Open sharing of knowledge and re-use of research outputs

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Open Science for higher quality, more efficient and impactful research – Opportunities for Regions and Cities

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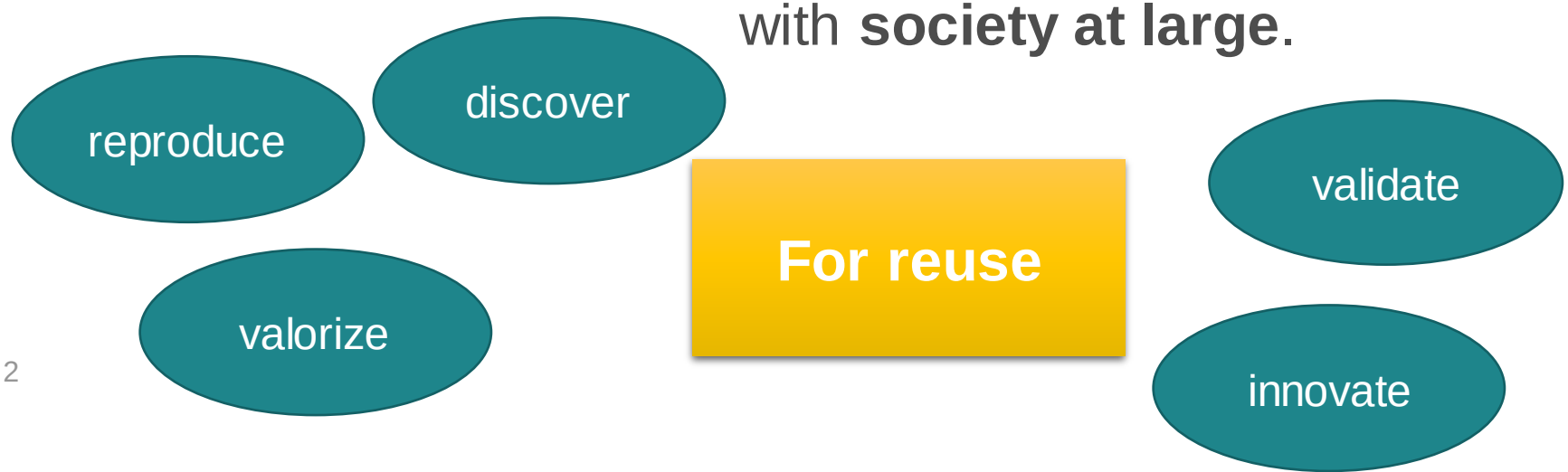
Open sharing and reuse at the centre of open science

Open sharing

Open Science understood as **sharing knowledge and tools as early as possible**, not only **between researchers** and **between disciplines**, but also with **society at large**.



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Pressing need for ability to reuse data and other outputs

- **Computational power** and **data-driven research** result in the production of **vast amounts of data and other research outputs** (beyond publications), the production of which is often **laborious and expensive to repeat;** also necessary for **reproducibility and validation** of research

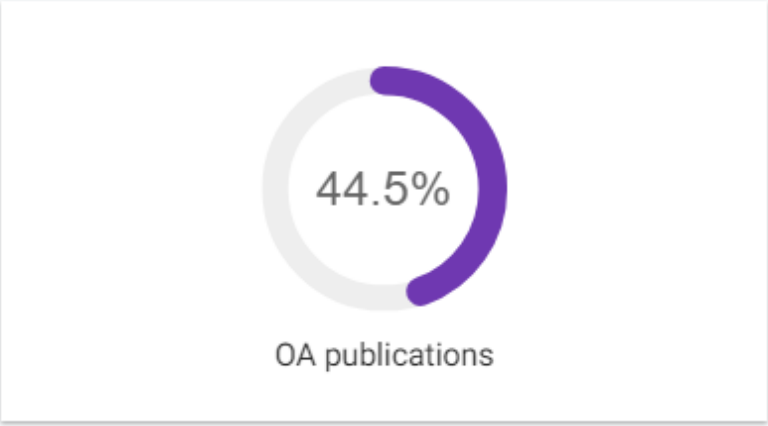
And at the same time

- **Computational power** and **data-driven research** along with the digitisation of services and IoT enable the processing of large amounts of often disparate information that enables addressing new/different research questions and societal challenges

Enabling open sharing and reuse

- Making research outputs reusable does not mean simply openly uploading outputs on the web
- It requires:
  - **Qualified online infrastructures-** they meet technical and organisational standards accepted by respective communities and secure long-term viability of outputs
  - **Specific technical standards-** they enable making outputs **FAIR** (findable, accessible, interoperable and reusable), e.g. Metadata standards, PIDs (persistent identifiers) etc.
  - **Solid management of intellectual property rights-** enables the legal reuse of materials through licenses; they require solid management of intellectual property rights. Current legislation creates obstacles to reuse
  - **Skills for researchers and citizens-** data management for researchers and skills in accessing and reusing data by researchers and others

Open access to research publications in Europe



Source: https://osobservatory.openaire.eu/home
Data: 29/3/2923

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Enabling open access: EU copyright and data legislation fit for research

Action item of the ERA 2022-2024 Policy Agenda

Actions in 2023

- Workshop on "An EU copyright & data legislative framework fit for research: barriers, challenges and potential measures" (February 2023).

- Upcoming study to:

  - ✓ evaluate the concrete effects of the EU copyright framework on research -including evidence/data gathering (literature review, consultation, interviews etc.) on concrete impacts on researchers, research funding and performing organisations and on other affected stakeholders, including copyright right holders-,

  - ✓ further elaborate on areas in need of improvement, and

  - ✓ evaluate the effects of potential interventions.

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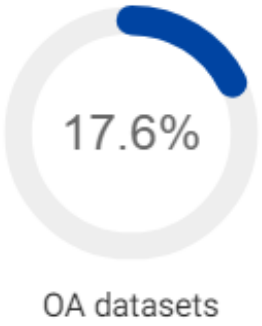
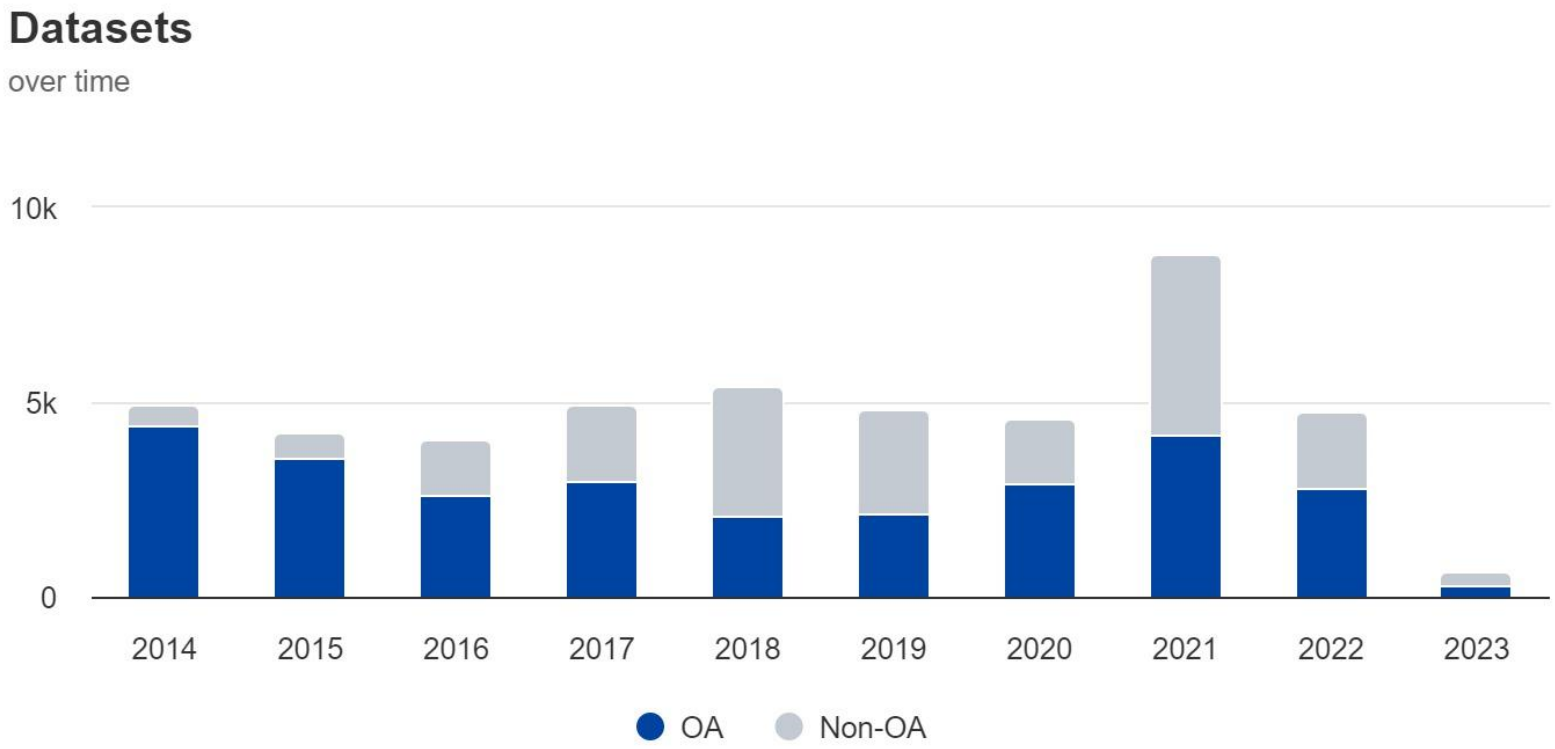
Open access to research data





Source: https://osobservatory.openaire.eu/home
Data: 29/3/2023

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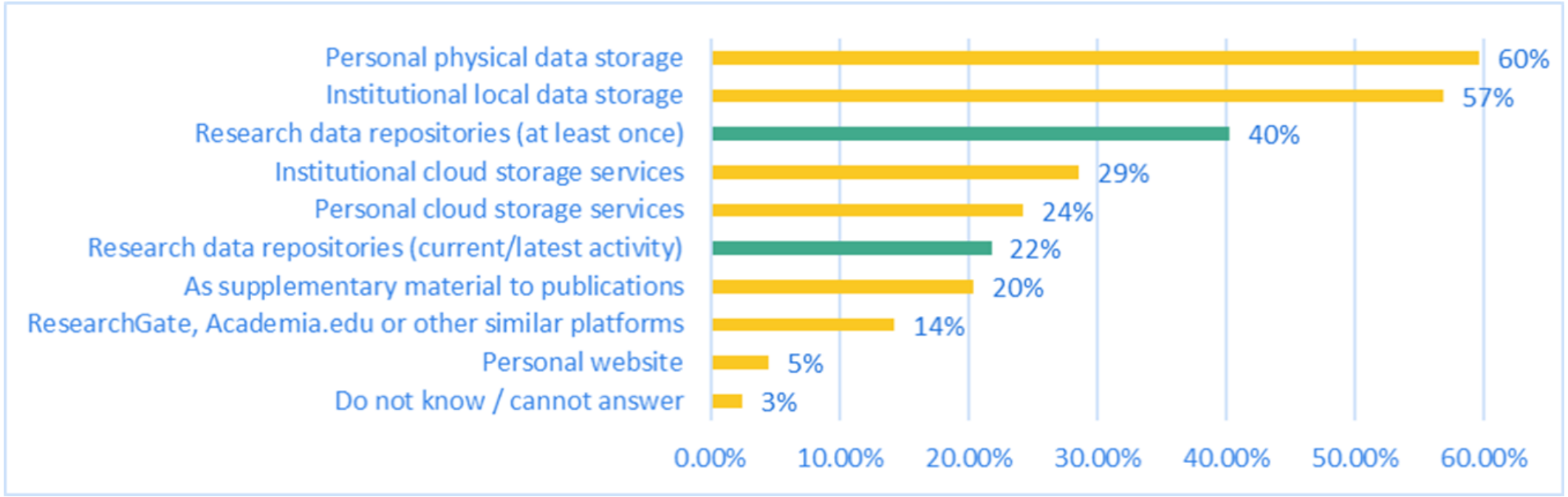
Research data depositing

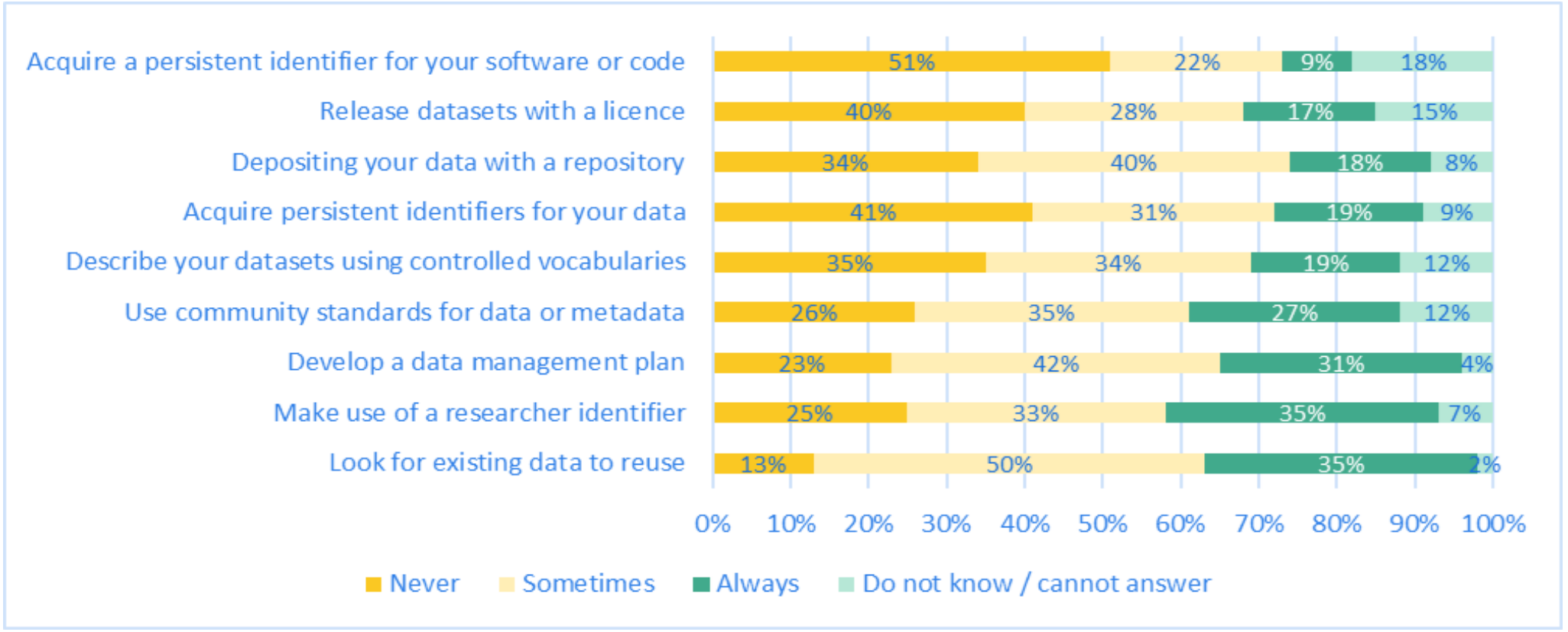
- ~60% of researchers usually store data **in personal physical data storage or institutional local data storage**
- ~40% of researchers occasionally store data in **research data repositories**



Source: European Research data landscape study 2022 commissioned by the European Commission
Elaboration by the study performers based on unweighted researchers' survey data. Total N=10,914.

FAIR aligned practices

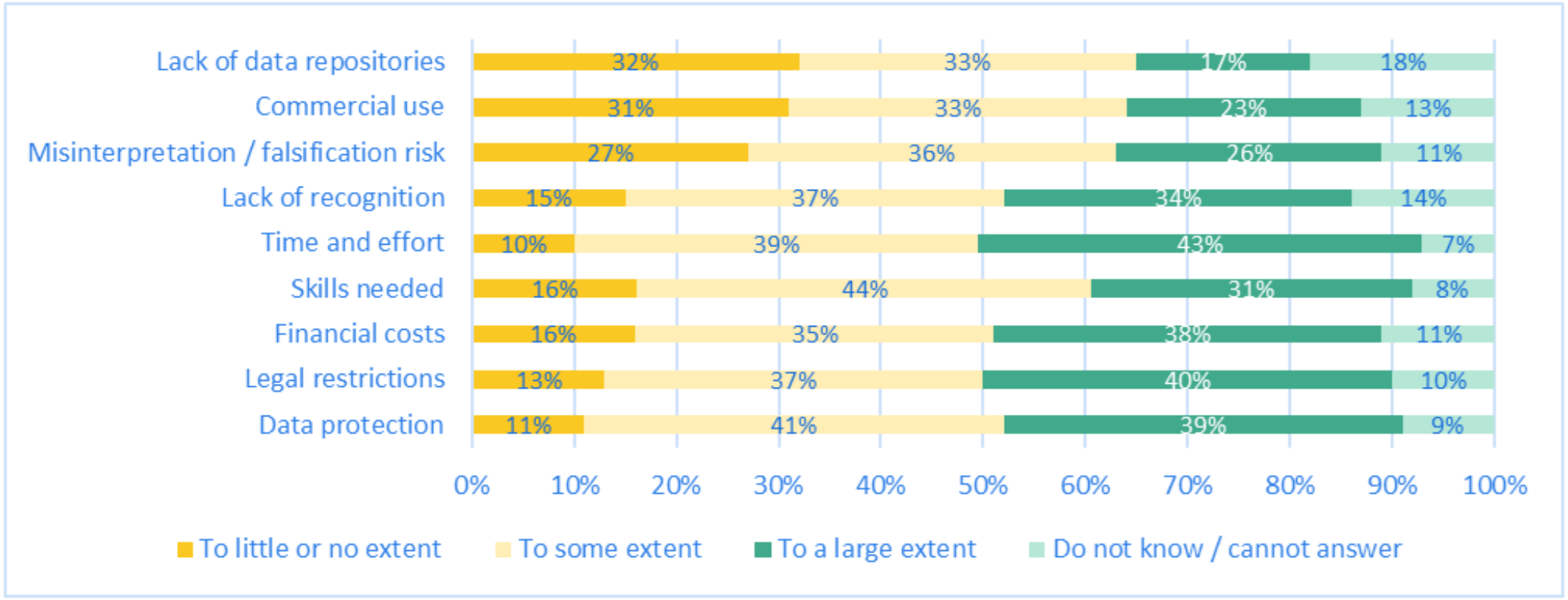
- ~70% of researchers generally develop **Data Management Plans** but other **FAIR-aligned practices** are less common



Source: European Research data landscape study 2022 commissioned by the European Commission
Elaboration by the study performers based on unweighted researchers' survey data. N=10,868-10,889, depending on option

Barriers and challenges to sharing research data

- **Data protection and legal restrictions**
- **Time, effort & financial costs**
- **Lack of recognition**



Source: European Research data landscape study 2022 commissioned by the European Commission
Elaboration by the study performers based on unweighted researchers' survey data. N=9,898 (selected at least one option).

Regions and cities as enablers of reuse

- Cities need research output reuse to **enable innovation/services and support more research** on issues that improve daily lives and challenges (cities as consumers-input)
- **Smart cities produce a deluge of data** (big data) which should be fed into the research loop, i.e. **Should be reusable** by researchers, innovative companies, citizens (cities as producers-output)
- Regions and cities to **support the effort of making open at least a good part of data produced**, now required by the Open Data Directive of 2019 ((EU) 2019/1024).

Thank you!

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