




Open Science e riforma della valutazione della ricerca

Francesca Di Donato

Istituto di Linguistica Computazionale “A. Zampolli” - CNR

francesca.didonato@ilc.cnr.it

 orcid.org/0000-0003-0144-8934

DISCLAIMER: Parte del materiale su cui questa presentazione è costruita è in versione “draft” e confidenziale. Si prega pertanto di non diffonderlo né pubblicarlo.



Il processo di riforma della valutazione in Europa

Commission Recommendation (EU)
2018/790 of 25 April 2018

Commission
Communication
COM(2020) 628

Council Conclusions
on the new European
Research Area of 1
December 2020

Council conclusions on
attractive and
sustainable
researchers' careers ...

ERA Policy
Agenda
2022-2024

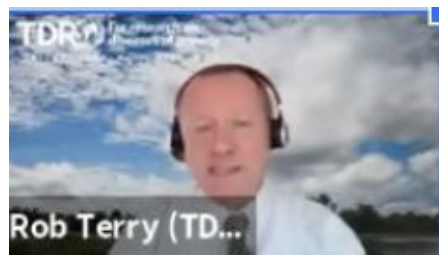
- vi. **Open Science:** HIGHLIGHTS that open science, including mainstreaming open access to publications and research data, has a crucial role in boosting impact, quality, efficiency, transparency and integrity of R&I, and brings science and society closer together whilst taking into account legitimate legal, security and privacy aspects. ENCOURAGES the Commission, Member States and stakeholders to support and implement open science practices in their reward and evaluation systems for research, researchers and institutions, including RIs, and strengthen their European coordination. WELCOMES the launch of the Open Research Europe publishing platform. RECOGNISES that bibliodiversity, multilingualism and the acknowledgement of all scientific productions are relevant elements of an ERA policy on open science.

Perché una riforma della valutazione è necessaria?



“I call on all countries, companies and research institutions to **support open data, open science, and open collaboration** so that all people can enjoy the benefits of science and research”

T.A. Ghebreyesus, [‘WHO Director-General’s Opening Remarks at the Media Briefing on COVID-19 - 6 April 2020](#)



Meno del 25% del materiale scientifico incluso nelle Linee guida dell'OMS sul COVID proviene da pubblicazioni tradizionali. **"They proved useless, just when we needed them most"**

R. Terry, [Time to unlock the potential of the digital age](#), OpenScienceFair2021, settembre 2021, [slides](#)

Open Science – time to unlock the potential of the digital



Rob Terry (TD...

Overview

The key is the internet – digitization

Open science requires systems thinking

The value is making new knowledge from connections

Standards to make (machine) interoperable

Minimize technical, legal, financial and linguistic barriers

Effective Ethical Equitable

Collaboration not Competition for Global Goods

A reset for scientific careers new incentive measures needed



[1] Towards a global consensus on open science: report on UNESCO's global online consultation on open science. UNESCO, 2020
[2] FOSTER portal <https://www.fosteropenscience.eu/>, accessed in March 2021
[3] Science ouverte à l'université de Genève: feuille de route pour un partage de connaissances scientifiques 2020-2023.



The aim is for research to be evaluated based on its intrinsic merits rather than on the number of publications and where these are published.



Scoping report on research assessment. European Commission

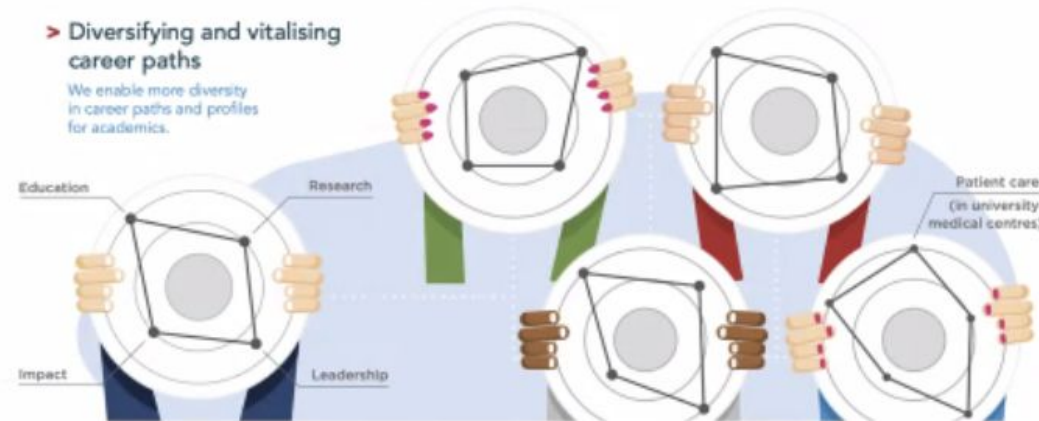


Room for everyone's talent

towards a new balance in the recognition and rewards of academics

> Diversifying and vitalising career paths

We enable more diversity in career paths and profiles for academics.



Paris Call on Research Assessment

LERU

PUSHING
THE FRONTIERS
OF INNOVATIVE
RESEARCH

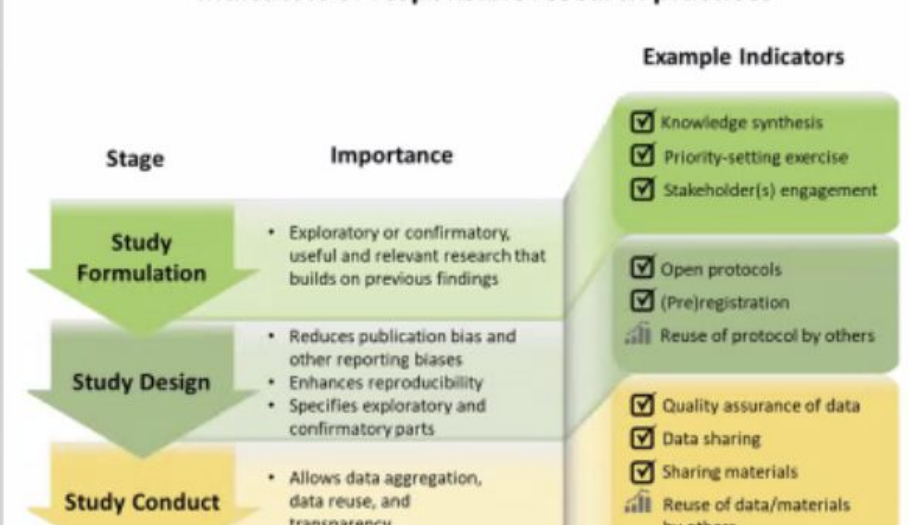
A Pathway towards Multidimensional Academic Careers

A LERU Framework for the Assessment of Researchers

LERU position paper
January 2022

Hong Kong Principles

Indicators of responsible research practices

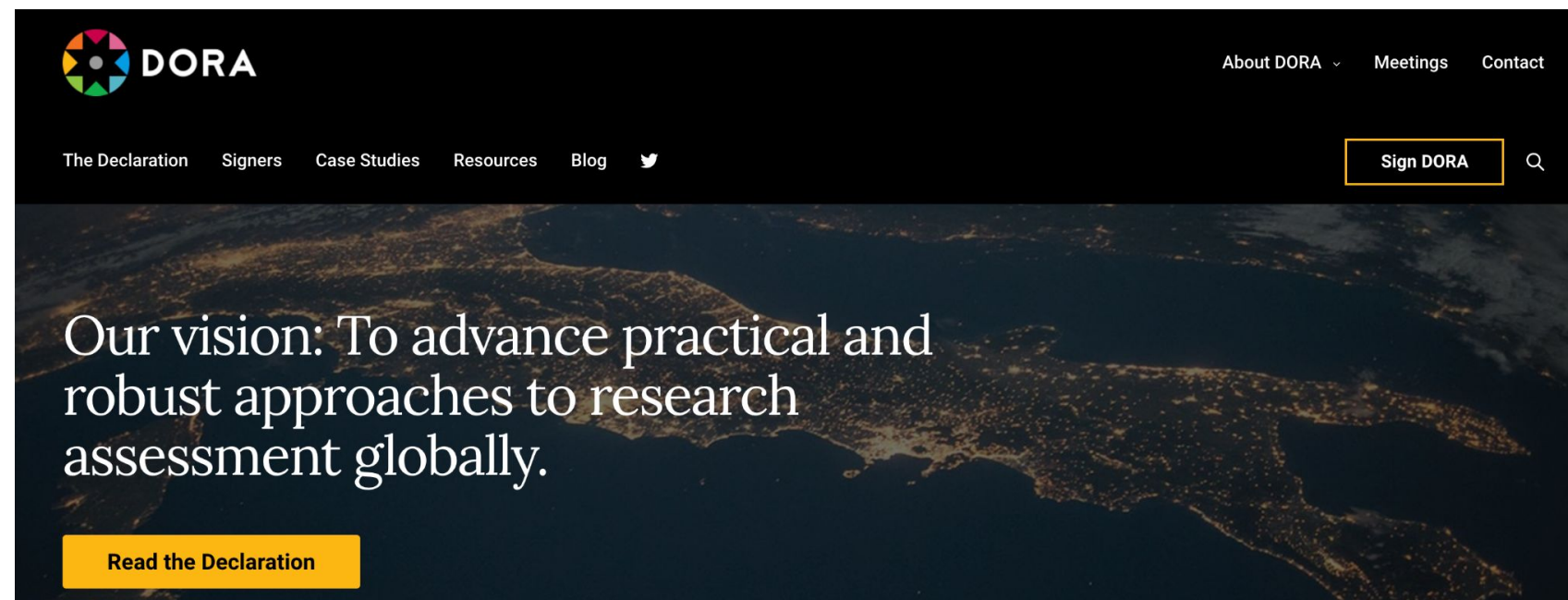


Towards a reform of the research assessment system

Scoping Report

The Declaration on Research Assessment (DORA)

2012:



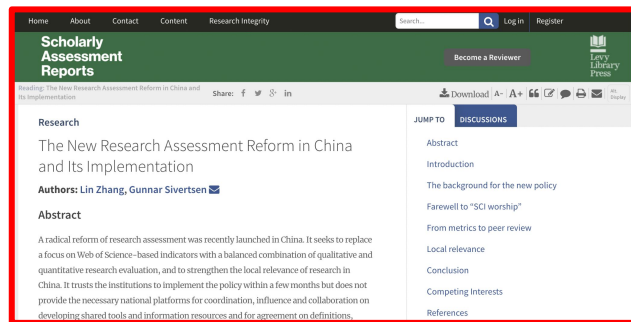
<https://sfdora.org/read/>

“There is a pressing need to improve the ways in which the output of scientific research is evaluated by funding agencies, academic institutions, and other parties”.

2022:

sottoscritta da 21.343 individui e organizzazioni in 156 paesi

Oltre l'Europa



2020: La riforma in Cina

Lin Zhang, Gunnar Sivertsen, [The New Research Assessment Reform in China and Its Implementation](#), Scholarly Assessment Reports, 2020.



2021: [UNESCO Recommendation on Open Science](#)



2021: [G7 Research Compact](#)

La Commissione europea ha messo in atto due strategie



1. Open Science in Horizon Europe
(implementazione pratica)
2. Verso un agreement per una riforma della
valutazione della ricerca

Open Science e valutazione in Horizon Europe

Open Science / reproducibility in Horizon Europe

- **Horizon Europe Work Programme parts**

- **Clusters, Missions and Partnerships:** support to societal engagement, citizen science, FAIRification of data, the European Open Science Cloud (EOSC), etc.
- **'Research Infrastructures' part:** support to the development of the EOSC
- **'Marie Skłodowska-Curie' actions:** support for the adoption of a culture of open science by researchers
- **'ERA' part:** support for the adoption of open science practices in other parts of the Programme and to policy developments
- **HE General Annexes:** Provision on access to data or other results needed to validate the conclusions of scientific publications

- **Proposal evaluation**

- Quality of open science practices evaluated under 'Excellence' criterion

Open Science / reproducibility in Horizon Europe

- **Model Grant Agreement**

- Strengthens Open Access requirements, and empowers authors and institutions
- Emphasis shifts to responsible research data management, with Data Management Plans, and FAIR and open data sharing
- Provision related to providing information needed to validate the conclusions of scientific publications

- **Horizon Europe Programme Guide**

- Guidelines on open science practices and specific guidance for the reproducibility of research outputs

- **Open Research Europe**

- The European Commission scientific publishing platform

- **Reporting** of open science practices & **monitoring** of HE through Key Impact Pathways

I punti principali

Ex-ante

- Part A (nel CV): Si valutano diverse tipologie di output (bibliodiversità)
- Part A (nel CV): I prodotti devono essere Open Access, con DOI
- Nel CV: L'impatto è descritto (no indicatori)
- Excellence: Le pratiche OA sono "embedded" nella metodologia
- Part B: E' richiesta la gestione dei dati della ricerca secondo i principi FAIR e "as open as possible, as closed as necessary" (con DMP)

Ex-post

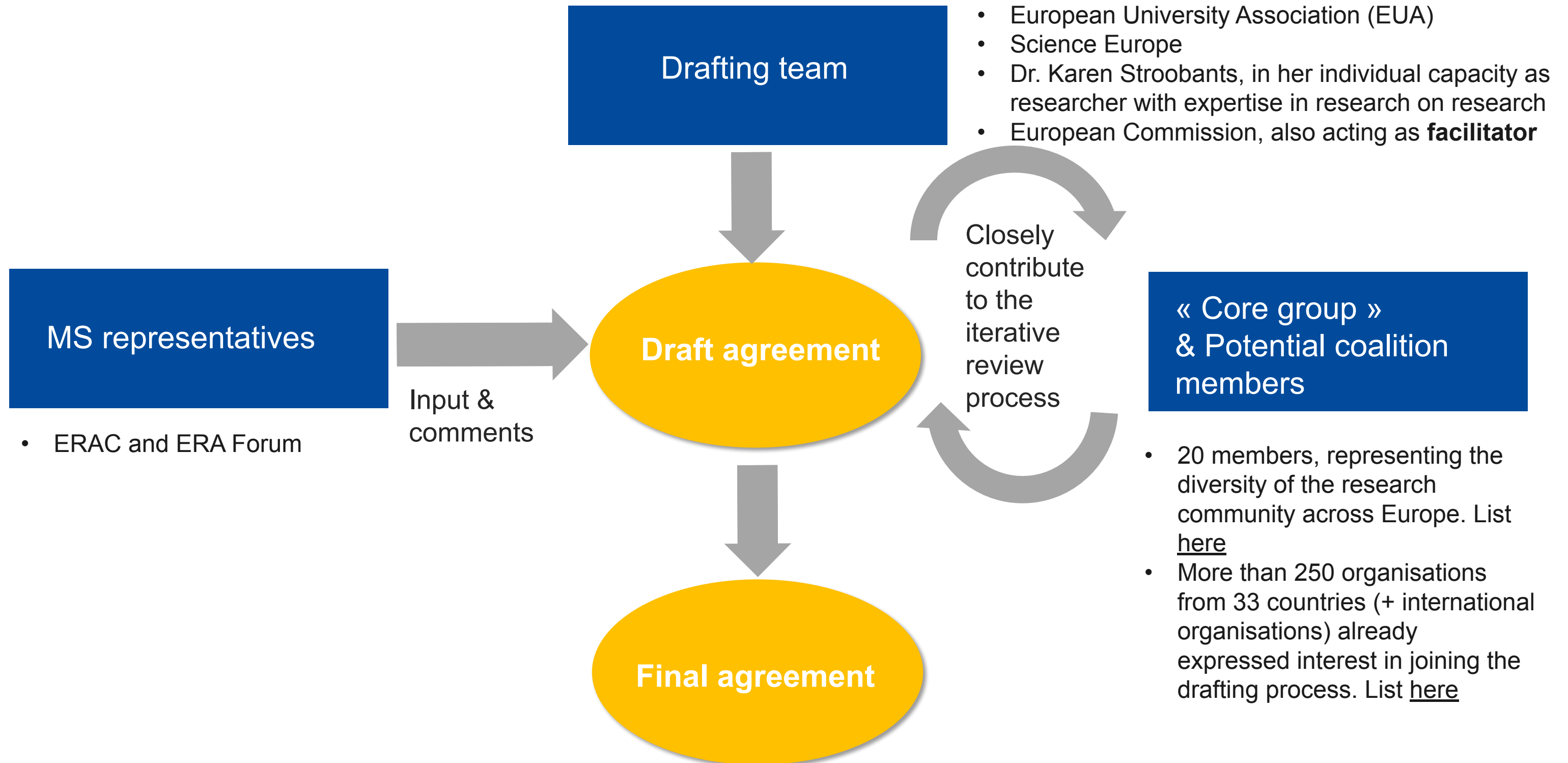
- L'impatto è descritto (no indicatori "quantitativi" tradizionali)
- E' richiesta la gestione dei dati della ricerca secondo i principi FAIR e "as open as possible, as closed as necessary" (con DMP)
- OA obbligatorio

Verso uno European agreement per la riforma della valutazione della ricerca

Il processo

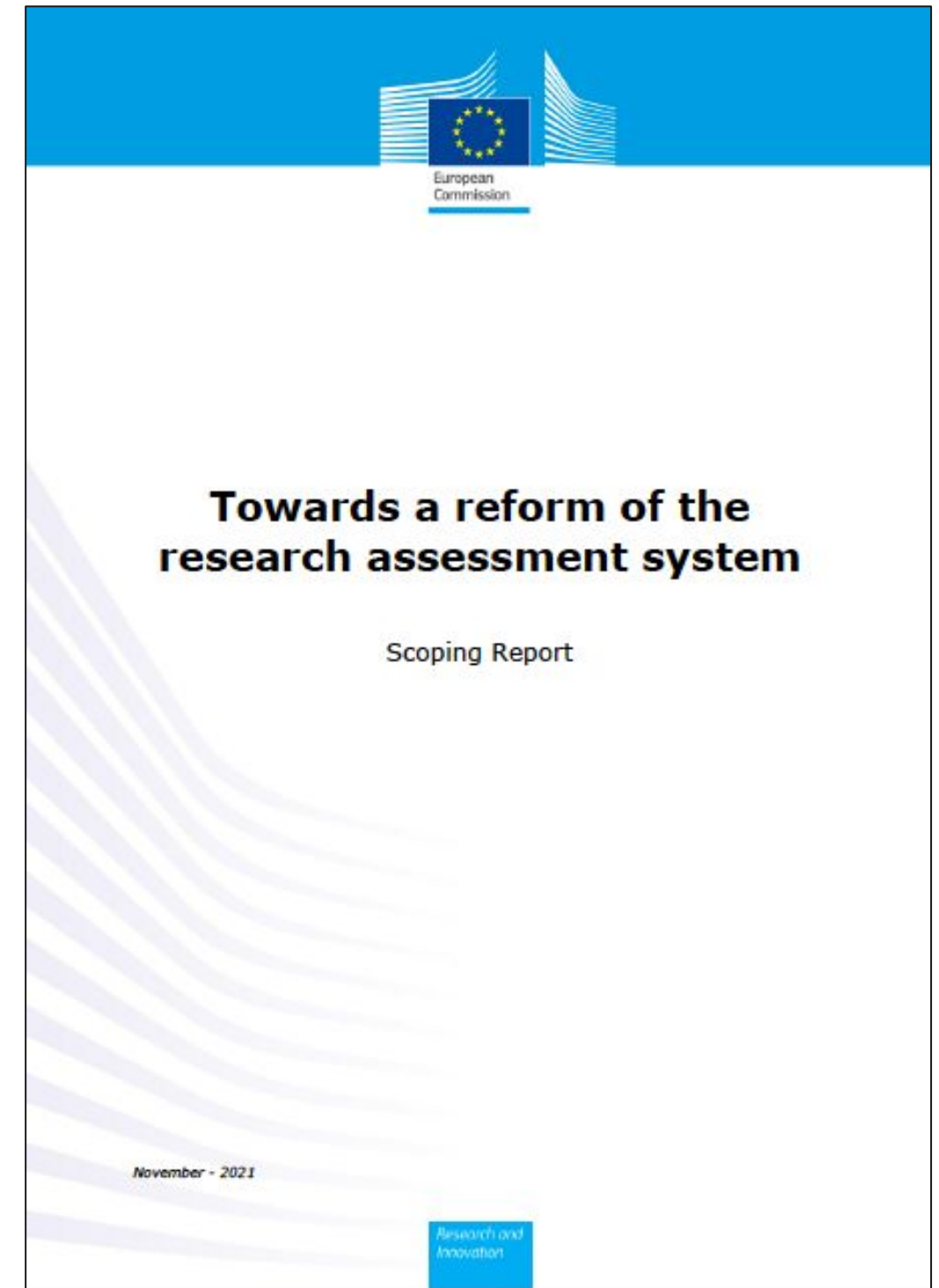
- **2021:** consultazione della CE con gli stakeholder
- **16 dicembre:** pubblicazione di un invito a manifestare interesse a far parte di una coalizione del processo di redazione dell'accordo
- **Fine dicembre-gennaio:** inizio del processo di redazione da parte del drafting team.
- **1 Febbraio:** Paris Call on Research Assessment
- **4-5 Febbraio:** Paris Open Science European Conference (OSEC)
- **Febbraio-giugno:** incontri con il Core Group per discutere gli elementi dell'accordo
- **Marzo-luglio:** processo di consultazione degli stakeholder, ERAC e ERA Forum
- **Settembre (tbc):** Pubblicazione dell'agreement

“Drafting process”



Lo scoping report di novembre 2021

- **Obiettivo:** facilitare e accelerare il processo di riforma di valutazione della ricerca che:
- ◆ Promuova la **valutazione qualitativa basata sul peer review**, supportata da un uso più responsabile degli indicatori quantitativi
 - ◆ Consideri il valore e l'impatto di una pluralità di output di ricerca (**bibliodiversità**) e il **multilinguismo**
 - ◆ Riconosca la **diversità delle attività** svolte da un ricercatore, e supporti la scienza collaborativa (**team science**)
 - ◆ Incentivi la **collaborazione aperta** e la **condivisione** di risultati e dati preliminari



EC, [Towards a reform of the research assessment system](#), Scoping report, 29 novembre 2021.

L'accordo (*draft confidential*)

“As signatories of this Agreement, we agree on the need for reform [Annex 1] of research assessment practices. Our vision is that **the assessment of research, researchers and research organisations supports the quality of research, by recognising the diverse outputs, practices and activities that maximise the quality of research and resulting impacts.** This requires **basing assessment primarily on qualitative judgement, for which peer-review is central,** supported by responsible use of quantitative indicators. This is fundamental for selecting which research proposals to fund, for deciding which researchers to recruit, promote or reward, and for identifying which research units and organisations to support.”

4 “core” commitments

1. Recognise the **diversity of contributions** to, and careers in research

according to the needs and the nature of the research - *This commitment will broaden the recognition of the diverse practices and activities as well as careers in research. It will enable the development of balanced criteria for given types and purposes of assessment as well as for the assessment of diverse careers in research, considering the specific nature of research disciplines and other research endeavours.*

2. Base research assessment primarily on **qualitative evaluation** for which peer review is central, supported by responsible use of quantitative

indicators - *This commitment will enable the move towards research assessment criteria that focus primarily on quality while recognising that responsible use of quantitative indicators can support this where this is meaningful and relevant, which is context dependent. Peer-review is the most robust method known for the assessment of quality and has the advantage that it is in the hands of the research community. To address biases and imperfections that any method is prone to, the research community is regularly re-assessing and improving peer-review practices.*

3. Abandon the inappropriate uses in research assessment of journal- and publication-based metrics, in particular the inappropriate uses of journal impact factor (JIF) and h-index - *This commitment will reduce the dominance of a narrow set of quantitative journal- and publication-based metrics.*

4. Avoid the use of international rankings of research organisations in research assessment - *This commitment will help avoid that the criteria used by international rankings which are often based on inappropriate uses of metrics and are not 'fair and responsible' trickle down to research assessment. It will help the research community and research organisations regain autonomy in shaping assessment practices that are compatible with their commitment to fundamental principles of independence and transparency of the data, infrastructure and criteria for research assessment, rather than having to abide by criteria and methodologies set by external commercial companies. This could include retaining control over the methodologies and data used in 'fair and responsible' rankings.*

+ 6 “supporting commitments”

Includono tre commitment per consentire il passaggio a nuovi criteri, strumenti e processi e tre commitment per facilitare l'apprendimento reciproco, comunicare i progressi e garantire che i nuovi approcci siano basati su evidenza informata

5. **Commit resources** to reforming research assessment as is needed to achieve the organisational changes committed to - *This commitment will ensure that organisations allocate the necessary resources, whether in the form of budget or staff capacity, to improve research assessment practices within their agreed timeframe*

6. Review and develop criteria, tools and processes for research assessment

[Part 1 – Criteria for units and institutions]

With the direct involvement of researchers across career stages and research organisations, review and develop criteria for assessing research units and research performing organisations, while promoting interoperability -

This commitment will ensure that national/regional/organisational authorities and evaluation agencies review and, where needed, develop criteria for the assessment of research performing units and organisations, in accordance with the Principles. It will foster responsible use of metrics in the assessment of research performing units and organisations and help to prevent contradictions or incompatibilities between the assessment of research, researchers and research performing organisations. It will also safeguard interoperability of adapted or newly developed assessment processes.

[Part 2 – Criteria for projects and researchers]

With the direct involvement of researchers across career stages, review and develop criteria, tools and processes for the assessment of research projects and researchers, that are adapted to their context of application - *This commitment will enable recognition of the diverse research activities and practices in research through the revision and development of assessment criteria, tools, and processes. It will ensure that organisations review their processes and make tangible changes by developing existing or new assessment approaches, individually or in collaboration with others, in accordance with the Principles.*

7. Raise awareness of research assessment reform and provide transparent communication, guidance, and training on assessment criteria and processes as well as their use - *This commitment will ensure that organisations raise awareness of the reform with all actors. It will ensure that organisations transparently communicate on the criteria, tools and processes used for research assessment and train researchers and assessors on their use*

8. information for mutual learning. *It will help avoid fragmentation, contribute to coherence of assessment practices between organisations, and enable mobility of researchers. It also will enable those further ahead to share approaches and lessons learned, to the benefit of those that are less advanced in their reform journey*

9. Communicate on progress made on adherence to the Principles and **implementation of the Commitments** - *This commitment will ensure organisations update one another on progress made. It will foster self-reflective monitoring of adherence to the Principles and progress towards meeting the Commitments.*

10. Evaluate practices, criteria and tools based on solid evidence and the state of the art in research on research and make data openly available for **evidence gathering and research** - *This commitment will ensure that new assessment approaches are evidence informed. It will help organisations to self-reflect, gain understanding on whether assessment practices achieve the desired goals and engage in evolutive assessment based on robust research results and new evidence that becomes available. It will also help to ensure control and ownership by the research community over data on research assessment.*

Verso la definizione di indicatori OS

Work in progress

Peer review e CV narrativi

“matrix, not metrix”

European Commission, et al., Indicator frameworks for fostering open knowledge practices in science and scholarship, Publications Office, 2019, <https://data.europa.eu/doi/10.2777/445286>

149 indicatori, su 3 assi:

- “accessible and reusable research outputs”
- “collaboration and coordination”
- “societal engagement and communication”.

Annex 4 – Toolbox: practical tools and options to consider

Note to the Reader: we have added the draft toolbox to enable a more comprehensive overview. However, the toolbox is subject to continuous development and will take the form of a ‘living’ document / webpage.

Commitment	Examples of tools to support this commitment / options to consider
Recognise the diversity of contributions to, and careers in research according to the needs and the nature of the research	<ul style="list-style-type: none">- Enable greater diversity in possible career paths and profiles by recognising and recognising more diversity in competences and talents⁵- Use approaches where academics can make a mark in one or more key areas important to them, and allow the area profile of academics to change in the course of their career⁶- Use a portfolio approach to test competency or progression in different domains relevant to the researcher’s role⁷
Base research assessment primarily on qualitative evaluation for which peer-review is central, supported by responsible use of quantitative indicators	<ul style="list-style-type: none">- Consider specific actions captured under the Leiden Manifesto⁸- Explore options for assessment; as a rule of thumb, use quantitative indicators for quantitative things (if that is what is appropriate to assess): publications, funding, citations and students, and qualitative indicators (such as case studies, narratives or statements) for qualitative things: excellence, quality, value, impact, and be very cautious about using quantitative indicators for qualitative things⁹- Actively engage in and learn from research on research work to develop new improved metrics, and consider appropriateness of their use

⁵ <https://www.universiteitenvannederland.nl/recognitionandrewards/wp-content/uploads/2019/11/Position-paper-Room-for-everyone%E2%80%99s-talent.pdf>

⁶ <https://www.universiteitenvannederland.nl/recognitionandrewards/wp-content/uploads/2019/11/Position-paper-Room-for-everyone%E2%80%99s-talent.pdf>

⁷ <https://embassy.science/wiki/Resource:Ca0ed587-ac8e-4259-9cc7-74de01941cd1>; <https://assets-eu-01.kc-usercontent.com/546dd520-97db-01b7-154d-79bb6d950a2d/6eb2e1cc-068a-4283-b6de-a281868b749d/Qualification-portfolio-professors-UMC%20Utrecht.pdf>

⁸ <https://doi.org/10.1038/520429a>

⁹ <https://thebibliomagician.wordpress.com/2019/12/11/introducing-scope-a-process-for-evaluating-responsibly/>



Q&A

francesca.didonato@ilc.cnr.it

Riferimenti bibliografici

Ghebreyesus TA, ['WHO Director-General's Opening Remarks at the Media Briefing on COVID-19 - 6 April 2020'](#)

[UNESCO recommendation on open science](#), November 2021

R. Terry, [Time to unlock the potential of the digital age](#), OpenScienceFair2021, settembre 2021, [slides](#)

Diana Hicks, Paul Wouters, Ludo Waltman, Sarah de Rijcke & Ismael Rafols, Bibliometrics: The Leiden Manifesto for research metrics

22 April 2015, <https://www.nature.com/articles/520429a>

Lin Zhang, Gunnar Sivertsen, The New Research Assessment Reform in China and Its Implementation, Scholarly Assessment Reports, 2020

<https://www.scholarlyassessmentreports.org/articles/10.29024/sar.15/>

[Council Conclusions on the new ERA of December 1st 2020](#)

EC, [Towards a reform of the research assessment system](#), Scoping report, 29 novembre 2021.

European Commission Recommendation 2005/251 of 11 March 2005 on “*The European Charter for Researchers*” and on “*A Code of Conduct for the Recruitment of Researchers*”

https://euraxess.ec.europa.eu/sites/default/files/am509774cee_en_e4.pdf

“*San Francisco Declaration on Research Assessment*” – DORA (2013) <https://sfdora.org/>

UNESCO Recommendation on Open Science (2021) <https://unesdoc.unesco.org/ark:/48223/pf0000379949.locale=en>

G7 Research Compact (2021) <https://www.g7uk.org/wp-content/uploads/2021/07/G7-2021-Research-Compact-PDF-356KB-2-pages.pdf>

European Commission proposal COM(2021) 407 of 16 July 2021 for a Council Recommendation on a “*Pact for Research and Innovation in Europe*”

https://ec.europa.eu/info/sites/default/files/research_and_innovation/strategy_on_research_and_innovation/documents/ec_rtd_pact-for-research-and-innovation.pdf

Council conclusions (adopted on 17/05/2021) on “*the European Universities initiative - Bridging higher education, research, innovation and society: Paving the way for a new dimension in European higher education*” [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021XG0610\(02\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021XG0610(02)&from=EN)

Council conclusions (adopted on 28/05/2021) on “*Deepening the European Research Area: Providing researchers with attractive and sustainable careers and working conditions and making brain circulation a reality*” <https://data.consilium.europa.eu/doc/document/ST-9138-2021-INIT/en/pdf>

Hicks D, Wouters P, Waltman L, de Rijcke S, Rafols I (2015) “*Bibliometrics: The Leiden Manifesto for research metrics.*” Nature 520, 429 <https://doi.org/10.1038/520429a>

Wilsdon J et al. (2015) “*The Metric Tide: Report of the Independent Review of the Role of Metrics in Research Assessment and Management*” <https://doi.org/10.13140/RG.2.1.4929.1363>

Council conclusions (adopted on 27/05/2016) on “*The transition towards an Open Science system*” <https://data.consilium.europa.eu/doc/document/ST-9526-2016-INIT/en/pdf>

Revised edition by All European Academies – ALLEA (2017) of the “*European Code of Conduct for Research Integrity*”
<https://www.allea.org/wp-content/uploads/2017/05/ALLEA-European-Code-of-Conduct-for-Research-Integrity-2017.pdf>

European Commission working group report (2017) “*Evaluation of research careers fully acknowledging Open Science practices. Rewards, incentives and/or recognition for researchers practicing Open Science*” <https://doi.org/10.2777/75255>

European Commission working group report (2017) “*Providing researchers with the skills and competencies they need to practice Open Science*” <https://doi.org/10.2777/121253>

Advice paper of the League of European Research Universities - LERU (2018) “*Open Science and its role in Universities: A roadmap for cultural change*”
<https://www.leru.org/files/LERU-AP24-Open-Science-full-paper.pdf>

European Commission high-level advisory group report (2018) “*Open Science Policy Platform recommendations*” <https://doi.org/10.2777/958647>

European Commission Recommendation (EU) 2018/790 of 25 April 2018 on “*Access to and preservation of scientific information*”
<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32018H0790>

Opinion of ERAC Standing Working Group on Open Science and Innovation (SWG OSI) (2018) “*Recommendations on open science and innovation*”
<http://data.consilium.europa.eu/doc/document/ST-1216-2018-INIT/en/pdf>

Policy Support Facility – Mutual Learning Exercise (2018) on “*Open Science - Altmetrics and Rewards*”
<https://rio.jrc.ec.europa.eu/en/policy-support-facility/mle-open-science-altmetrics-and-rewards>

Moher D, et al (2019) “*Hong Kong principles for assessing researchers: Fostering research integrity*”. OSF Preprints. <https://doi.org/10.31219/osf.io/m9abx>

Report of the European University Association – EUA (2019) “*Research assessment in the transition to Open Science – 2019 EUA Open Science and Access Survey results*”
<https://eua.eu/downloads/publications/research%20assessment%20in%20the%20transition%20to%20open%20science.pdf>

Briefing of the European University Association – EUA (2019) “*Reflections on University Research Assessment: Key concepts, issues and actors*”
<https://eua.eu/resources/publications/825:reflections-on-university-research-assessment-key-concepts,-issues-and-actors.html>

Agreement of the Dutch public knowledge institutions and funders of research (2019) “*Room for everyone’s talent – towards a new balance in recognising and rewarding academics*”
https://www.scienceguide.nl/wp-content/uploads/2019/11/283.002-Erkennen-en-Waarderen-Position-Paper_EN_web.pdf

European Commission expert group report (2019) “*Indicator frameworks for fostering open knowledge practices in science and scholarship*” <https://doi.org/10.2777/445286>

European Commission high-level advisory group report (2020) “*Progress on open science: Towards a shared research knowledge system. Final report of the Open Science Policy Platform*”.
<https://doi.org/10.2777/00139>

Curry S, de Rijcke S, Hatch A, Pillay D, van der Weijden I and Wilsdon J (2020) “*The changing role of funders in responsible research assessment: progress, obstacles & the way ahead*”. RoRI Working Paper No. 3. <https://doi.org/10.6084/m9.figshare.13227914>

Revised version by the Magna Charta Observatory (2020) of the “*Magna Charta Universitatum*”. <http://www.magna-charta.org/magna-charta-universitatum/mcu-2020>

Position statement of Science Europe (2020) “*Recommendations on research assessment processes*”
<https://www.scienceeurope.org/media/3twjxim0/se-position-statement-research-assessment-processes.pdf>

Position paper of the Initiative for Science in Europe - ISE (2020) “*Position on precarity of academic careers*”
<https://initiative-se.eu/wp-content/uploads/2021/02/Research-Precarity-ISE-position.pdf>

European Commission Communication COM(2020) 628 of 30 September 2020 on “*A new European Research Area for Research and Innovation*”
<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0628&qid=1614808291158>

Council conclusions (adopted on 01/12/2020) on “*The New European Research Area*” <https://data.consilium.europa.eu/doc/document/ST-13567-2020-INIT/en/pdf>

De Herde V, Björnmalm M, Susi T (2021) “*Game over: empower early career researchers to improve research quality*”. Insights 34 (1): 15. <http://doi.org/10.1629/uksg.548>

Saenen B, Hatch A, Curry S, Proudman V, Lakoduk A (2021) “*Reimagining Academic Career Assessment: Stories of innovation and change*”. Case study report by DORA,
20

EUA, and SPARC Europe <https://eua.eu/resources/publications/952:reimagining-academic-career-assessment-stories-of-innovation-and-change.html>

Guidance document by the International Network of Research Management Societies - INORMS (2021) “*The SCOPE Framework: A five-stage process for evaluating research responsibly*” <https://inorms.net/wp-content/uploads/2021/08/scope-overview-2021.pdf>

Conference Report 2021 from the Global Research Council (GRC) Conference held in November 2020 on “*Responsible Research Assessment*” https://www.globalresearchcouncil.org/fileadmin/documents/GRC_Publications/GRC_RRA_Conference_Summary_Report.pdf

Guideline Paper from the joint ERAC Standing Working Groups Task Force on researchers’ training, incentives and evaluation in Open Science and Open Innovation - Triangle Task Force (2021) “*Research evaluation in a context of Open Science and gender equality*” <https://data.consilium.europa.eu/doc/document/ST-1201-2021-INIT/en/pdf>

Council Recommendation of 26/11/2021 on a “*Pact for Research and Innovation in Europe*”

Council conclusions (adopted on 26/11/2021) on “*the future governance of the European Research Area* (