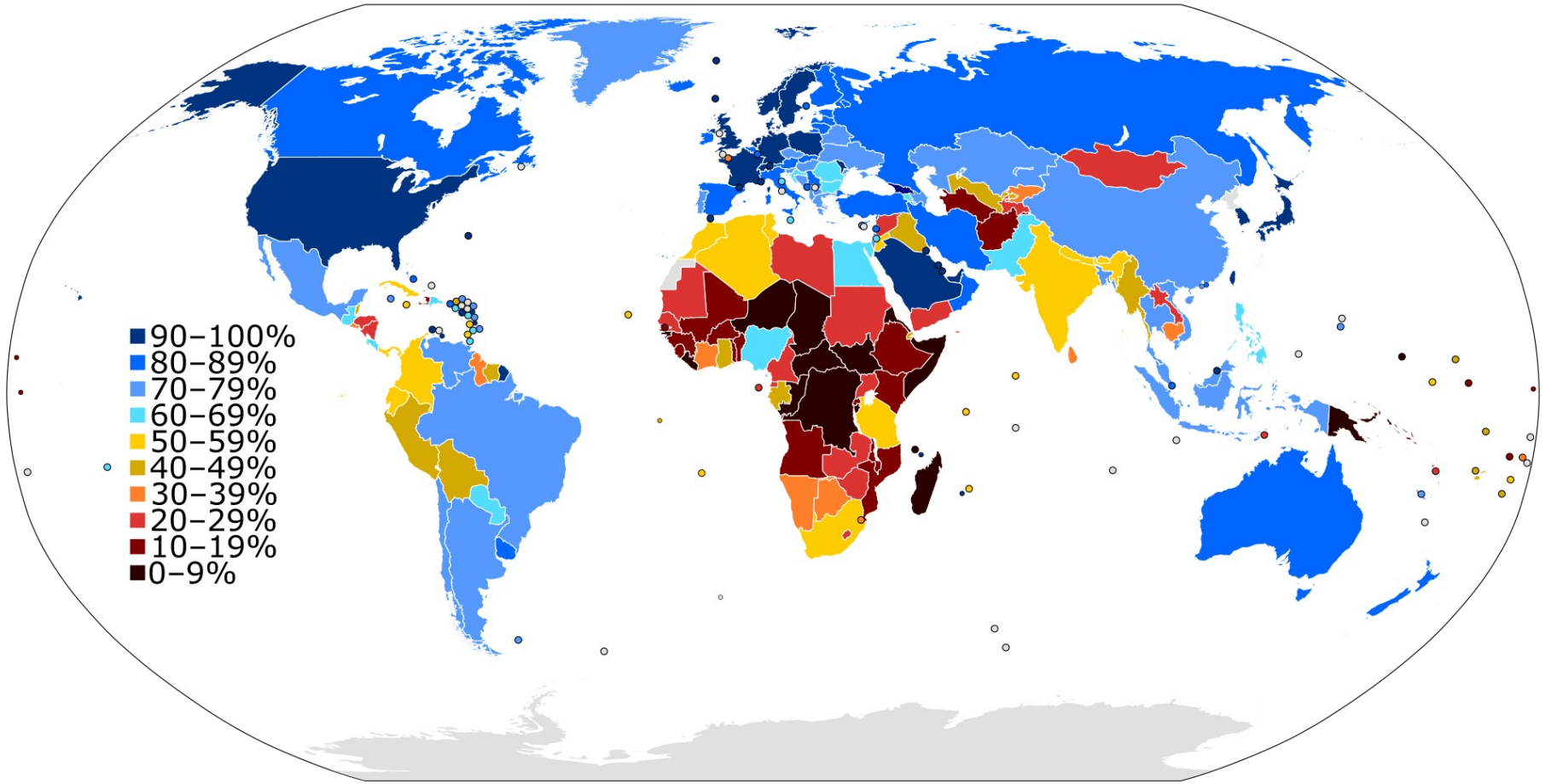
3. Quality of Service
Is the connection reliable and fast enough?

4. Relevance
Are digital services and content useful and accessible for users?

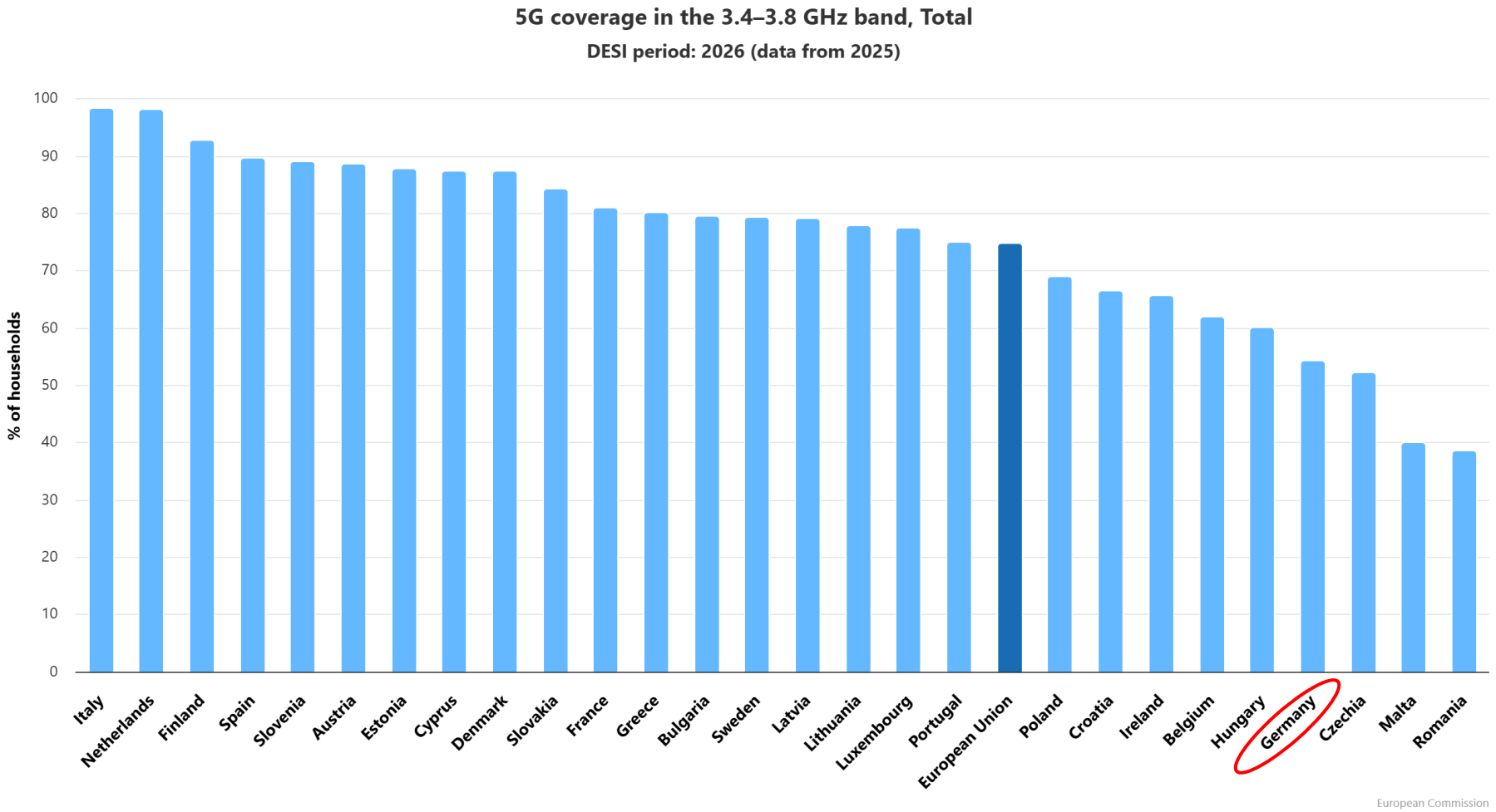
5) Global Digital Divide



5) Global Digital Divide



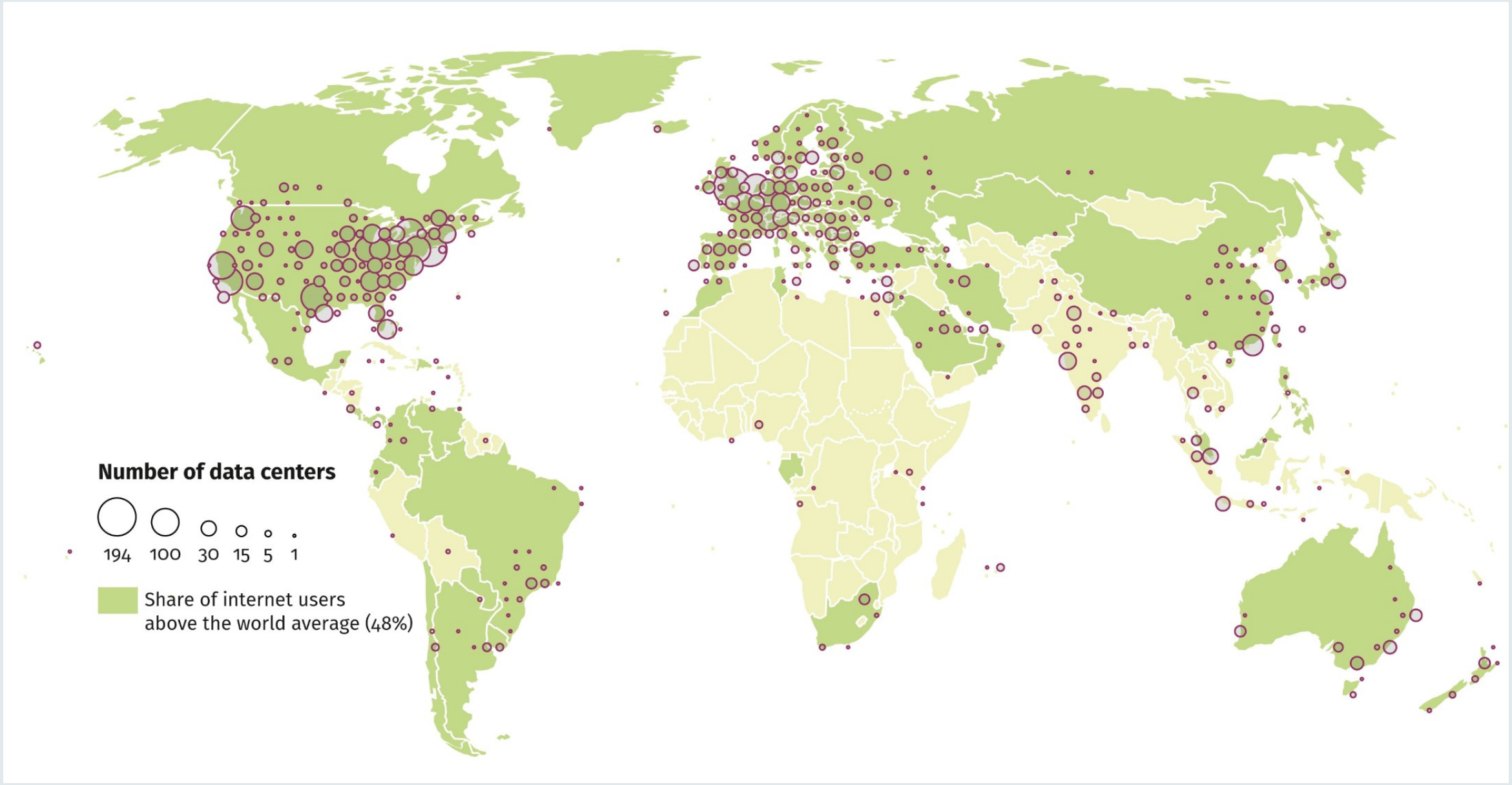
6) The Digital Divide in Europe



7) AI and the Digital Divide

The capital, energy, data and computing power required to develop advanced AI systems create barriers that even technologically advanced and wealthy actors such as the EU struggle to overcome.

This leads to a concentration of technological leadership in the US and China, widening the digital divide.


Number of data centers
194
100
30
15
5
1
Share of internet users
above the world average (48%)

8) China‘s Leverage

China's Dominance in Critical Minerals

- Nearly 50% of global rare earth reserves are located in China
- China controls approximately 85% of the global rare earth market
- Rare earth consumption has increased fivefold in the last 15 years
- Rare earths are essential for: Semiconductors, renewable energy, advanced electronics (batteries)

Evidence of Leverage

- **2010:** Rare earth export restrictions against Japan during a territorial dispute
- **2023:** Export controls on gallium (94%) and germanium (80%)
- Taiwan remains a critical node in advanced semiconductor production

9) Conclusion

- AI creates new barriers through capital, data, energy and computing requirements, capabilities are not limited to the US and China alone
- China possesses significant leverage through critical mineral supply chains and has demonstrated its willingness to use this leverage
- Europe needs to diversify critical mineral and semiconductor supply chains, if it wants to strengthen its technological sovereignty

10) Questions

- Should the European Union develop rare earth mining and expand domestic energy production, including fracking, on its own territory to diversify its supply chains and reduce strategic dependencies?

- Will AI reduce global inequalities by spreading knowledge, or deepen them by concentrating technological power?