

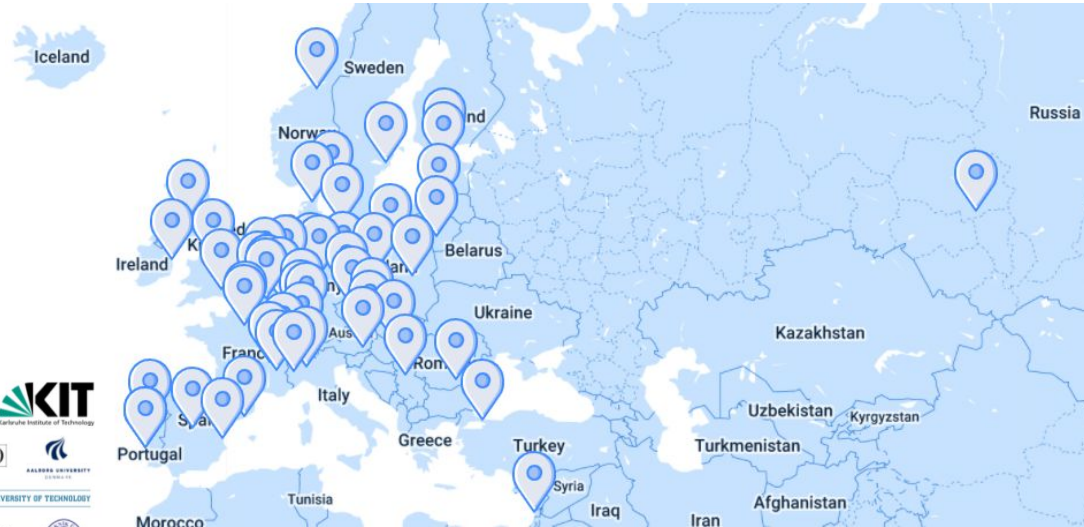


Key technologies shaping the future

Rik Van de Walle, President of CESAER and Rector of Ghent University

CESAER

We are an international association of leading specialised and comprehensive universities of science & technology that learn from each other, advocate and inspire debates.



Locations of our 53 Member universities

Tremendous local and global challenges

- Covid-19
 - Cultural, economic and social recovery and ensuring resilience
 - Social exclusion
 - Increasing inequality
 - Climate change
 - Plastic pollution
-
- Knowledge triangle: research, education and innovation
 - Universities as key knowledge generators at its core



Different geopolitical order & more complex expectation patterns

- The end of 'The End of History'
- The new normal from Trump and Brexit to vaccines and vaccination passports
- Rising aspirations in Asia in general and China in particular
- Expectations include: create jobs and boost economic growth, assume social responsibility, contribute to sustainability, keep knowledge safe and control its export



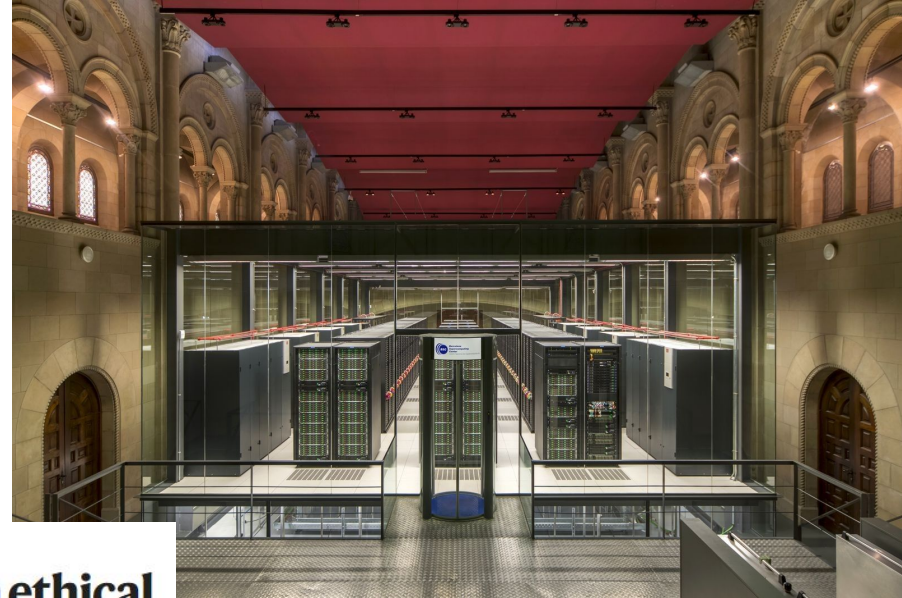
Rapidly emerging key technologies

- Exponential growth of scientific data
- Rapidly increasing capacity in artificial intelligence, advanced materials, quantum technology, nanotechnology & life-science technologies
- Transformations creating new tensions

nature

EDITORIAL • 18 NOVEMBER 2020

Facial-recognition research needs an ethical reckoning



MareNostrum, Barcelona Supercomputing Center

Evolving role of science & technology

- Tremendous local and global challenges
- Different geopolitical order
- More complex expectation patterns
- Rapidly emerging key technologies

Moving forward

- Break down barriers
- Push the frontier
- Assume responsibility



Break down barriers

- Researchers and universities thrive in global environments
- Vital to safeguard and promote continued excellent collaboration in science, engineering and technology between the UK and the rest of Europe, and indeed the world
- Prevent formation of new, and remove existing, barriers to free circulation of knowledge and its bearers (researchers, educators, students, innovators)



Push the frontier

- Disruption in balance between investigator-driven frontier research (bottom-up, e.g. ERC grants) towards towards more politically-driven approaches (top-down)
- Perception persists that, in times of emergency, frontier research is a 'luxury'
- Our most pressing challenges today are pressing precisely because they do not yield to today's understanding and tools
- Support for frontier-research is therefore vital



Assume responsibility

- As the actor which combines research, innovation and higher education, universities and their researchers and students have a particular responsibility around key technologies
- Ethics and values come from within
- *Magna Charta Universitatum* magna-charta.org
- Universities require a reliable social contract with civil society, supporting the highest possible quality of academic work, rooted in institutional autonomy
- One example: [Ghent University Human Rights Policy](#)



Leadership today for tomorrow

- Universities have much to do, but do not operate in a vacuum
- We stand ready to assume responsibility so that when CESAER celebrates its 60th anniversary in 2050, we can look back at the time of our 30th anniversary as watershed moment when policymakers and funders in the EU, UK, all of Europe and globally came together to tackle our times tremendous challenges

