A Competitive Europe: The Role of Research and Innovation – *Some personal reflections*

Robbert Dijkgraaf
Former Minister of Education, Culture and Science, The Netherlands

European Commission

Strengthening EU Research and Innovation

- **Great challenges** for Europe: energy security, climate change, biodiversity loss, food & resources security, aging population, a war of aggression, digital security threats…
- In a background of increasing **geopolitical tensions**, isolationist trends, and rapidly accelerating technology…
- **New knowledge and technology** needed more than ever: for science, society, and innovative economy
- Knowledge only **natural resource** that grows when used and shared!
- Modern science is Europe's strength and gift to the world: **unique ecosystem** of competition, collaboration, plurality

European Commission

Clear Analysis (Letta, Draghi, Heitor)

Summary: Too often the whole is less than the sum of the parts

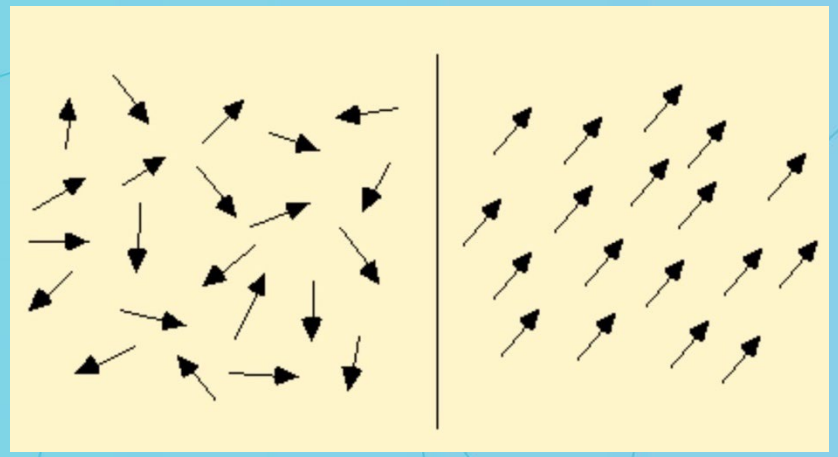
Key themes

- **Scale**: productivity, challenges, markets, capital
- **Excellence**: competitiveness, talent attracts talent
- **Transdisciplinarity:** “world has problems, university has departments”
- **Inclusion**: open collaboration, ERA as global growth model
- **European values**: academic freedom, research integrity, open access

STRUCTURE VERSUS CULTURE

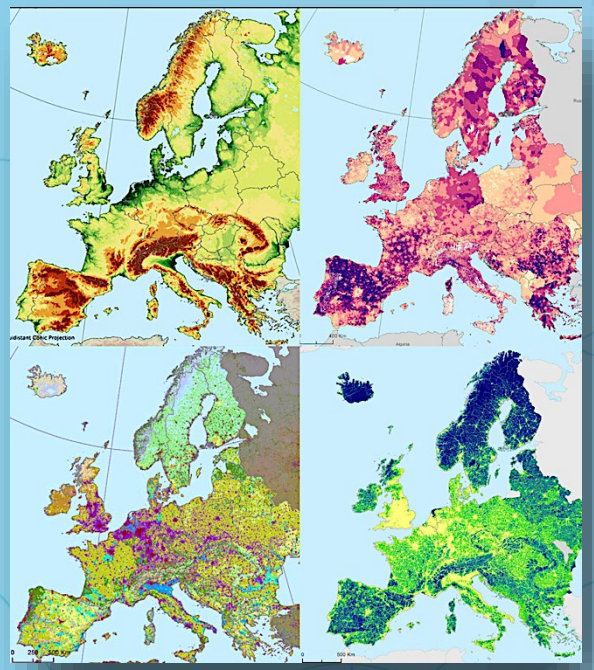
European Commission

Research and Innovation Union



- **Common strategy** where scale is needed for global competitiveness
- **Alignment** of R&I policies of individual MS and EU
- **EU instruments** as magnet to stimulate alignment
- Distribution of labor: **smart specialization**, avoid duplication and gaps
- **Geographically inclusive** with distributive networks

An Idea: European Sector Plans



Thematic maps of EU

- Map R&I **strategic goals** vs **intrinsic strengths** research partners
- Build **strategic alliances** around key themes
- Optimize matrix, choose profile in atmosphere of **mutual trust**
- Start **organically**, with selected themes and partners

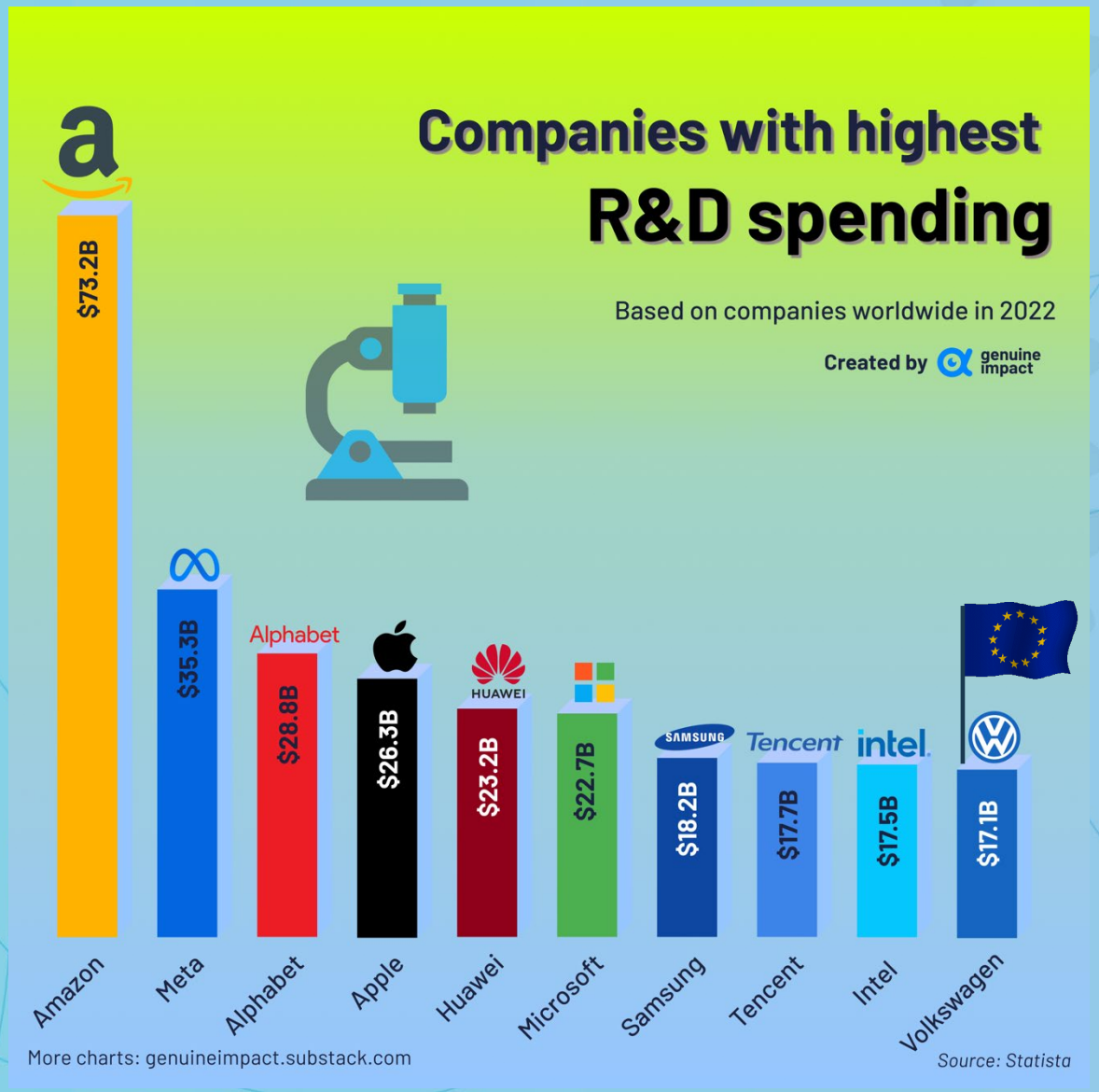
European Commission

Large-Scale Research Infrastructure

- **Magnet** for talent and excellence, **backbone** of research enterprise
- **Scale**: world-class facilities beyond financial and organizational capacity of MS
- **Long-term stability:** EU's complexity from bug to feature
- **Distributed architecture:** geographically inclusive
- **Open innovation:** involve private-public partnerships
- **Open collaboration:** include like-minded nations

Boosting Innovation

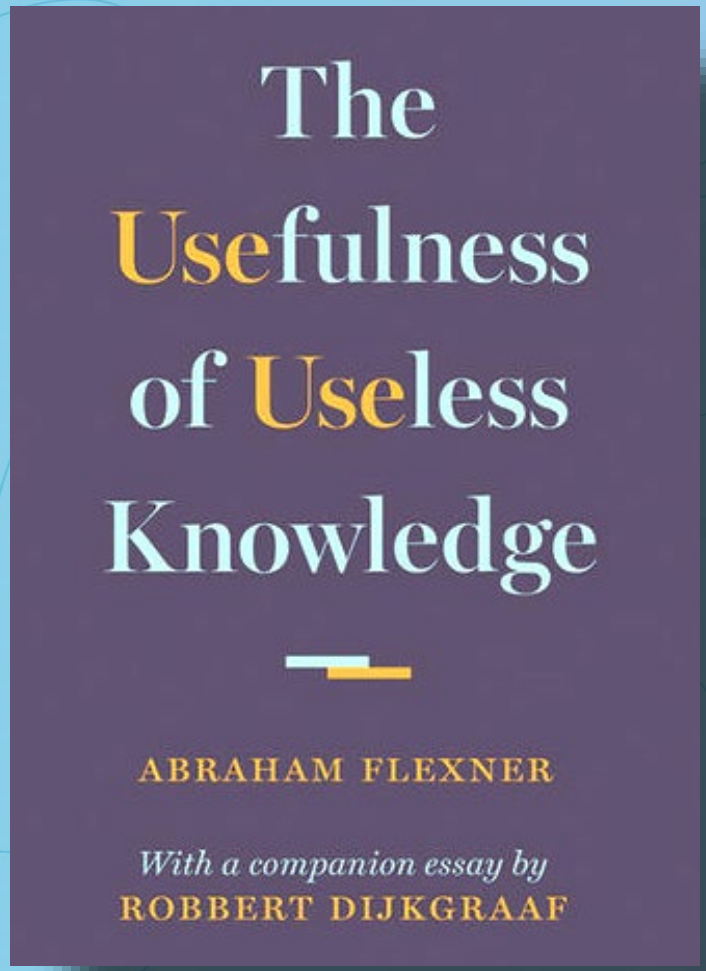
- Public expenditures to **leverage** private R&I investments
- **Private-public partnerships** in key strategic areas
- **Hybrid careers** and positions



European Commission

Complementary Support For Basic Research

- Generous support for **bottom-up** basic research
- Broad research **portfolio** with a "risk budget"
- Curiosity-driven, unrestricted, only based on **excellence**
- Avoid the **muddy middle ground** (neither strategic nor unrestricted)

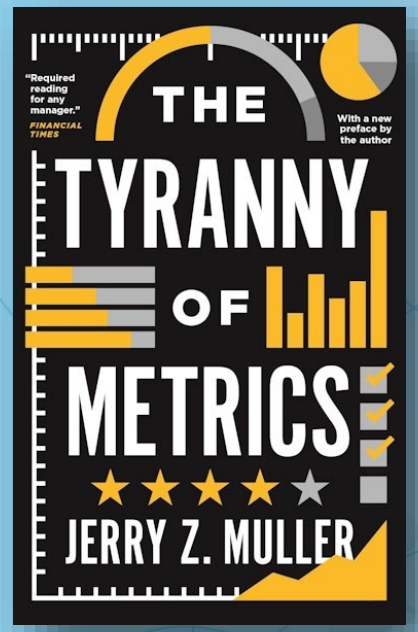


"The current atmosphere is stifling creativity and pushing scientists to do mediocre science. We've got to reward people who do something differently." – Bruce Alberts, Former President of the U.S. National Academy of Sciences

European Commission

Create an Attractive Research Culture

- Recognition of **diverse career paths**
- Reward diverse roles using **multiple metrics** – “Les Measurables”
- **Expansion vs inclusion** for underrepresented groups
- Eliminate **artificial distinctions** such as research/support, academic/technical
- Empower and involve the **next generation** for Europe



European Commission

Conclusions

- Think more **strategically**
- We can start **now** with building strategic alliances
- **ERA** and **ERAC** should also focus on concrete strategy
- Be radical and generous in support of **basic research**
- Work on **structure** and **culture**!

European Commission