

Back to Earth

- Landing real-world impact in academic evaluation

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Image: NASA

QUIZ QUESTION!

How well are we on track on the UN 2030 Sustainable Development Goals?

- If MORE than 30 % are on track, YES, raise your hand!



28 June, 2024 UN SDG report

**Only 17 per cent of the
SDG targets are
currently on track**

“This report highlights the urgent need for stronger and more effective international cooperation to maximize progress starting now,”

UN Secretary-General
António Guterres



United
Nations

Department of Economic and Social Affairs

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Photo Credit: UN DESA/Predrag Vasic

<https://www.un.org/en/with-less-than-one-fifth-of-targets-on-track>

Where you go for new ideas and innovation..

Ideas
Talent
Innovation
Impact



Outline of Talk

- The World of Research is Changing!
- Four reports discussing Evaluation and Impact
 - *The Future of Research Evaluation*
 - *Back to Earth – Landing Real World Impact*
 - *View from the top – Academic Leader Challenges*
 - *4th Generation University*



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QUIZ QUESTION!

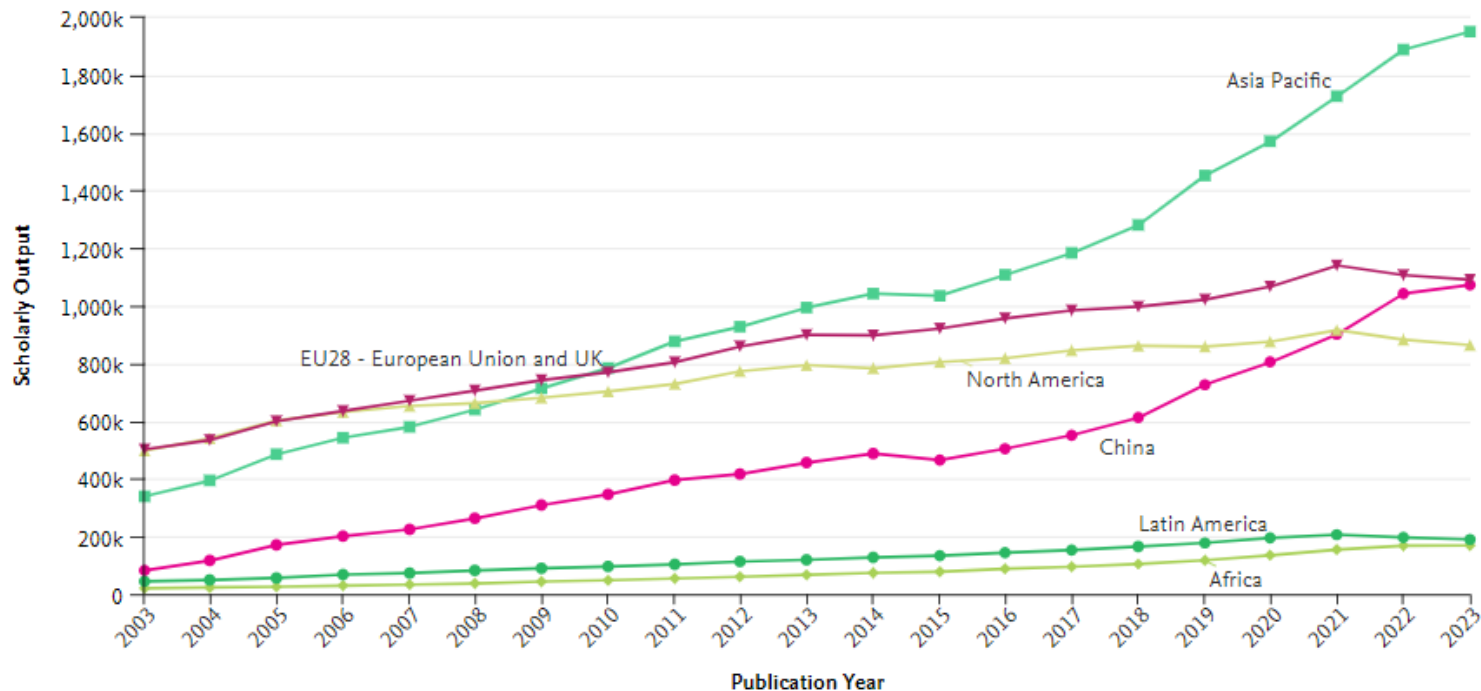


Which part of the world has the largest scholarly output?

- Asia Pacific Region?
- North America & EU 27 + UK?

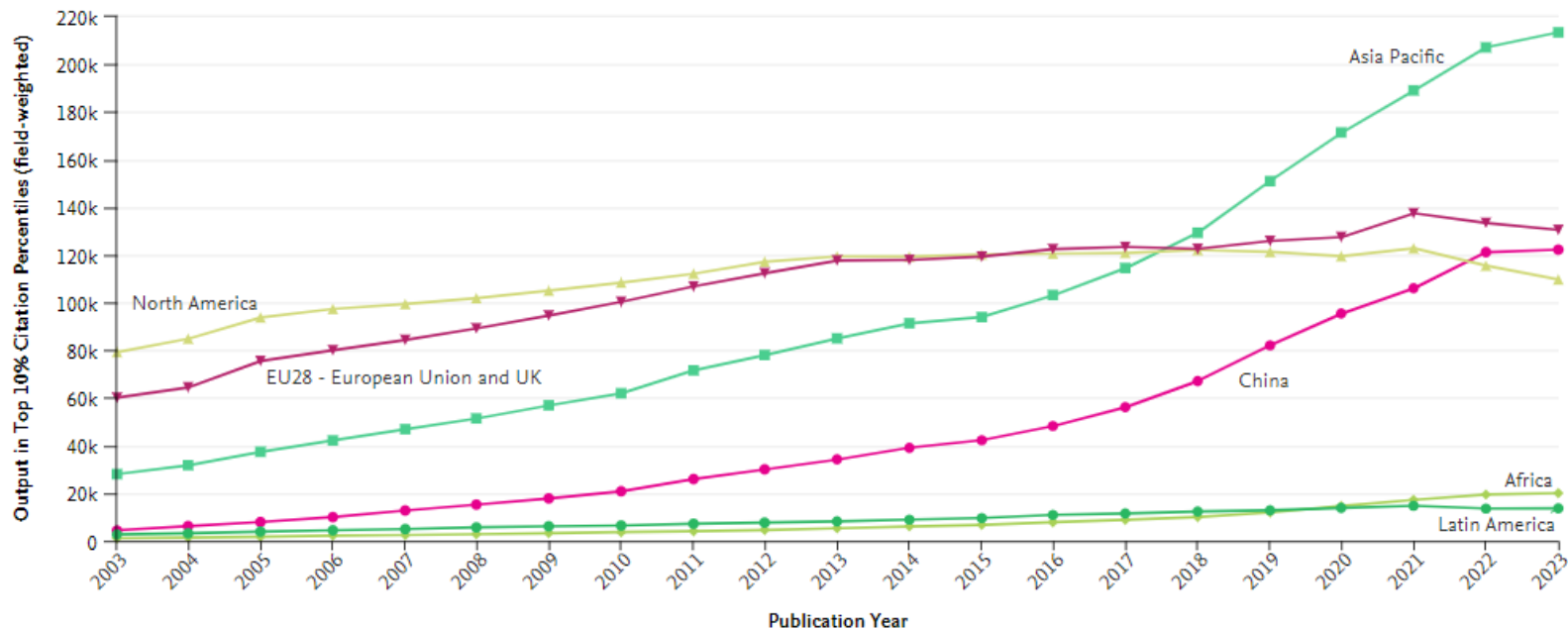
The World of Research in 2013 – 2023 according to SciVal

Asia Pacific now has larger scholarly output than North America and EU 28



The World of Research in 2018 – 2023 according to SciVal

Asia Pacific now has larger output in 10% cited output than North America and EU 28



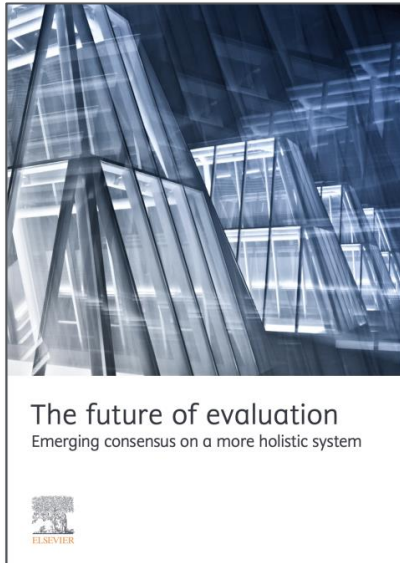
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Four Reports Addressing Research Evaluation and Impact

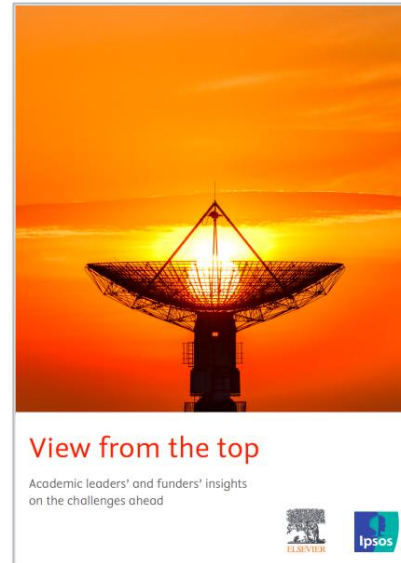
Evaluation



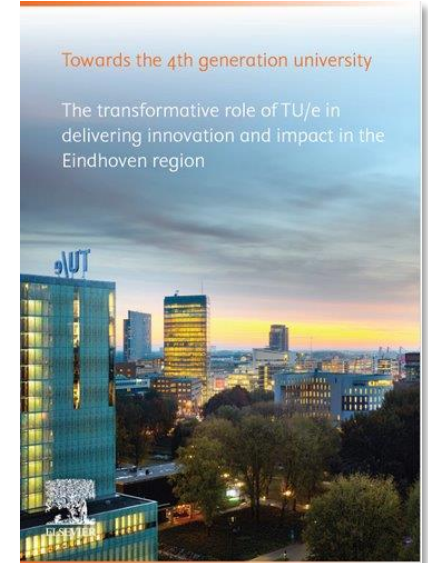
What is impact?



Key Challenges



Economic impact



To understand **what change should look like**, Elsevier conducted roundtable discussions with academic and government leaders



Roundtables with 40 academic leaders and heads of funding bodies representing 18 countries.

Discussions were guided by three key questions:

- How do you view the existing evaluation system?
- How would you like to see it change?
- What is needed to get there

**Download
here**





Key findings

Global insights

1. Evaluation is a priority.
2. A primary focus is institutional-level assessment, including societal impact.
3. There is a strong appetite for change.
4. Striking the right balance between research and education is key.
5. A holistic approach is required.
6. Bringing change won't be easy.
7. A shift in culture is necessary.
8. Qualitative assessment and peer review are critical for evaluation of broader impact.
9. Quantitative measures of broader impact are needed.
10. AI has an important role to play.

Insights helped develop a high-level framework of evaluation



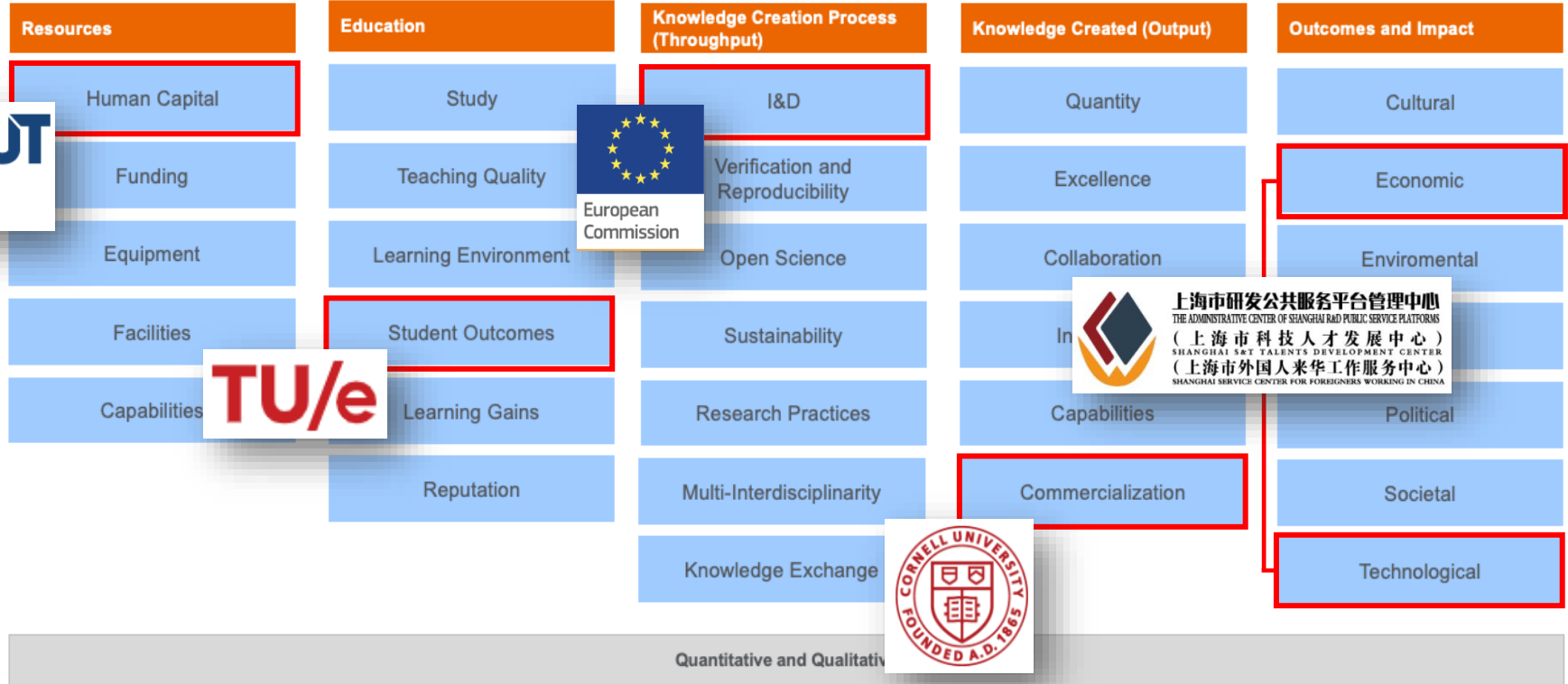
Academic Evaluation

Resources	Education	Knowledge Creation Process (Throughput)	Knowledge Created (Output)	Outcomes and Impact
Human Capital	Study	I&D	Quantity	Cultural
Funding	Teaching Quality	Verification and Reproducibility	Excellence	Economic
Equipment	Learning Environment	Open Science	Collaboration	Environmental
Facilities	Student Outcomes	Sustainability	Innovation	Health
Capabilities	Learning Gains	Research Practices	Capabilities	Political
	Reputation	Multi-Interdisciplinarity	Commercialization	Societal
		Knowledge Exchange		Technological

Quantitative and Qualitative

Putting it into practice: case studies

Academic Evaluation



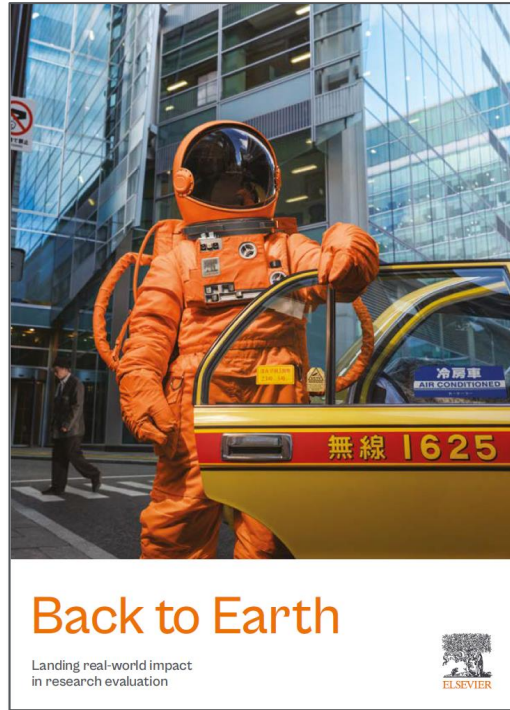
QUIZ QUESTION!



Does your institution have a clear evaluation framework?

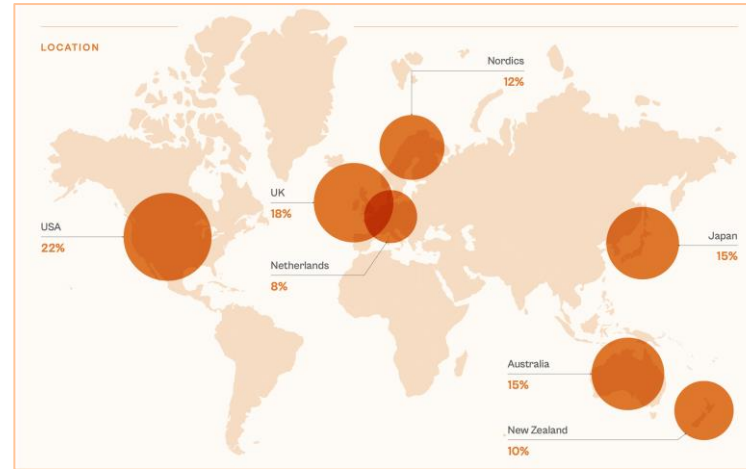
- Yes, or No?

To gain insights into **the need for change and what prevents it**, Elsevier commissioned a global survey of the academic community



A global survey with 400 respondents:

- 180 academic and institutional leaders
- 120 researchers
- 100 executives at funding bodies



Back to Earth – A Global Survey with 400 respondents

- *Public and Government put hope to universities to generate impact*



Back to Earth

Landing real-world impact
in research evaluation



RESPONDENTS THINK THE PUBLIC WILL
PUSH HARDER FOR GOVERNMENT-
FUNDED RESEARCH TO MAKE A MORE
TANGIBLE SOCIAL CONTRIBUTION

■ Strongly agree ■ Agree

Public pressure for [publically funded] research
to make a tangible contribution to society will
further intensify

23%

43%

The inability to demonstrate research's
contribution to wider society could become
an existential risk

26%

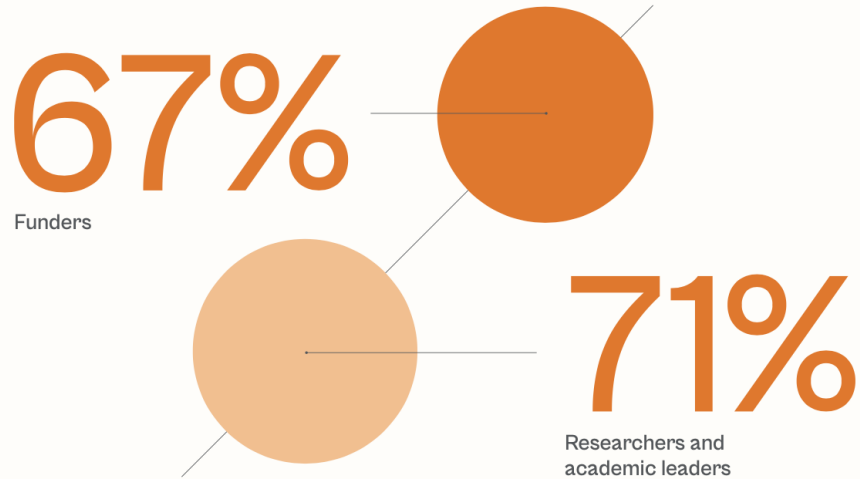
42%

Key findings | Real-world impact should be part of evaluation



FUNDERS ARE AS PASSIONATE ABOUT REAL-WORLD IMPACT AS RESEARCHERS AND ACADEMIC LEADERS

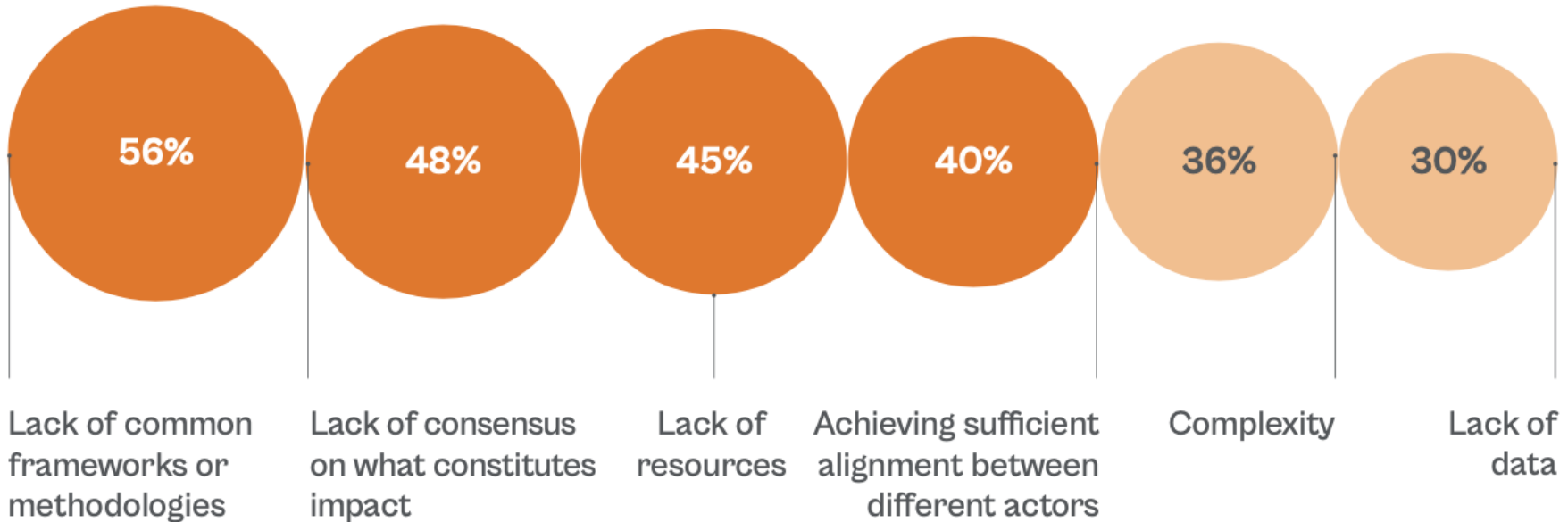
Question: Are you passionate about being part of research that has a positive impact on the world we live in?



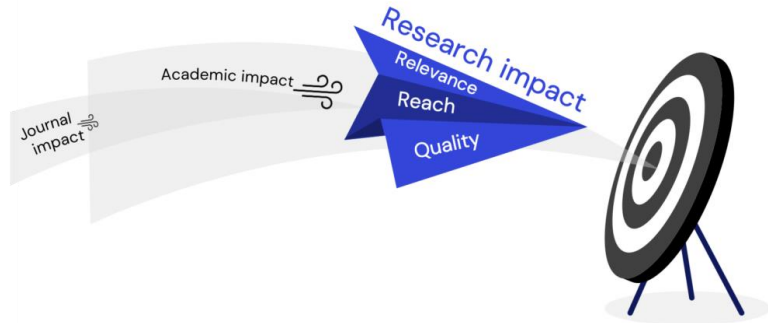
Key findings | What impedes effective impact assessment?

**COORDINATION AND ORGANIZATIONAL ISSUES ARE SEEN AS KEY BARRIERS.
COMPLEXITY AND DATA ARE SEEN AS LESSER PROBLEMS**

Question: What are the key barriers to establishing a more holistic method of assessing research's impact on the world?



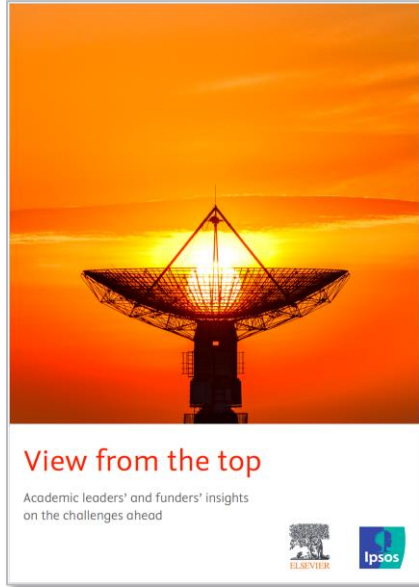
QUIZ QUESTION!



Does your institution have a clear way to look at and capture impact?

- Yes, or No?

View from the top – 115 Top Research Leaders Interviewed



Demonstrating societal impact

80% of leaders say demonstrating societal impact is a high priority

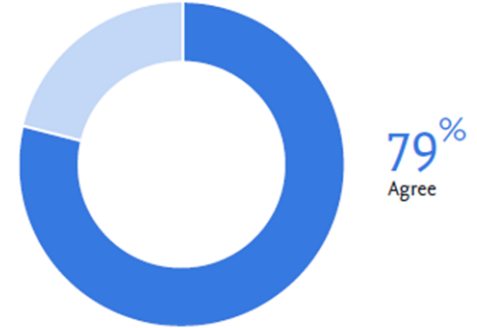
43% of leaders are well prepared to do this



View from the Top



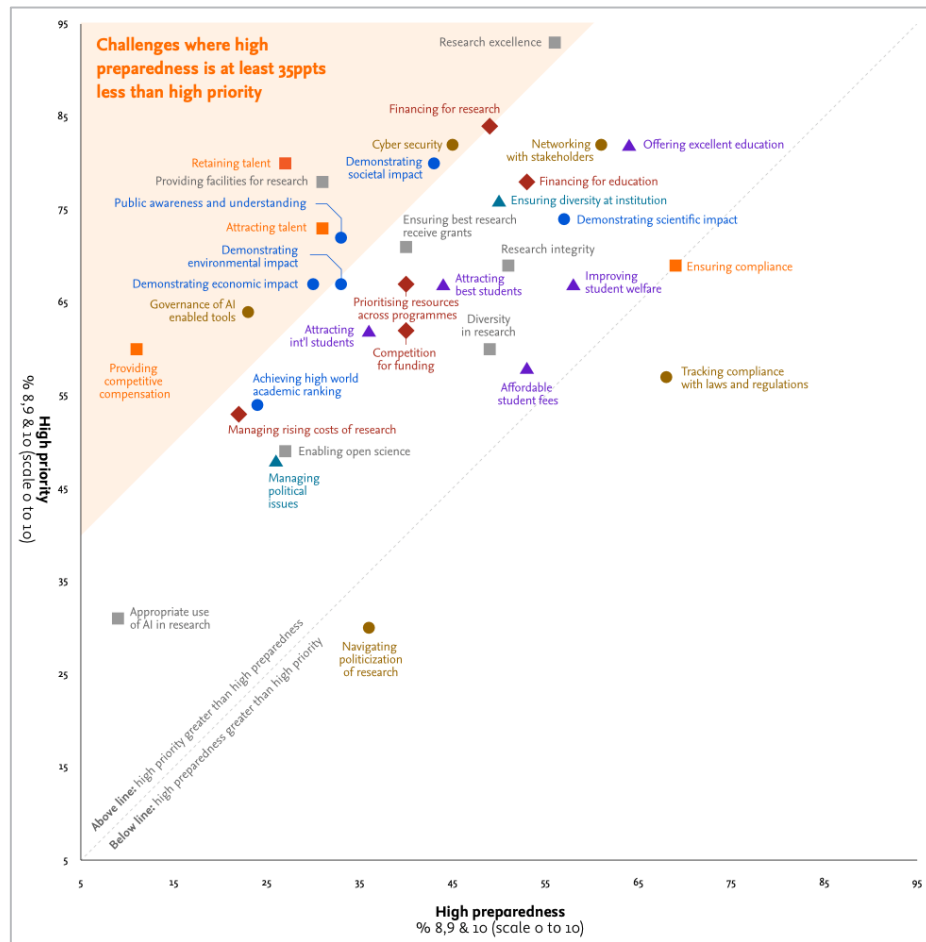
Moving away from a dependency on traditional scientific measures



View from the top

The priority–preparedness gap

- There is a gap in readiness on
 - *research excellence*
 - *financing for research*
 - *attracting and keeping talent*
 - *demonstrating impact*
 - *governance and use of AI tools*
 - .. *And more*



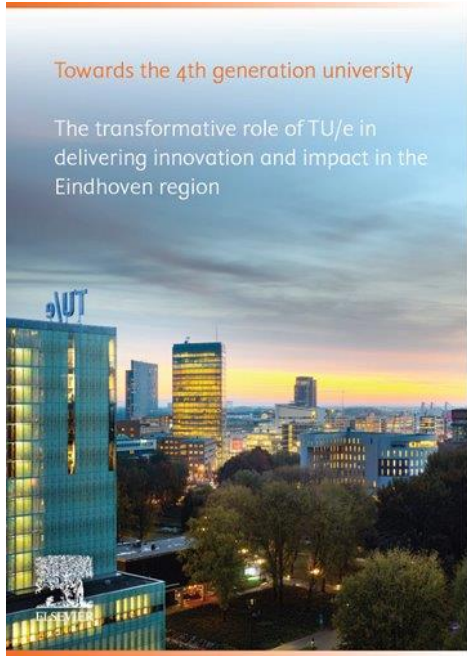
Key: ♦ Funding ■ Research ● Impact ● Political, Tech. & Regulatory Environment ■ Talent ▲ Education ▲ Institutional culture

QUIZ QUESTION!



Are you using Generative AI in your work?

- Yes, or No?



Report download



About Technical University Eindhoven (TU/e)

- Leading Dutch Technical University
- Eindhoven Brainport region (5000 tech companies)

Key project with Elsevier

- co-develop and operationalize **economic impact indicators** enabling TU/e to measure and articulate its economic contributions to the Brainport region.
- Engage with like-minded institutions to gain adoption of the economic impact indicators to **enable comparative benchmarking.**

The concept of the 4th generation university

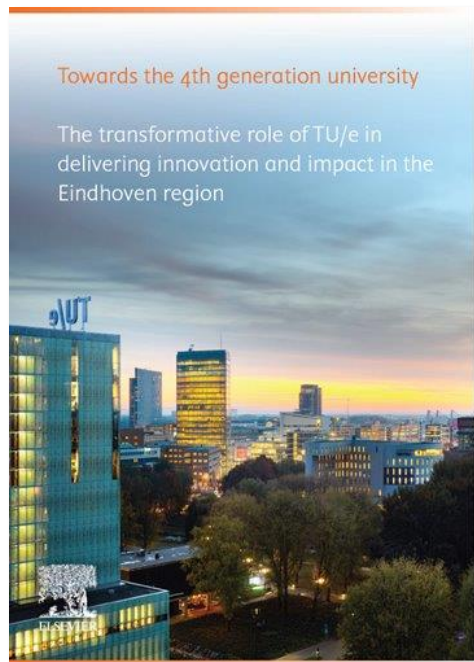
	3rd Generation		4th Generation
Goal	Education, research and knowledge transfer	▶	Mission-driven (challenge-based) education, research and valorization
Role	Create value	▶	Enable societal value creation
Method	Interdisciplinary research	▶	Transdisciplinary research and multi-actor innovation
Human capital	Researchers, professionals and entrepreneurs	▶	Researchers, professionals, entrepreneurs, artists, customers, ecosystem participants
Orientation	Global orientation	▶	Ecosystem orientation
Organization	Institutes, centers	▶	Innovation spaces
Interaction	Industrial partnerships	▶	Integration in global and local ecosystems
Technology integration	Digital instruments	▶	Advanced technology and AI integration

Table 1

Key characteristics (selection) of the 4th Generation University as compared to the 3rd generation university model.

Source: (Marcel Bogers and Maarten Steinbuch)

4th Generation University: Dimensions and indicators



Dimension	Indicators
Education	<ul style="list-style-type: none">• Alumni stay rates
Research	<ul style="list-style-type: none">• Joint research with industry• Dual university appointments• European projects with industry partners• Alignment with key enabling technologies
Valorization	<ul style="list-style-type: none">• Patent co-ownership with industry• Knowledge utilization by industry• Spinouts and alumni-founded companies
Governance	<ul style="list-style-type: none">• Ecosystem leadership• Co-creation platforms• Partnerships• Knowledge infrastructures• Capital facilities• Cultural embedding• International networks

FINAL QUIZ QUESTION!



How many here think assessing impact is challenging?

How many would like to collaborate further?

There is one more thing – We just released another report!

Survey of Researchers Attitude towards AI

- 37% of researchers have **used AI for work purposes**
- 94% of researchers believe **AI will help accelerate knowledge discovery**
- 81% of researchers believe AI has the **potential to erode critical thinking skills**

<https://www.elsevier.com/insights/attitudes-toward-ai>

Insights 2024:
Attitudes toward AI



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- THANK YOU &
- LET'S DISCUSS MORE!

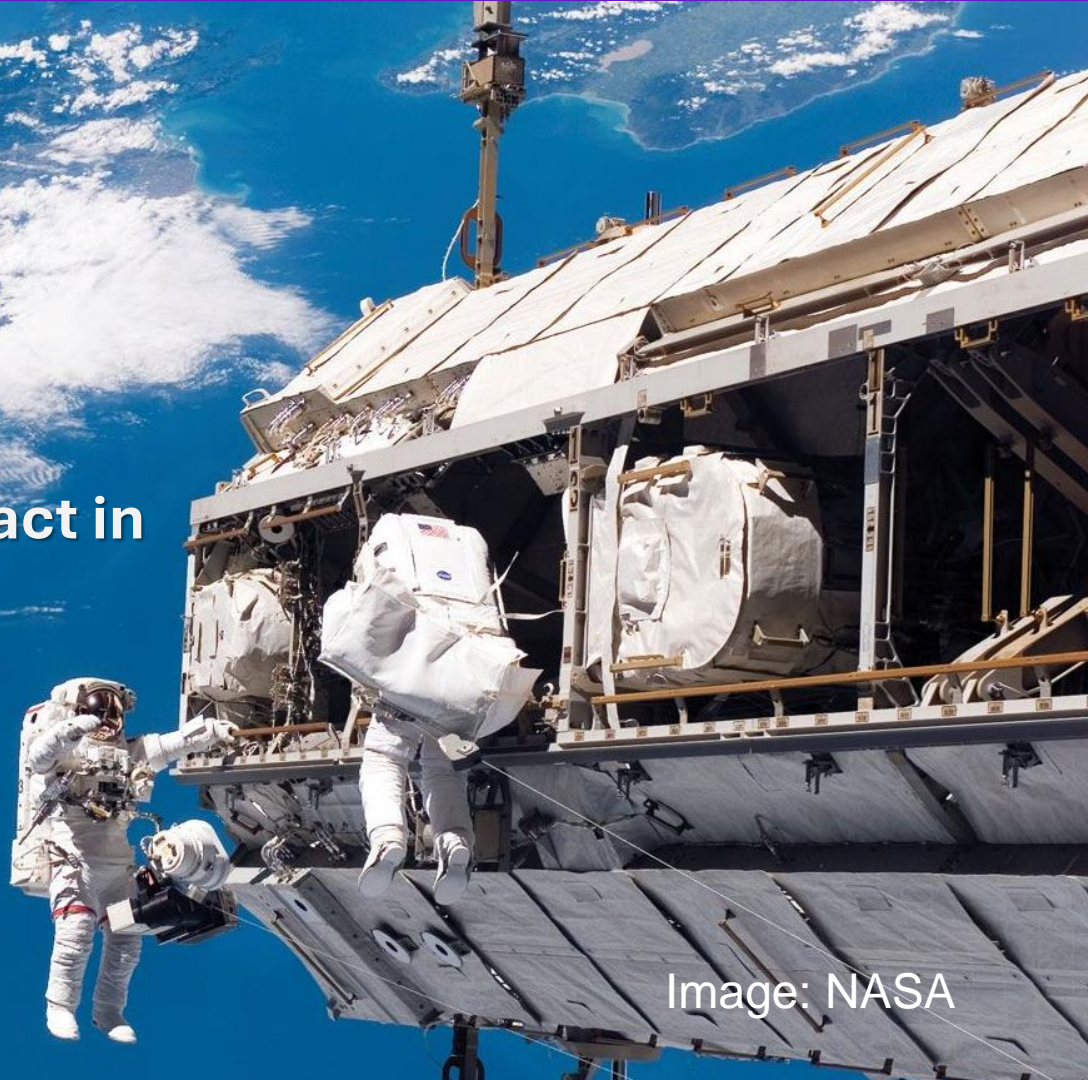


Image: NASA