STRATEGIC APPROACHES TO AND RESEARCH ASSESSMENT OF OPEN SCIENCE

SCIENCE EUROPE
Shaping the future of research

JAMES MORRIS
SCIENCE EUROPE

RETHINKING RESEARCH ASSESSMENT
INTERNATIONAL CONFERENCE

14 NOVEMBER 2024
BUCHAREST, ROMANIA

01 FWF Österreichischer Wissenschaftsfonds	02 ÖAW Österreichische Akademie der Wissenschaften	03 fnrs LA LIBERTÉ DE CHERCHER	04 fwo Research Foundation Flanders Opening new horizons
05 HrZZ Croatian Science Foundation	06 GAČR Czech Science Foundation	07 INDEPENDENT RESEARCH FUND DENMARK	08 Danmarks Grundforskningsfond Danish National Research Foundation
09 Estonian Research Council	10 Research Council of Finland	11 anr agence nationale de la recherche	12 DFG Deutsche Forschungsgemeinschaft German Research Foundation
13 HUN-REN Hungarian Research Network	14	15 rannís	16 HRB Health Research Board
17 IRISH RESEARCH COUNCIL An Chomhairle um Thaighde in Éirinn	18 Science Foundation Ireland For what's next	19 INFN Istituto Nazionale di Fisica Nucleare	20 Latvian Council of Science
21 Lietuvos mokslo taryba	22 FNR Luxembourg National Research Fund	23 NWO	24 Research Council of Norway
25 FNP Foundation for Polish Science	26 National Science Centre Poland	27 fct Fundação para a Ciência e a Tecnologia	28 uefiscdi
29 Science Fund of the Republic of Serbia	30 SLOVAK RESEARCH AND DEVELOPMENT AGENCY	31 aris Slovenian Research and Innovation Agency	32 Agencia Estatal de Investigación
33 CSIC	34 iSc Instituto de Salud Carlos III	35 FORTE Swedish Research Council for Health, Working Life and Welfare	36 FORMAS
37 Vetenskapsrådet	38 Swiss National Science Foundation	39 NATIONAL RESEARCH FOUNDATION OF UKRAINE	40 UKRI UK Research and Innovation

RESEARCH FUNDING ORGANISATION

RESEARCH PERFORMING ORGANISATION

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37 Vetenskapsrådet
38 Swiss National Science Foundation
39 NATIONAL RESEARCH FOUNDATION OF UKRAINE
40 UKRI UK Research and Innovation

RESEARCH FUNDING ORGANISATION
RESEARCH PERFORMING ORGANISATION

29
countries
With members from 29 EU and non-EU countries and from all parts of Europe, we speak with a truly European voice.

40
member organisations
Bringing together research funding and research performing organisations.

25.1
bn €
spent on research per year by our members
Our members make a significant contribution to European scientific research and are crucial stakeholders in European science and research policy making.

SCIENCE EUROPE
Shaping the future of research

STRATEGIC PRIORITIES

SHAPE EUROPEAN RESEARCH POLICY DEVELOPMENTS

CONTRIBUTE TO THE EVOLUTION OF RESEARCH CULTURE

STRENGTHEN THE ROLE AND CONTRIBUTION OF SCIENCE IN TACKLING SOCIETAL CHALLENGES

SCIENCE EUROPE
Shaping the future of research

THE EVOLUTION OF RESEARCH CULTURES

Ensuring that values at the heart of our research systems are reflected in policies and practices.

AUTONOMY/
FREEDOM

OPENNESS AND
TRANSPARENCY

CARE AND
COLLEGIALITY

The research
process, activities,
outputs and
outcomes

Research
management and
governance

INTEGRITY
AND ETHICS

COLLABORATION

EQUALITY,
DIVERSITY AND
INCLUSION

THE EVOLUTION OF RESEARCH CULTURES

Research and Innovation Careers Observatory

Bringing research policy topics together to promote healthy and effective research cultures.

https://scieur.org/values-frame

Careers in research

Research assessment reform

AUTONOMY/ FREEDOM

OPENNESS AND TRANSPARENCY

CARE AND COLLEGIALITY

The research process, activities, outputs and outcomes

Research management and governance

INTEGRITY AND ETHICS

COLLABORATION

EQUALITY, DIVERSITY AND INCLUSION

Team Science

Open science

CoARA

DIAMOND OPEN ACCESS

SCIENCE EUROPE
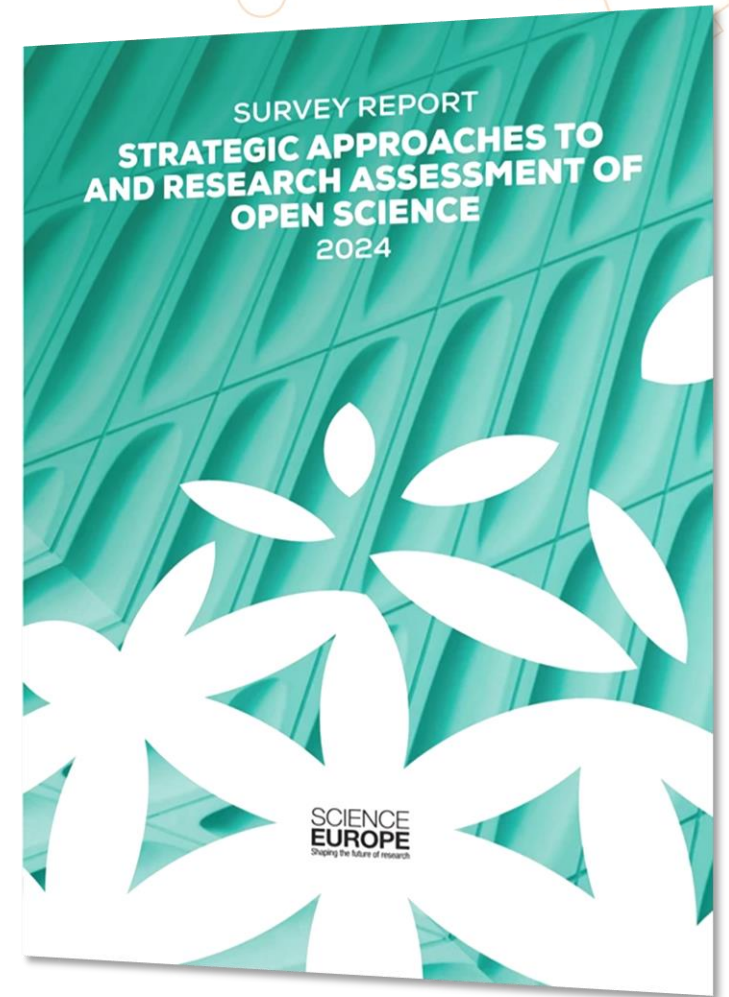Shaping the future of research

THE EVOLUTION OF RESEARCH CULTURES

All in support of the quality and impact of research.

SCIENCE EUROPE SURVEY

A descriptive analysis of the role that public research funding and performing organisations in Europe play in the shifting landscape of open science and research assessment reform.

SURVEY REPORT
STRATEGIC APPROACHES TO AND RESEARCH ASSESSMENT OF OPEN SCIENCE
2024

SCIENCE EUROPE
Shaping the future of research

https://scieur.org/ra-os-survey

SNAPSHOT OF RESULTS

- Survey sent to all 40 Science Europe Member Organisations on **31 March 2024** and closed on **10 June 2024**.

- **36 of 40 organisations** responded in full. Response rate well-balanced according to organisation type (in proportion to Science Europe membership), geographic location, and organisation size.

- Survey designed for both Research Funding Organisations and Research Performing Organisations.

Which of the following best describes your organisation?
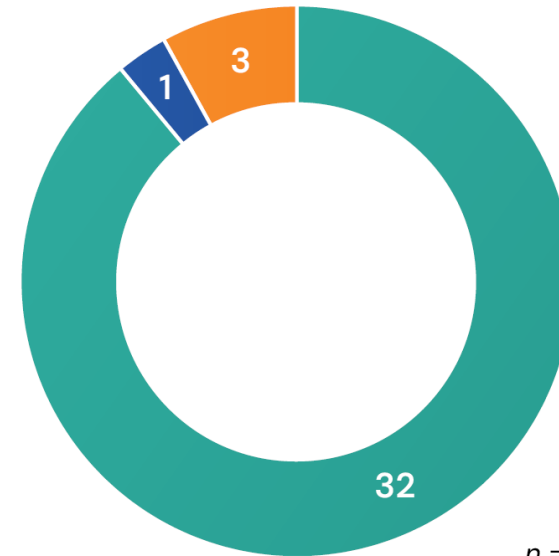
1

3

32

n = 36

- ■ A research funding organisation (RFO)
- ■ A research performing organisation (RPO)
- ■ A research funding and performing organisation (RFO+RPO)

Strategic Approaches

Strategic Approaches to and Research Assessment of Open Science

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Does your organisation follow a documented strategic approach on open science or any of its elements?

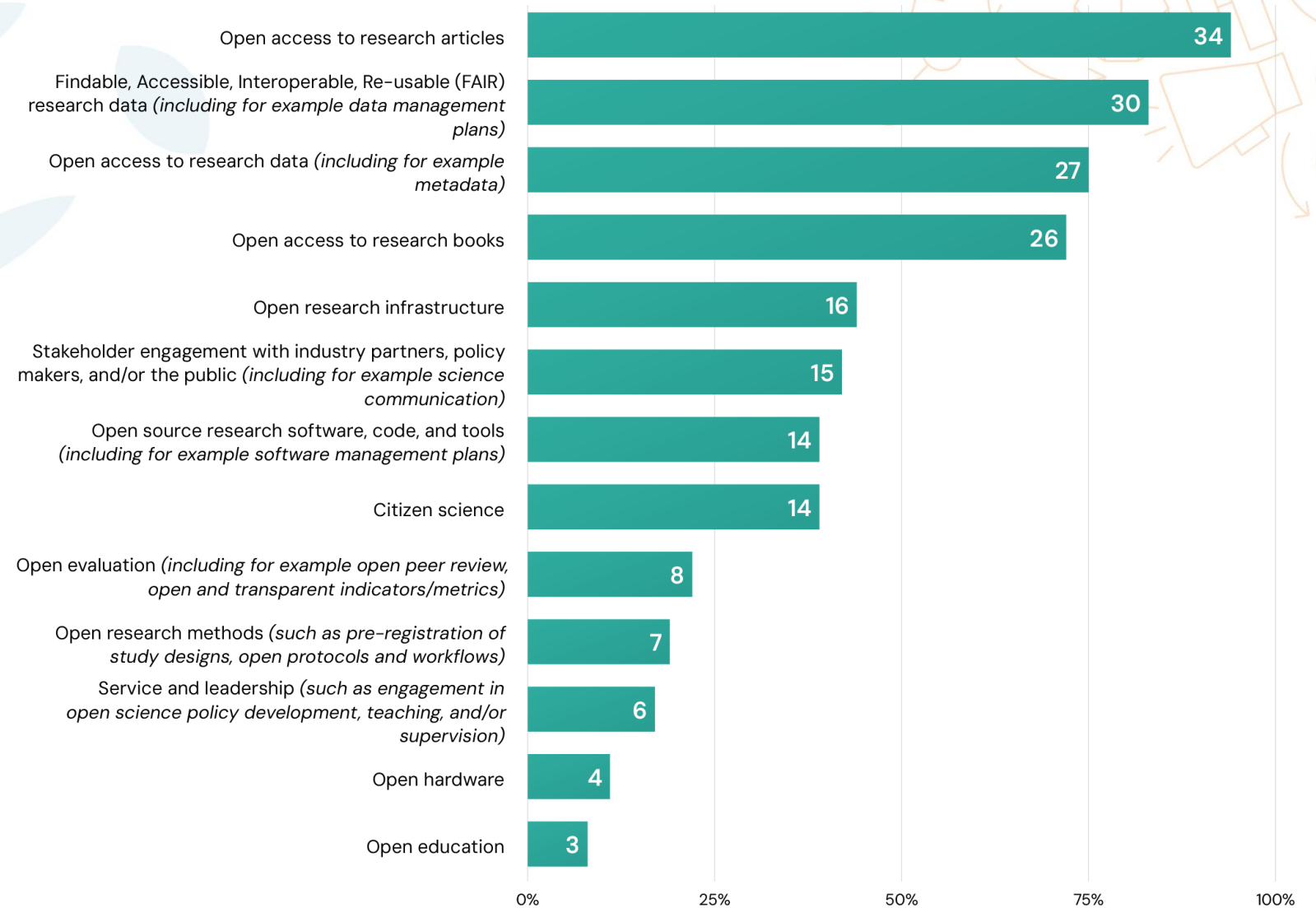|	
Yes, my organisation has an open science policy (or policies on one or more elements of open science)	26
Yes, my organisation follows a national or regional open science policy (or policies on one or more elements of open science)	25
Yes, open science is part of my organisation's mission, strategy, or vision documents	22
Yes, my organisation follows an international policy	17
No, but we plan to in the future	1
No, and we currently do not have plans to	—

n = 36

https://scieur.org/ra-os-survey

Which elements of open science are part of the documented strategic approach followed by your organisation?

Element	Value
Open access to research articles	34
Findable, Accessible, Interoperable, Re-usable (FAIR) research data *(including for example data management plans)*	30
Open access to research data *(including for example metadata)*	27
Open access to research books	26
Open research infrastructure	16
Stakeholder engagement with industry partners, policy makers, and/or the public *(including for example science communication)*	15
Open source research software, code, and tools *(including for example software management plans)*	14
Citizen science	14
Open evaluation *(including for example open peer review, open and transparent indicators/metrics)*	8
Open research methods *(such as pre-registration of study designs, open protocols and workflows)*	7
Service and leadership *(such as engagement in open science policy development, teaching, and/or supervision)*	6
Open hardware	4
Open education	3

n = 36

https://scieur.org/ra-os-survey

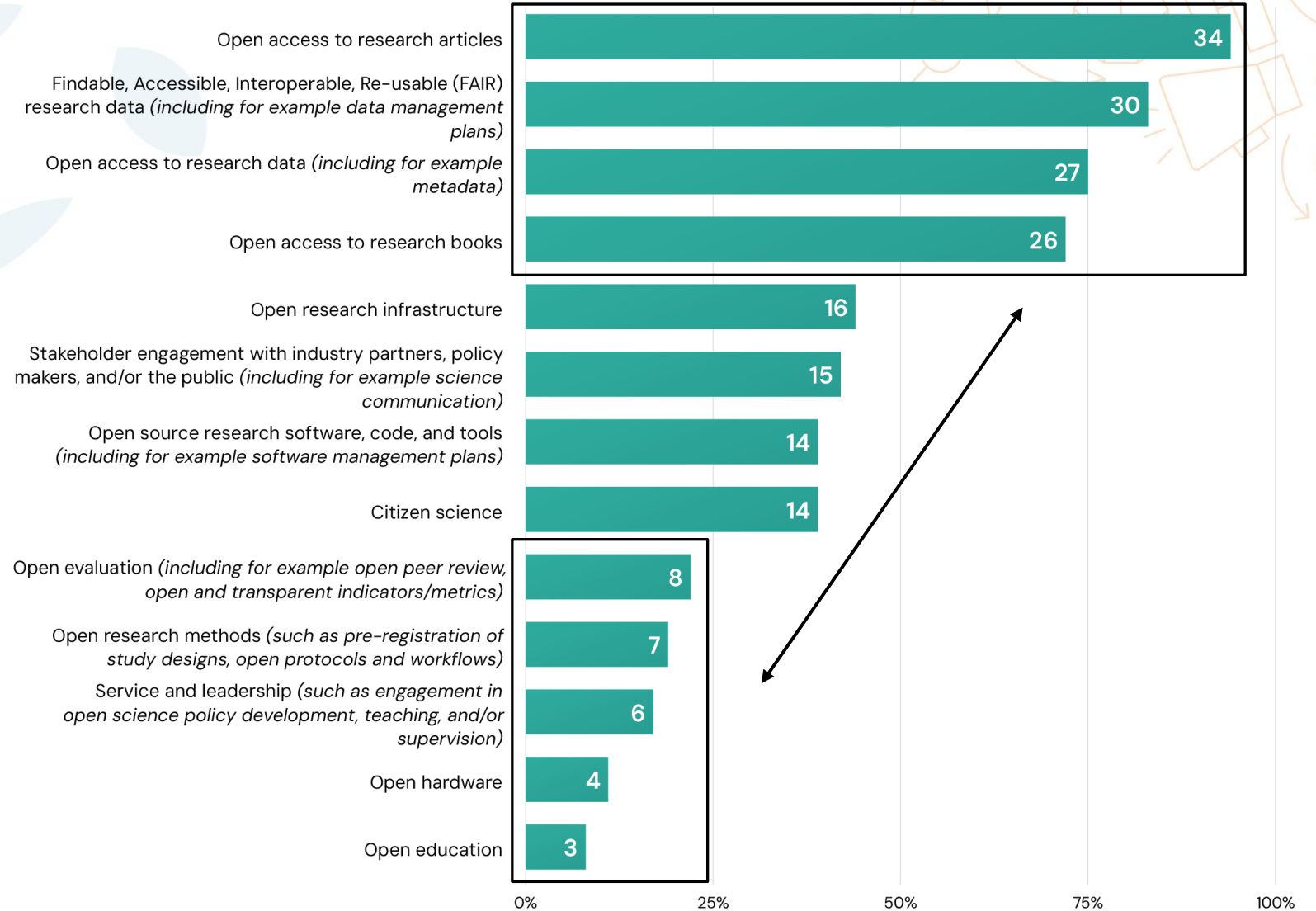**Which elements of open science are part of the documented strategic approach followed by your organisation?**

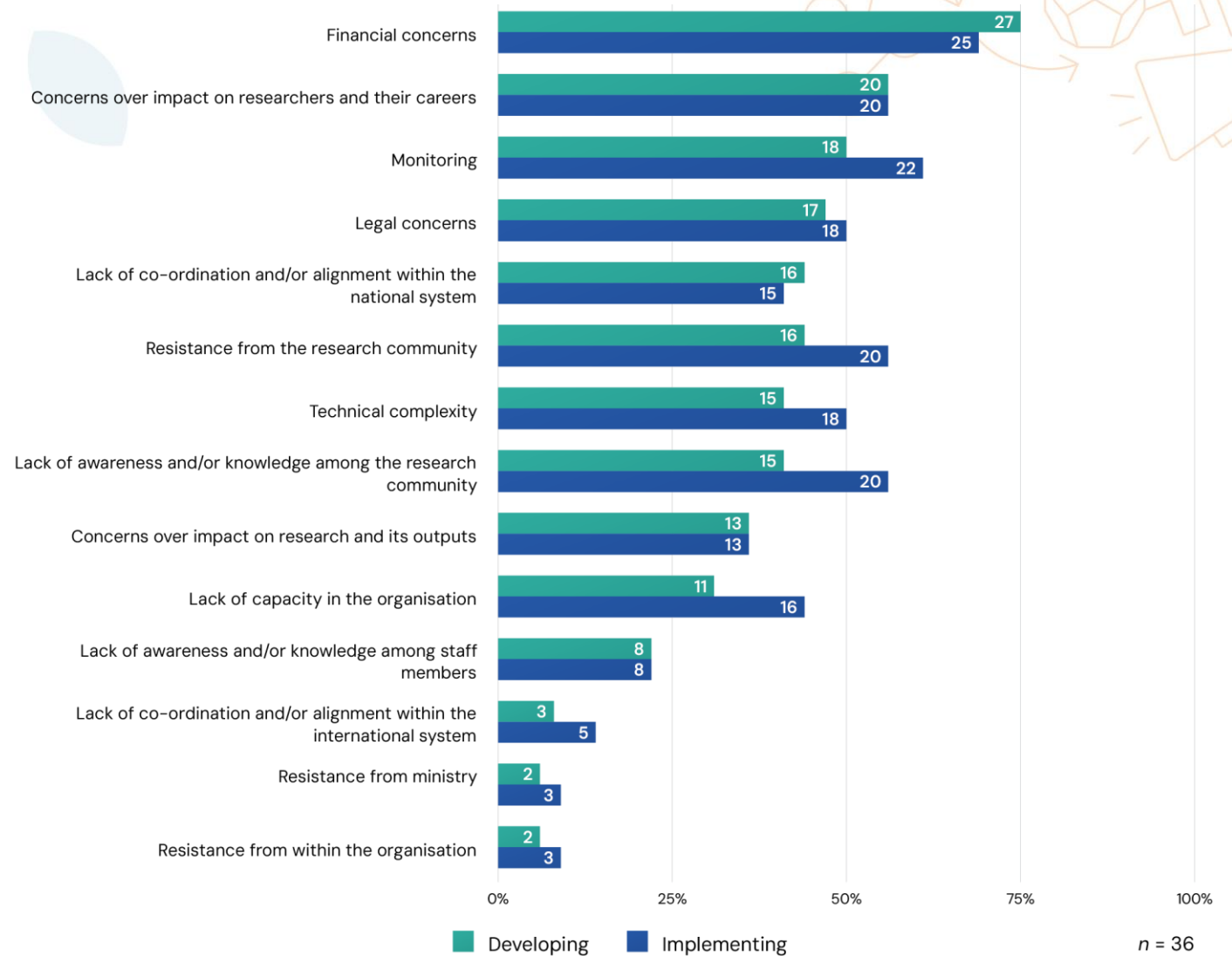| Element	Value
Open access to research articles	34
Findable, Accessible, Interoperable, Re-usable (FAIR) research data *(including for example data management plans)*	30
Open access to research data *(including for example metadata)*	27
Open access to research books	26
Open research infrastructure	16
Stakeholder engagement with industry partners, policy makers, and/or the public *(including for example science communication)*	15
Open source research software, code, and tools *(including for example software management plans)*	14
Citizen science	14
Open evaluation *(including for example open peer review, open and transparent indicators/metrics)*	8
Open research methods *(such as pre-registration of study designs, open protocols and workflows)*	7
Service and leadership *(such as engagement in open science policy development, teaching, and/or supervision)*	6
Open hardware	4
Open education	3

n = 36

https://scieur.org/ra-os-survey

According to its documented strategic approach, does your organisation express open science to be beneficial for the following values?

Quality and Integrity — 27 / 4
Collective benefit — 26 / 4
Equity and fairness — 17 / 4
Diversity and inclusiveness — 13 / 4
My organisation does not express this — 4

0%   25%   50%   75%   100%

■ Not applicable

n = 36

https://scieur.org/ra-os-survey
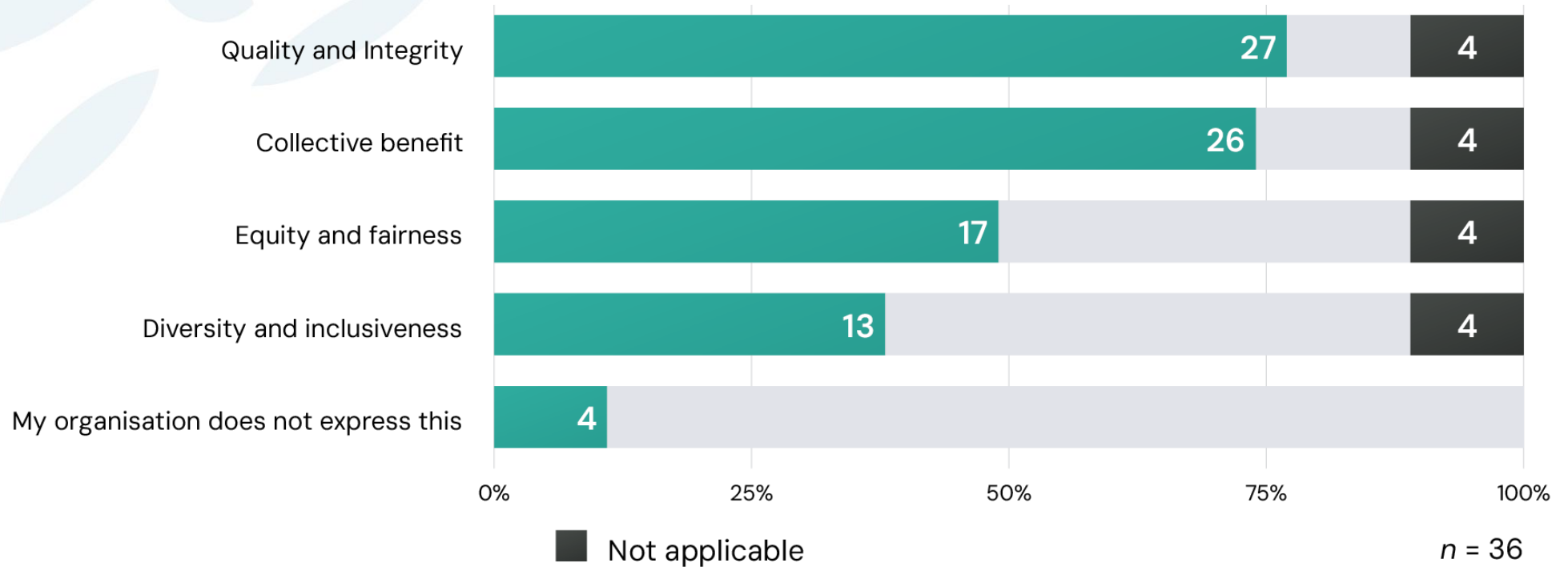
What and/or who are the primary drivers for your organisation's strategic approach to open science?

Your own organisation — 30

Your national ministry/national policy or policies — 26

International organisations
(including for example UN agencies, EU institutions) — 22

The research community — 16

Good practices and guidance by other organisations in other countries — 16

Good practices and guidance by other organisations in your country — 10

Requirements by funding bodies or other organisations in your country — 1 | 31

0%   25%   50%   75%   100%

■ Not applicable

n = 35

15

What are the main challenges your organisation faces when developing and implementing a strategic approach to Open Science?

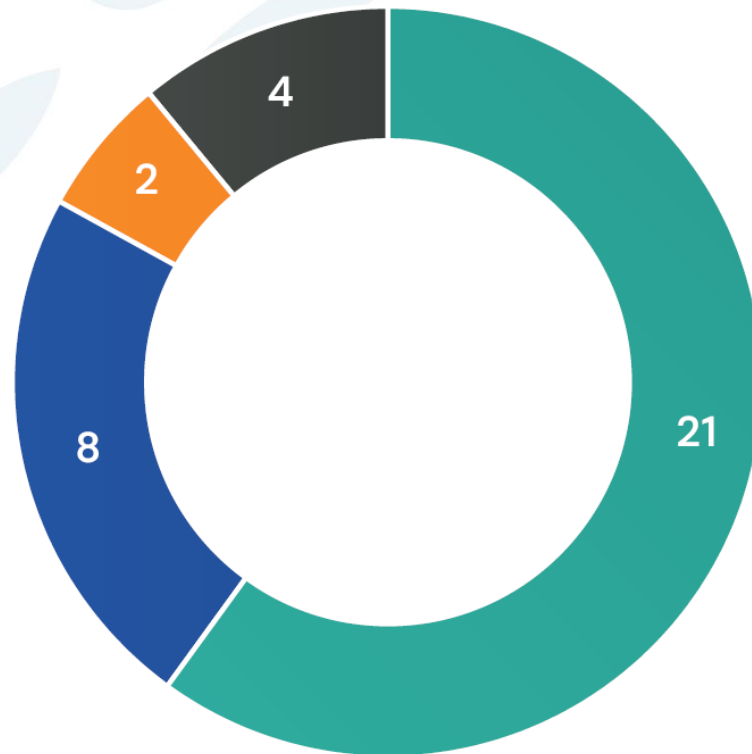Chart showing challenges, with Developing (green) and Implementing (blue) values, n = 36:

Challenge	Developing	Implementing
Financial concerns	27	25
Concerns over impact on researchers and their careers	20	20
Monitoring	18	22
Legal concerns	17	18
Lack of co-ordination and/or alignment within the national system	16	15
Resistance from the research community	16	20
Technical complexity	15	18
Lack of awareness and/or knowledge among the research community	15	20
Concerns over impact on research and its outputs	13	13
Lack of capacity in the organisation	11	16
Lack of awareness and/or knowledge among staff members	8	8
Lack of co-ordination and/or alignment within the international system	3	5
Resistance from ministry	2	3
Resistance from within the organisation	2	3

Developing ▪ Implementing ▪ *n* = 36

https://scieur.org/ra-os-survey

Research Assessment

Strategic Approaches to and Research Assessment of Open Science
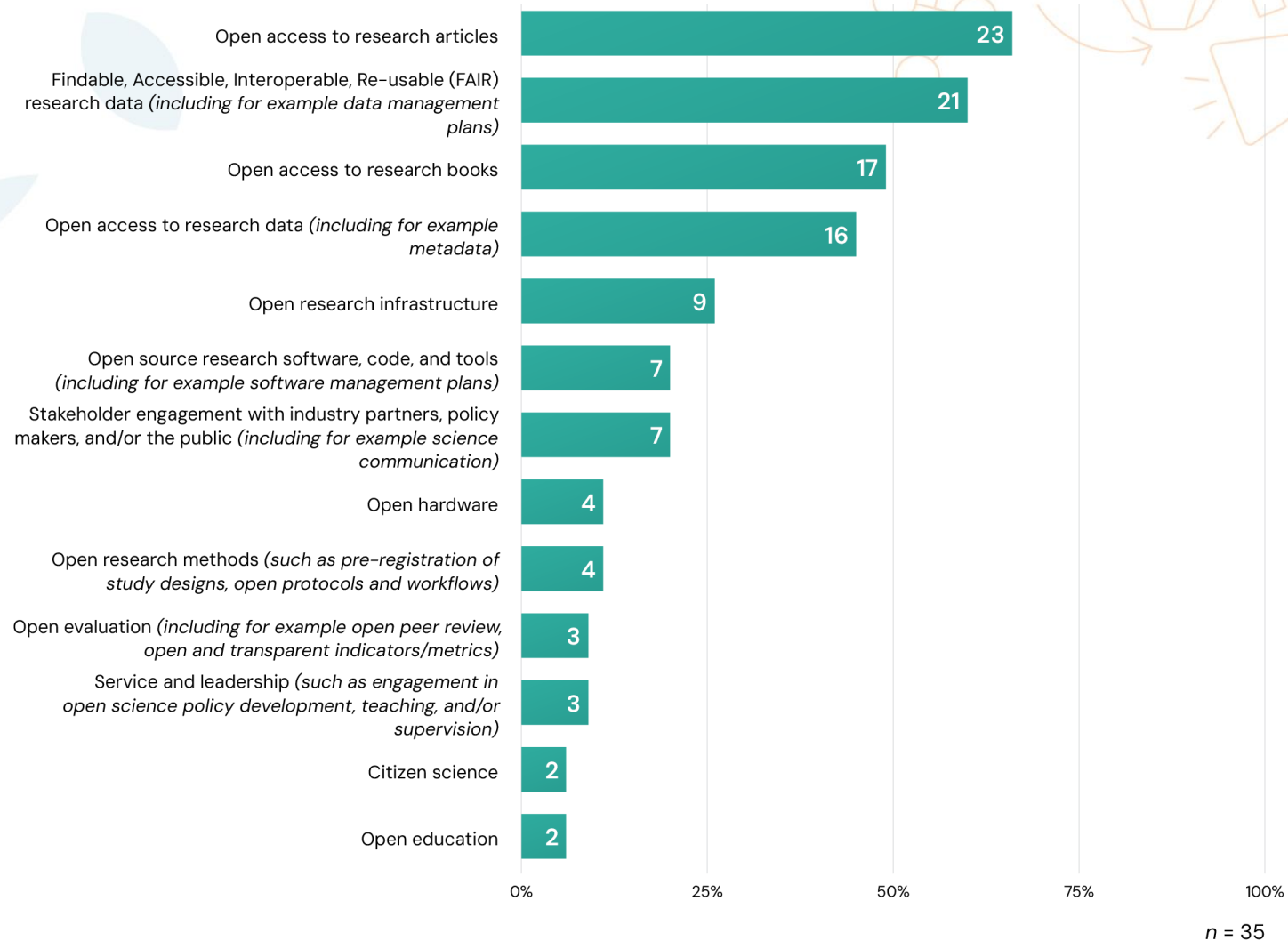
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EUROPE
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Does your organisation currently include Open Science or any of its elements as part of its funding requirements for funded projects?
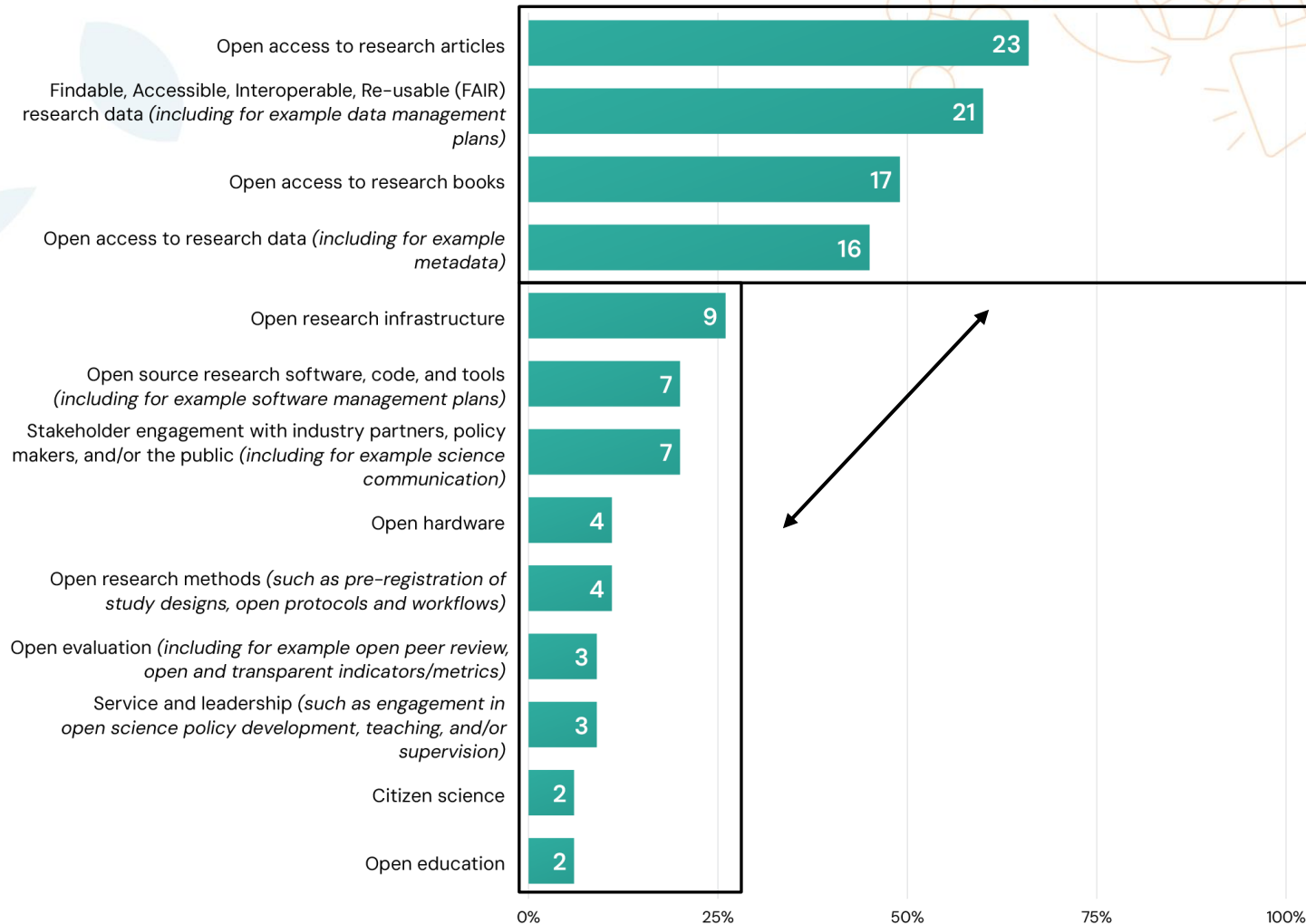

- Yes, for all funding programmes
- Yes, for some funding programmes
- No, but we plan to add this in the future
- No, and we currently do not have plans to do so
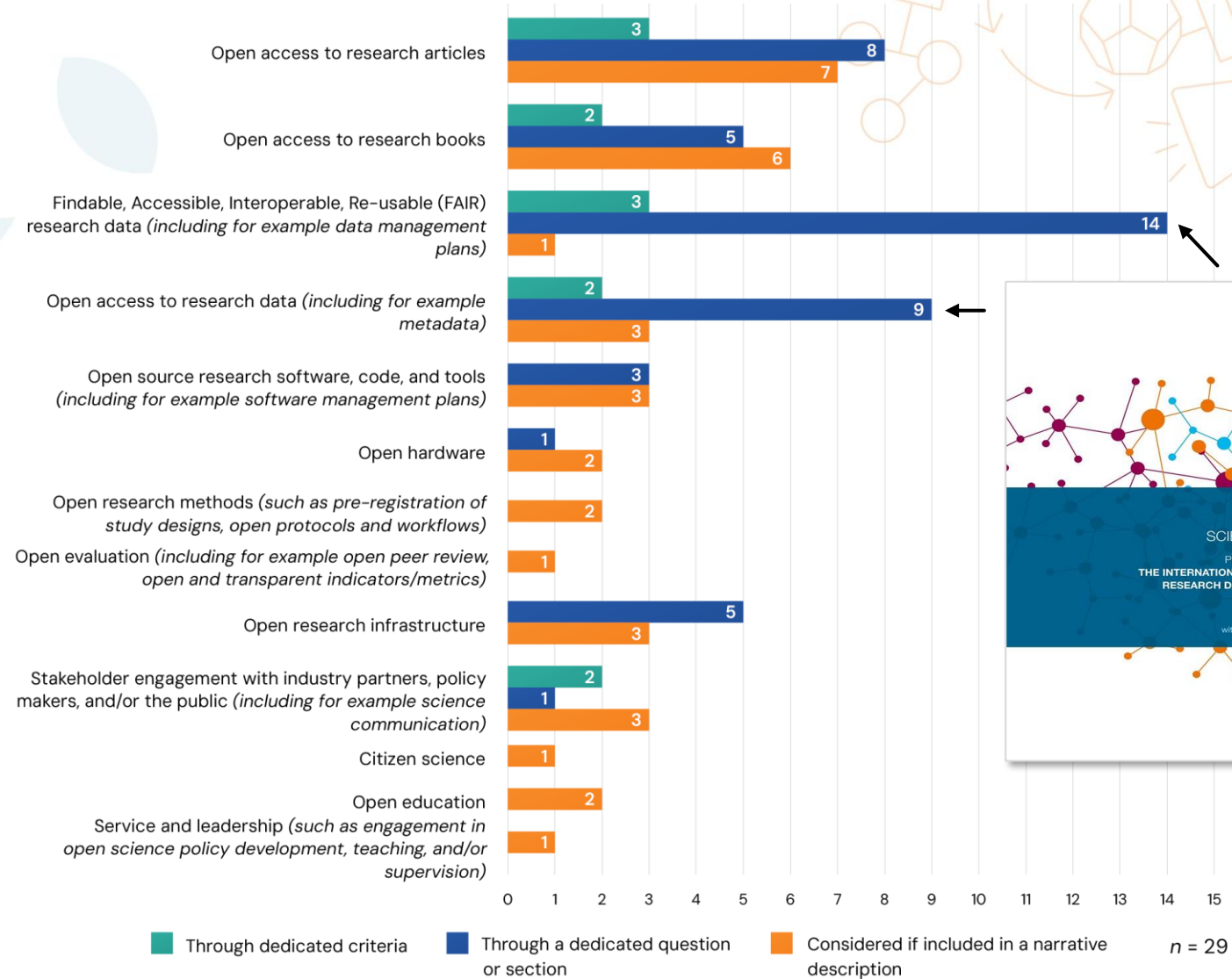
n = 35

https://scieur.org/ra-os-survey

Which of the following elements of open science does your organisation include as part of its funding requirements for funded projects?

Element	Value
Open access to research articles	23
Findable, Accessible, Interoperable, Re-usable (FAIR) research data (including for example data management plans)	21
Open access to research books	17
Open access to research data (including for example metadata)	16
Open research infrastructure	9
Open source research software, code, and tools (including for example software management plans)	7
Stakeholder engagement with industry partners, policy makers, and/or the public (including for example science communication)	7
Open hardware	4
Open research methods (such as pre-registration of study designs, open protocols and workflows)	4
Open evaluation (including for example open peer review, open and transparent indicators/metrics)	3
Service and leadership (such as engagement in open science policy development, teaching, and/or supervision)	3
Citizen science	2
Open education	2

n = 35

https://scieur.org/ra-os-survey

Which of the following elements of open science does your organisation include as part of its funding requirements for funded projects?

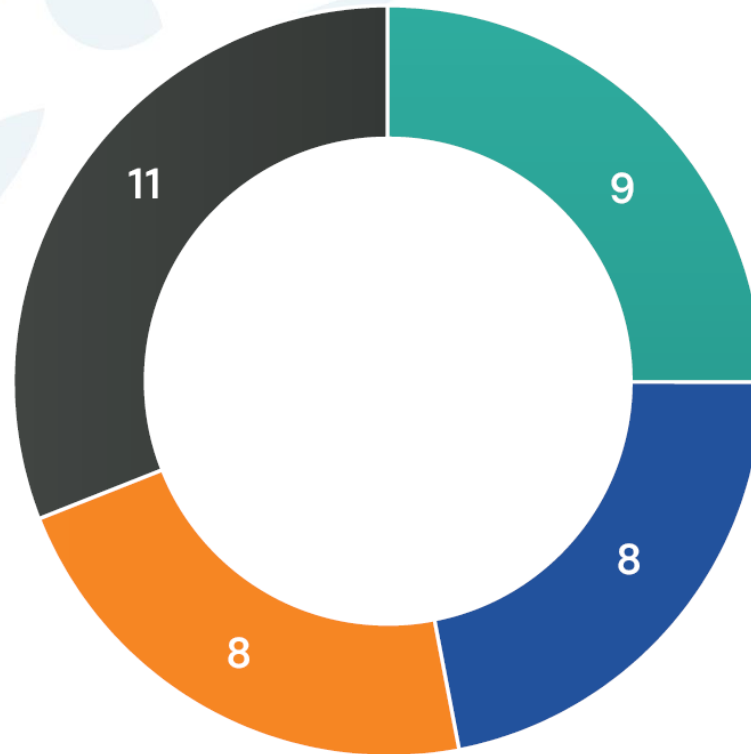| Element	Value
Open access to research articles	23
Findable, Accessible, Interoperable, Re-usable (FAIR) research data *(including for example data management plans)*	21
Open access to research books	17
Open access to research data *(including for example metadata)*	16
Open research infrastructure	9
Open source research software, code, and tools *(including for example software management plans)*	7
Stakeholder engagement with industry partners, policy makers, and/or the public *(including for example science communication)*	7
Open hardware	4
Open research methods *(such as pre-registration of study designs, open protocols and workflows)*	4
Open evaluation *(including for example open peer review, open and transparent indicators/metrics)*	3
Service and leadership *(such as engagement in open science policy development, teaching, and/or supervision)*	3
Citizen science	2
Open education	2

n = 35

https://scieur.org/ra-os-survey

For elements of Open Science included as part of funding requirements for funded projects, what is the main way in which information is collected at application stage?
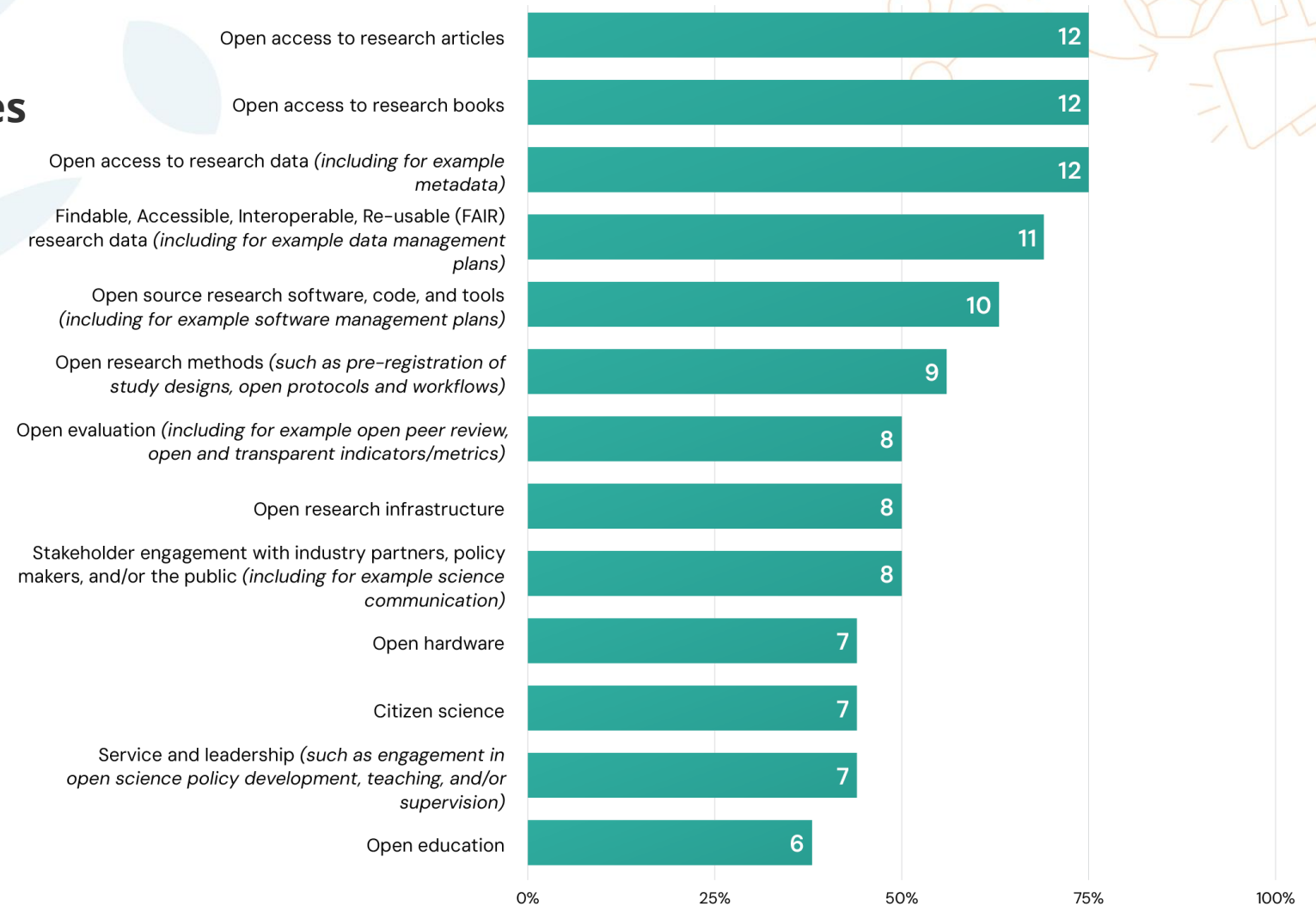

Open access to research articles — Through dedicated criteria: 3, Through a dedicated question or section: 8, Considered if included in a narrative description: 7

Open access to research books — Through dedicated criteria: 2, Through a dedicated question or section: 5, Considered if included in a narrative description: 6

Findable, Accessible, Interoperable, Re-usable (FAIR) research data (including for example data management plans) — Through dedicated criteria: 3, Through a dedicated question or section: 14, Considered if included in a narrative description: 1

Open access to research data (including for example metadata) — Through dedicated criteria: 2, Through a dedicated question or section: 9, Considered if included in a narrative description: 3

Open source research software, code, and tools (including for example software management plans) — Through a dedicated question or section: 3, Considered if included in a narrative description: 3

Open hardware — Through a dedicated question or section: 1, Considered if included in a narrative description: 2

Open research methods (such as pre-registration of study designs, open protocols and workflows) — Considered if included in a narrative description: 2

Open evaluation (including for example open peer review, open and transparent indicators/metrics) — Considered if included in a narrative description: 1

Open research infrastructure — Through a dedicated question or section: 5, Considered if included in a narrative description: 3

Stakeholder engagement with industry partners, policy makers, and/or the public (including for example science communication) — Through dedicated criteria: 2, Through a dedicated question or section: 1, Considered if included in a narrative description: 3

Citizen science — Considered if included in a narrative description: 1

Open education — Considered if included in a narrative description: 2

Service and leadership (such as engagement in open science policy development, teaching, and/or supervision) — Considered if included in a narrative description: 1

Legend:
- Through dedicated criteria
- Through a dedicated question or section
- Considered if included in a narrative description

n = 29

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PRACTICAL GUIDE TO THE INTERNATIONAL ALIGNMENT OF RESEARCH DATA MANAGEMENT
Extended Edition with DMP Evaluation Rubric

https://scieur.org/ra-os-survey

21

Does your organisation currently recognise elements of Open Science in its researcher recognition processes?

Yes, for all funding programmes or career progression exercises

Yes, for some funding programmes or career progression exercises

No, but we plan to add this in the future
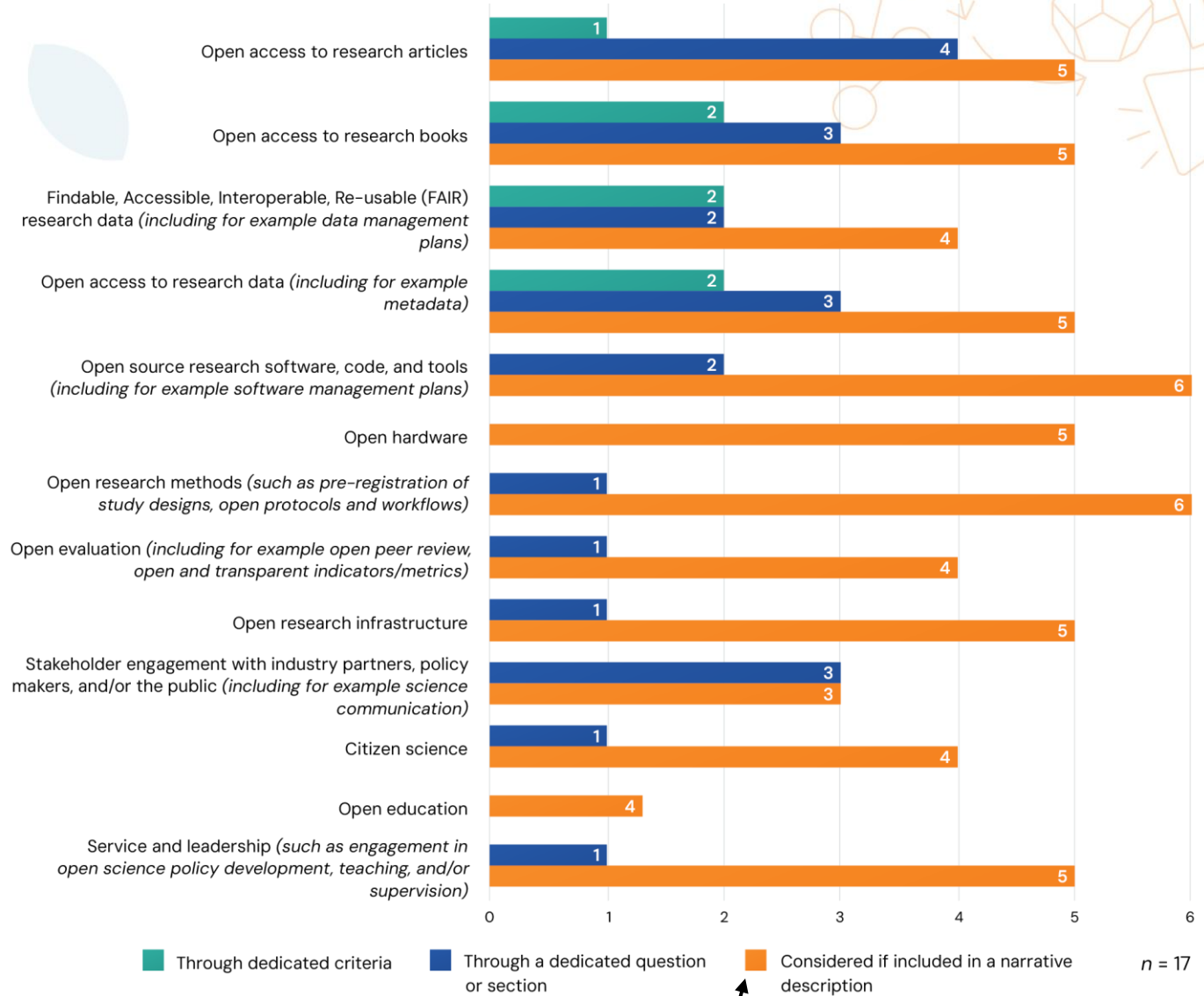
No, and we currently do not have plans to do so

n = 35

https://scieur.org/ra-os-survey

Which of the following elements of Open Science does your organisation recognise in its process(es) for researcher recognition?

Open access to research articles — 12
Open access to research books — 12
Open access to research data (*including for example metadata*) — 12
Findable, Accessible, Interoperable, Re-usable (FAIR) research data (*including for example data management plans*) — 11
Open source research software, code, and tools (*including for example software management plans*) — 10
Open research methods (*such as pre-registration of study designs, open protocols and workflows*) — 9
Open evaluation (*including for example open peer review, open and transparent indicators/metrics*) — 8
Open research infrastructure — 8
Stakeholder engagement with industry partners, policy makers, and/or the public (*including for example science communication*) — 8
Open hardware — 7
Citizen science — 7
Service and leadership (*such as engagement in open science policy development, teaching, and/or supervision*) — 7
Open education — 6

0% 25% 50% 75% 100%

n = 16

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23

For elements of Open Science recognised in process(es) for researcher recognition, what is the main way in which information is collected?

Open access to research articles: Through dedicated criteria 1, Through a dedicated question or section 4, Considered if included in a narrative description 5

Open access to research books: Through dedicated criteria 2, Through a dedicated question or section 3, Considered if included in a narrative description 5

Findable, Accessible, Interoperable, Re-usable (FAIR) research data (including for example data management plans): Through dedicated criteria 2, Through a dedicated question or section 2, Considered if included in a narrative description 4

Open access to research data (including for example metadata): Through dedicated criteria 2, Through a dedicated question or section 3, Considered if included in a narrative description 5

Open source research software, code, and tools (including for example software management plans): Through a dedicated question or section 2, Considered if included in a narrative description 6

Open hardware: Considered if included in a narrative description 5

Open research methods (such as pre-registration of study designs, open protocols and workflows): Through a dedicated question or section 1, Considered if included in a narrative description 6

Open evaluation (including for example open peer review, open and transparent indicators/metrics): Through a dedicated question or section 1, Considered if included in a narrative description 4

Open research infrastructure: Through a dedicated question or section 1, Considered if included in a narrative description 5

Stakeholder engagement with industry partners, policy makers, and/or the public (including for example science communication): Through a dedicated question or section 3, Considered if included in a narrative description 3

Citizen science: Through a dedicated question or section 1, Considered if included in a narrative description 4

Open education: Considered if included in a narrative description 4

Service and leadership (such as engagement in open science policy development, teaching, and/or supervision): Through a dedicated question or section 1, Considered if included in a narrative description 5

Legend: Through dedicated criteria / Through a dedicated question or section / Considered if included in a narrative description

$n = 17$

24

Open Science Monitoring

Strategic Approaches to and Research Assessment of Open Science

Does your organisation have an open science monitoring mechanism in place for research outputs emanating from its funding and/or research outputs produced by affiliated researchers?
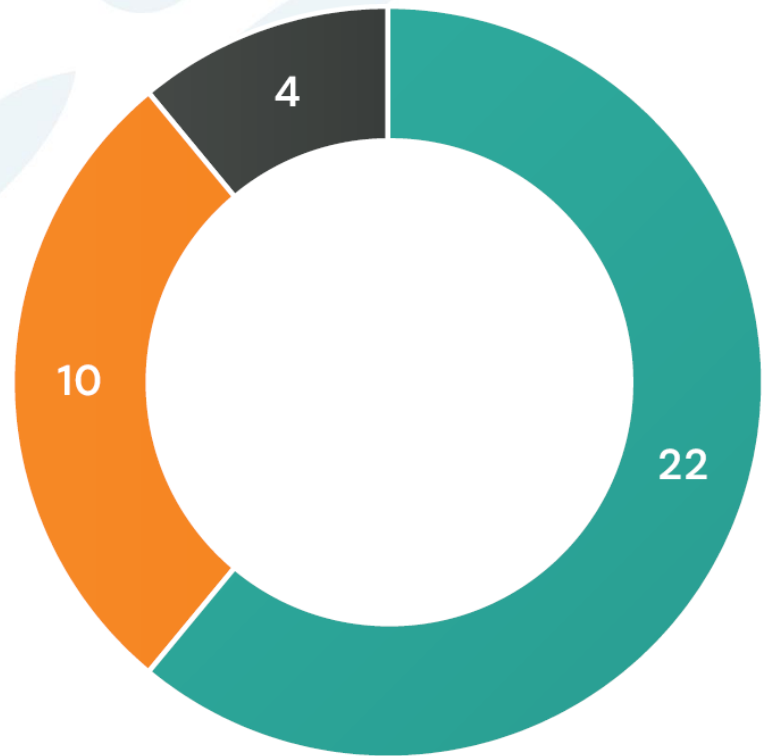
Yes

No, but we plan to develop one in the future

No, and we do not have plans to develop one

n = 36

https://scieur.org/ra-os-survey

Does your organisation make openly available the research information it produces?
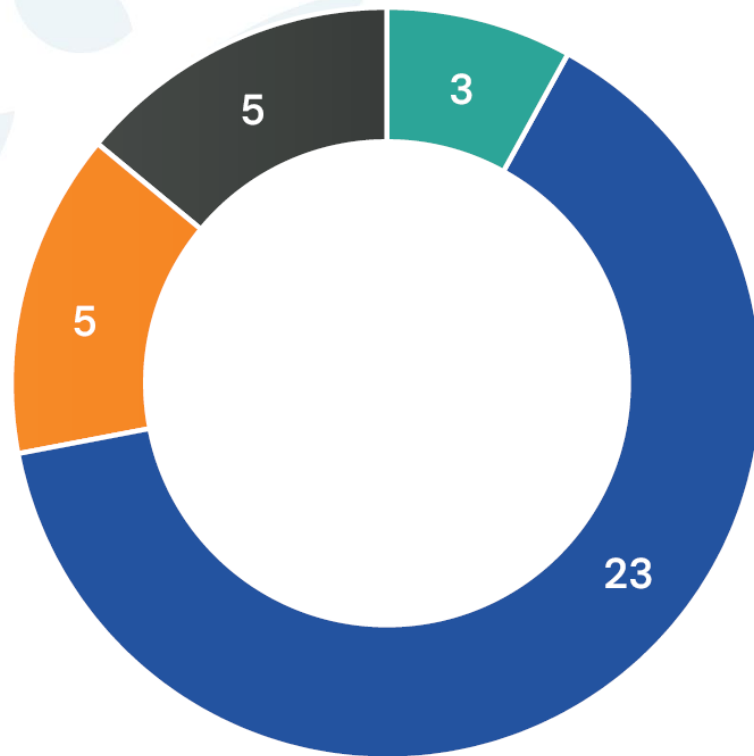
- Yes, all research information
- Yes, some research information
- No, but we plan to do so in the future
- No, and we do not have plans to do so

n = 36

https://scieur.org/ra-os-survey

Next steps

Strategic Approaches to and Research Assessment of Open Science

THE WIDER PROJECT

To develop a more comprehensive understanding of the roles played by research funding and performing organisations in advancing open science, and its links to research assessment and research cultures:

- A series of **member workshops** will delve deeper into the survey results, allowing for a more detailed exploration of the nuanced and complex aspects of the findings. The workshops will take place in the first half of 2025.

- A **tender for information** will be launched shortly. It will aim to further develop the survey results by mapping the broader academic research landscape and linking it to the survey outcomes, focussing on the intersection between open science and research culture evolution. A report will be published in October 2025.

Annex
Survey on Approaches to, and Research Assessment of, Open Science

Introduction

Science Europe is organising a membership survey on the strategic approaches to, and implementation of open science by its Member Organisations. This initiative will provide a clear and comprehensive insight into the strategies and policies for open science, as well as research assessment, monitoring, and evidence gathering of open science. The results will be invaluable for public research funding and performing organisations in Europe and beyond, while also highlighting to other actors their role in fostering an open research culture.

The results of the survey will be invaluable to public research funding and performing organisations, who can use it as a tool to share experiences, compare practices internationally, and further refine their individual and collective approaches. They will also offer unique information for discussions at the policy level in Europe (and beyond), notably in CoARA and the research culture and Open Science communities. Finally, they will also highlight to other actors their role in fostering an open research culture.

Open science (also referred to as open research) is defined as the comprehensive ambition to make research knowledge openly available, accessible, and reusable for everyone. For the purposes of this survey, this means that open science includes, but is not limited to a wide range of policies and research practices like open access to research outputs (publications, data, software, ...), open research methods, open evaluation, engagement with society, citizen science, open education, and so on.

The survey questions are designed to be relevant to both research funding and performing member organisations of Science Europe, splitting where necessary the survey according to organisation type.

General Information

* Your name

* First name

* Last name

* What is your job title?

* What is your email address?

* Which Science Europe Member Organisation do you represent?

* Which of the following best describes your organisation?

  ☐ A research funding organisation (RFO)
  ☐ A research performing organisation (RPO)
  ☐ A research funding and performing organisation (RFO+RPO)

Strategic Approaches to Open Science

How is open science approached strategically by your organisation? This first part of the survey asks about documented strategic approaches on open science (or any of its elements) and explores the underlying values, goals, drivers, and challenges of those approaches.

* **Does your organisation follow a documented strategic approach on open science or any of its elements?**

  In the next question you will be able to further specify the elements of open science that are included in this approach.

  ☐ Yes, open science is part of my organisation's mission, strategy, or vision documents
  ☐ Yes, my organisation has an open science policy (or policies on one or more elements of open science)
  ☐ Yes, my organisation follows a national or regional open science policy (or policies on one or more elements of open science)
  ☐ Yes, my organisation follows an international policy
  ☐ No, but we plan to in the future
  ☐ No, and we currently do not have plans to
  ☐ Other: _____

* [IF RELEVANT] **You indicated that open science is part of your organisation's mission, strategy or vision documents. Please provide any clarifications, additional comments, or links to relevant documents related to this answer.**

  _____

* [IF RELEVANT] **You indicated that your organisation has one or more policies on open science. Please provide any clarifications, additional comments, or links to relevant documents related to this answer.**

  _____

* [IF RELEVANT] **You indicated that your organisation follows a national or regional policy on open science. Please provide any clarifications, additional comments, or links to relevant documents related to this answer.**

  _____

* [IF RELEVANT] **You indicated that your organisation follows an international policy on open science. Please provide any clarifications, additional comments, or links to relevant documents related to this answer.**

  _____

* [IF RELEVANT] **Which elements of open science are part of the documented strategic approach followed by your organisation?**

  ☐ Open access to research articles
  ☐ Open access to research books
  ☐ Findable, Accessible, Interoperable, Re-usable (FAIR) research data (including for example data management plans)
  ☐ Open access to research data (including for example metadata)
  ☐ Open source research software, code, and tools (including for example software management plans)
  ☐ Open hardware
  ☐ Open research methods (such as pre-registration of study designs, open protocols and workflows)

Thank you for your attention

Science Europe
Strategic Approaches to and Research Assessment of Open Science

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Bregt.Saenen@ScienceEurope.org