



PUSHING
THE FRONTIERS
OF INNOVATIVE
RESEARCH

Next Generation Metrics for Scientific and Scholarly Research in Europe

LERU position paper
April 2024

Executive Summary

The field of evaluating academic activities is vast, complex, and highly dynamic, as are the roles of any data and indicators used to support these evaluations. This report explores how universities can and should use currently available metrics and data to assess their research processes, in conjunction with qualitative expertise and information. While this report does not comprehensively cover responsible research evaluation, we recognise the need for next-generation metrics as a crucial aspect of responsible research evaluation. Using metrics out of context simply does not make sense, regardless of their ease of availability.

As if the challenge of evaluating academic work were not complex enough, universities are also confronted with the problem that they often lack the required resources, competences, and experiences to deal with each dimension in an expert manner. So, they improvise and make do with what they have. To make matters worse, many university administrative systems and processes are not able to easily produce validated, reliable, and meaningful data in-house due to fragmented data collection, incompatibility of datasets, lack of data standardisation, lack of maintenance, outdated ICT systems, and lack of expertise. As the LERU review of Open Science activities has shown, the simple act of monitoring what we are already doing requires a significant time investment and is mostly done manually.

In this context, we have chosen to focus this report on the aspect of academic evaluation that shows great potential for significant advancements in the coming years: the use and advancement of next-generation metrics for responsible research evaluation, encompassing open science, societal impact, and innovation. Addressing the crucial matter of next-generation metrics for academic teaching will necessitate the establishment of another LERU expert group.

We have chosen to create this report with the aim of maximising its utility for universities by compiling an extensive list of valuable resources on next-generation metrics. We also place strong emphasis on the imperative of collaboration, both among universities and between universities and funding agencies. By leveraging international expertise in bibliometrics and informatics, universities will enhance their resilience, reduce dependence on a limited number of companies that provide (seemingly) pre-packaged research intelligence, and gain a greater capacity to shape their metric policies in alignment with their own missions, rather than relying solely on standard metrics and data availability.

There is one overarching recommendation to universities and the League of European Research Universities (LERU):

Use indicators and metrics that are contextually relevant, that support responsible research evaluation, and that align with your institution's mission. Institutions should collaborate and reuse existing metrics expertise in order to maximise their efficiency in achieving this goal.

Acknowledgements

Authors: Jeroen Bosman (Utrecht University), Koenraad Debackere (KU Leuven), William P. Cawthorn (University of Edinburgh), Paola Galimberti (University of Milan), Mikael Graffner (Lund University), Leonhard Held (University of Zurich), Karlijn Hermans (Universiteit Leiden), Fiona Killard (formerly Trinity College Dublin and The University of Dublin, at present The National Institute for Bioprocessing Research and Training, Ireland), Ignasi Labastida (Universitat de Barcelona), Andrew Millar (University of Edinburgh), Mark Robinson (University of Zurich), Kristell Roser (Sorbonne University), Terhi Sangren (University of Helsinki), Michael Svendsen (University of Copenhagen), and Chair Paul Wouters (Universiteit Leiden)

With thanks to the LERU colleagues who contributed: Bernd Kortmann, Rens Vliegthart, Immo Warntjes.

League of European research universities

University of Amsterdam • Universitat de Barcelona • University of Cambridge • University of Copenhagen • Trinity College Dublin • University of Edinburgh • University of Freiburg • Université de Genève • Universität Heidelberg • University of Helsinki • Universiteit Leiden • KU Leuven • Imperial College London • University College London • Lund University • University of Milan • Ludwig-Maximilians-Universität München • University of Oxford • Sorbonne University • Université Paris-Saclay • University of Strasbourg • Utrecht University • ETH Zurich • University of Zurich

About LERU

LERU was founded in 2002 as an association of research-intensive universities sharing the values of high-quality teaching in an environment of internationally competitive research. The League is committed to: education through an awareness of the frontiers of human understanding; the creation of new knowledge through basic research, which is the ultimate source of innovation in society; the promotion of research across a broad front, which creates a unique capacity to reconfigure activities in response to new opportunities and problems. The purpose of the League is to advocate these values, to influence policy in Europe and to develop best practice through mutual exchange of experience.

LERU publications

LERU publishes its views on research and higher education in several types of publications, including position papers, advice papers, briefing papers and notes.

Position papers make high-level policy statements on a wide range of research and higher education issues. Looking across the horizon, they provide sharp and thought-provoking analyses on matters that are of interest not only to universities, but also to policy makers, governments, businesses and to society at large.

LERU publications are freely available in print and online at www.leru.org/publications.



LERU, Brussels, April 2024

Available at: <https://doi.org/10.5281/zenodo.10569960>

All LERU publications, unless otherwise stated, are licensed under a Creative Commons Attribution 4.0 International license

LERU Office

Minderbroedersstraat 8
3000 Leuven, Belgium

info@leru.org
www.leru.org



@LERUnews