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## Next-generation altmetrics: responsible metrics and evaluation for open science

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# Next-generation altmetrics: responsible metrics and evaluation for open science

EU expert group: James Wilsdon, University of Sheffield; Judit Bar-Ilan, Bar-Ilan University; Robert Frodeman, University of North Texas; Elisabeth Lex, Graz University of Technology; Isabella Peters, Leibniz Information Centre for Economics and Paul Wouters, Leiden University

As a contribution to its Open Science Policy Platform, the European Commission created an expert group to offer advice on the role of metrics and altmetrics in the development of its agenda for open science and research. This expert group developed an account of next generation metrics that expressed the following concerns with respect to altmetrics:

The altmetrics in use today are mainly concerned with identifiable scholarly articles and research data. Altmetrics are broader than bibliometrics, since they reflect how other stakeholders than researchers engage with scholarly articles. However, altmetrics currently remain too narrow, compared to the wide range of other research products and pieces of scientific knowledge.

The group also believes that altmetrics have structural problems (e.g., representativeness), have difficulty serving specific purposes (e.g., they may not adequately reflect broader impact), and give only partial answers to particular questions (e.g., diversity of opinions). In sum, they cannot be viewed as sufficient as metrics for open science, nor are they likely to ever be in the future. Rather, altmetrics will always need to be complemented by traditional processes of peer review as well as metrics and frameworks that are tailored to open science priorities. At the same time, there remains room for improvement: thus the group has called for the development of **next generation metrics** that better capture, measure, reward, and create incentives for open science.

In this presentation, we will discuss the groups' five headline findings that are based on a review of the literature, evidence submitted by stakeholders, (e.g., 3AM participants) and deliberations by the expert group members that will guide further work by the EC Open Science Policy Platform, EC policymakers, research funding bodies and other stakeholders, i.e.:

1. An open science system should be grounded in a mix of expert judgement, quantitative and qualitative measures
2. Transparency and accuracy are crucial
3. Better use needs to be made of existing metrics for open science
4. Next generation metrics should be underpinned by an open, transparent and linked data infrastructure

5. Do not lose sight of the need to measure what matters

We hope that with this talk we can feed back results to the community who will, hopefully, lively engage in a discussion of the recommendations and their practicality for future work.