Toward responsible assessment of science and scholarship
Ambitions knowledge creation coming decades? What can you bring about *right now*?

→ Research evaluation: Important bridge between policy and research
• *The Lancet*: "Funders and academic institutions do much to set the social and cultural context in which research occurs, and academia’s reward and promotion systems shape the choices of scientists at all stages of their career." (Macleod et al. 2014, 103).
Evaluation can help science deliver its promise to society

But does it?

WORLD VIEW
A personal take on events

The pressure to publish pushes down quality
Scientists must publish less, says Daniel Sarewitz, or good research will be swamped by the ever-increasing volume of poor work.

The Matthew Effect

BBC
HOW CAN SCIENCE FIX THE PLANET
Role of evaluation in science and scholarship?

Excellence

Relevance

Jobs

Value

Sustainability
Problems, research and indicators

Space of problems

Slide credit: Ismael Rafols
Problems, research and indicators

Space of problems

Space of research
Problems, research and indicators

Space of problems

Space of research

Space of STI indicators
Streetlight effect: mistaking light with ‘problems’
Reduced diversity of research efforts...
...reduced coverage of societal needs
Problems, research, indicators and marginalisation

Multiple types of space:

Geographical: regional, “South”

Cognitive: SSH, engineering

Linguistic: non-English

Sectoral: low-tech, agriculture, creative ind.

Social: gender, minorities

STI Peripheries: research spaces not well captured by indicators

Research well illuminated by indicators
This is the move we should facilitate:
• Effects most likely vary per discipline
• Not effective: universal measures or fixes
• Effective: generic principles for assessment
  → raise awareness

Wouters, in press
The Leiden Manifesto for research metrics

Use these ten principles to guide research evaluation, urge Diana Hicks, Paul Wouters and colleagues.

Responsible use

University rankings should be used in a responsible manner. Below we present ten principles CWTS that are intended to guide the responsible use of university rankings. These principles apply in general. They are not restricted to the Leiden ranking. The principles were introduced in 2017. A summary of the principles was published in Research Europe. The principles are summarized in the animation provided below.

-Handle With Care-
A Portfolio Template

**Narrative**
Links expertise, output, and influence together in an evidence-based argument; included content is tailored to the particular evaluation

**Expertise**
- scientific/scholarly
- technological
- communication
- organizational
- knowledge transfer
- educational

**Output**
- publications
- public media
- teaching
- web/social media
- data sets
- software/tools
- infrastructure
- grant proposals

**Influence**
- on science
- on society
- on economy
- on teaching

**Evaluation Guidelines**
- aimed at both researchers and evaluators
- development of evidence based arguments (what counts as evidence?)
- expanded list of research output
- taxonomy of indicators: bibliometric, webometric, altmetric
- guidance on use of indicators
- contextual considerations, such as: stage of career, discipline, etc.
Step 1. Broaden out

Best practice: A portfolio approach

• A suite of indicators that include evaluations of structure and process
• Move toward more advanced and next generation indicators (open science, RRI, societal relevance) – work in progress
Best practice: A portfolio approach

- Focus on content and quality – responsible, inclusive
- Bibliometrics can be reductive
- But: not everyone has vocabulary to...
  - ... apply less quantified dimensions → ‘bibliometric creep’
  - ... use metrics in interesting ways→ as ‘tin openers’
- Formalise (partly) qualitative indicators and a narrative in a portfolio, and apply interesting metrics where possible
  → ‘open up & broaden out’ what can be discussed in evaluations (including societal relevance!)