

Research Data Management

The why the what and the how

Often research results cannot be replicated

- Lack of transparency in certain (many?) scientific areas „reproducibility crisis“
 - Research Data leading to a published research results ...
 - Is no longer accessible
 - Is no longer readable The scripts/software to (re)create / analyse / visualize the data is either not available or is obsolete due to inconsistencies / incompatible versions
 - Open Science / Open Data
 - Societal dimension
 - Economic dimension
- Beyond publication reuse of research data

Need to Find Access Interoperate Reuse

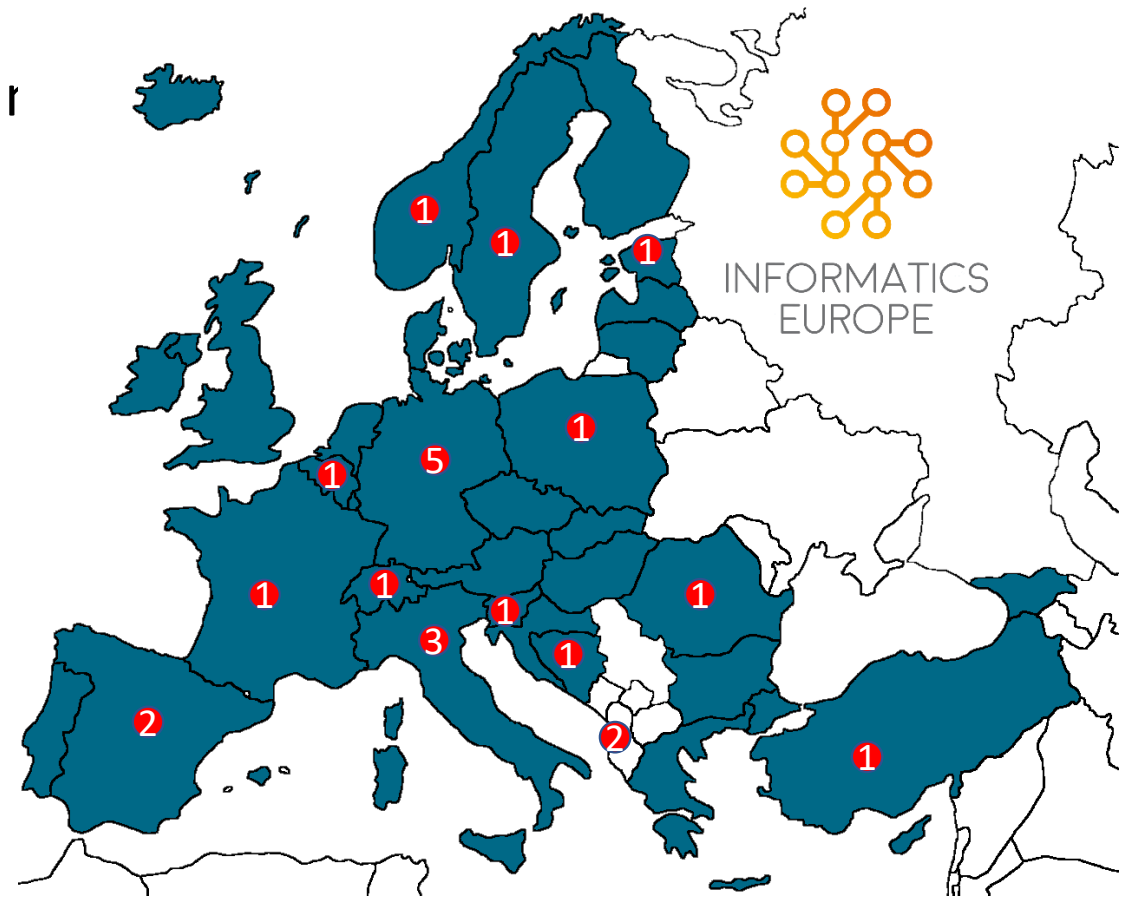
- FAIRE – principles movement across scientific disciplines
- Requirements by funding agencies (DFG, ... , European level)

Looking at the Survey

- 24 answers in Oct 2022 from r
- Gives an impression

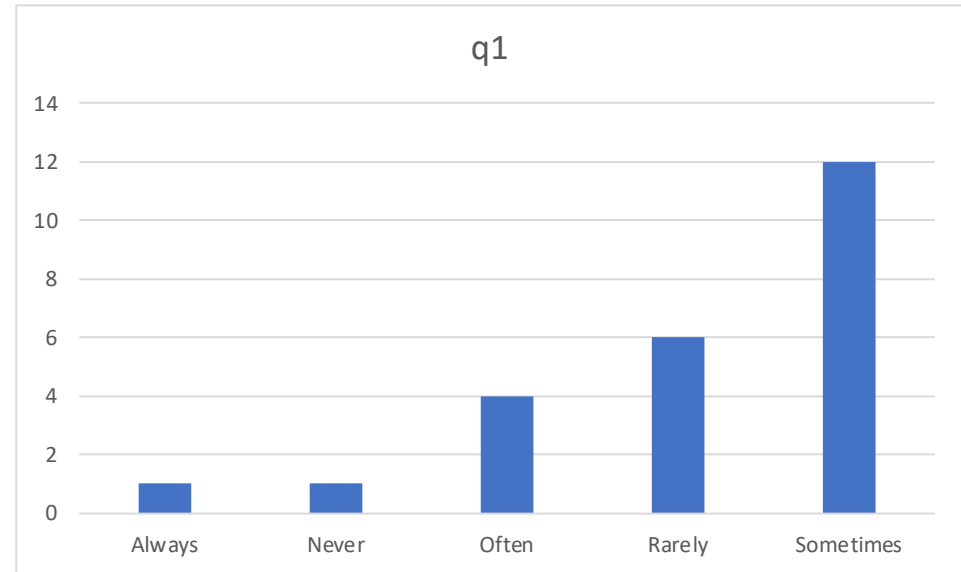
Canada 1

Doctoral student	3
Postdoctoral researcher	2
Professor/lecturer	19

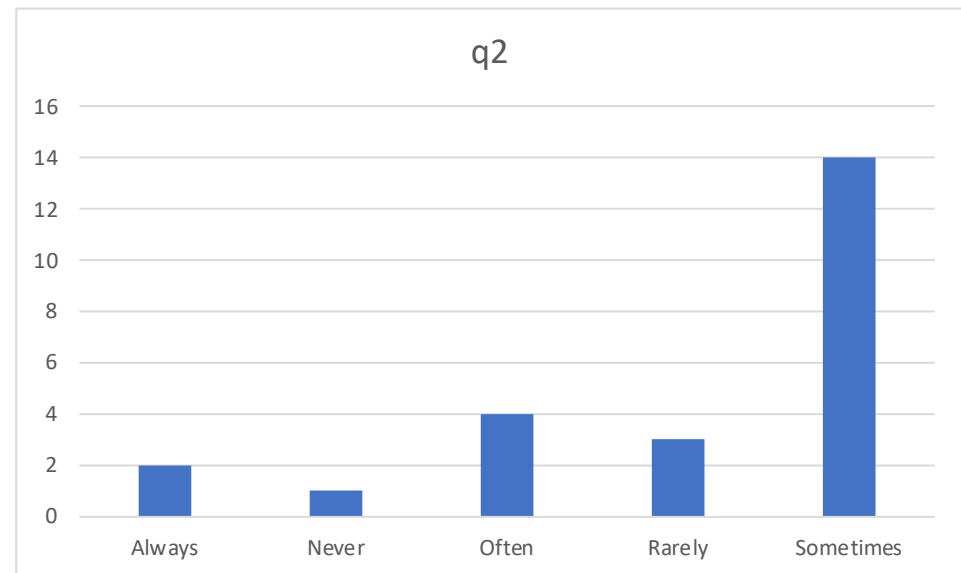


Q1-Q2

Q1. Has Research Data Management (RDM) been made a point of awareness and priority in your computer science related communities?

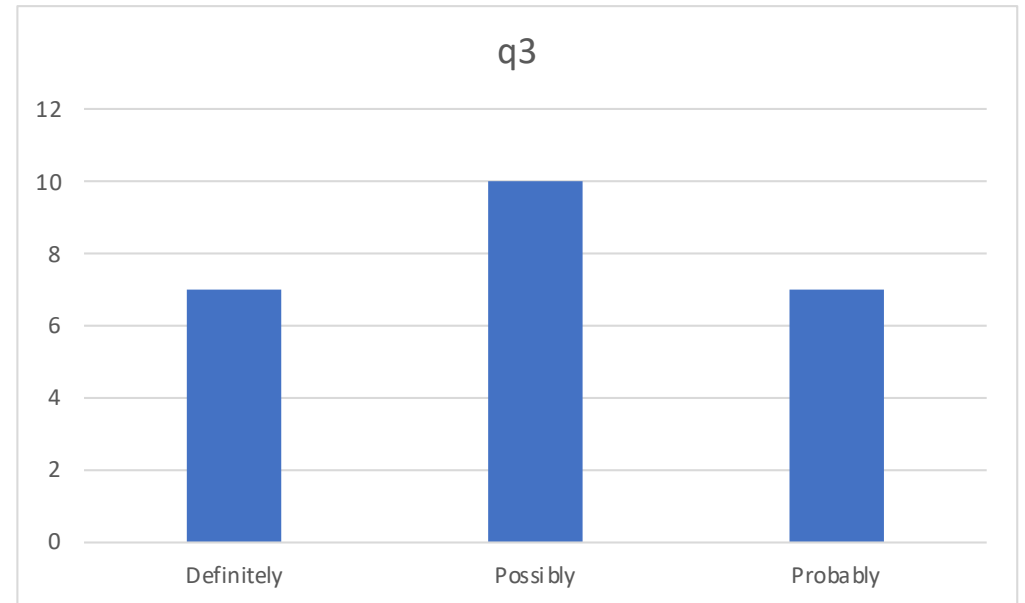


Q2. Have the (national) research funding schemes been redesigned so that they require specific research data management plans for the research data created and used in a research project?

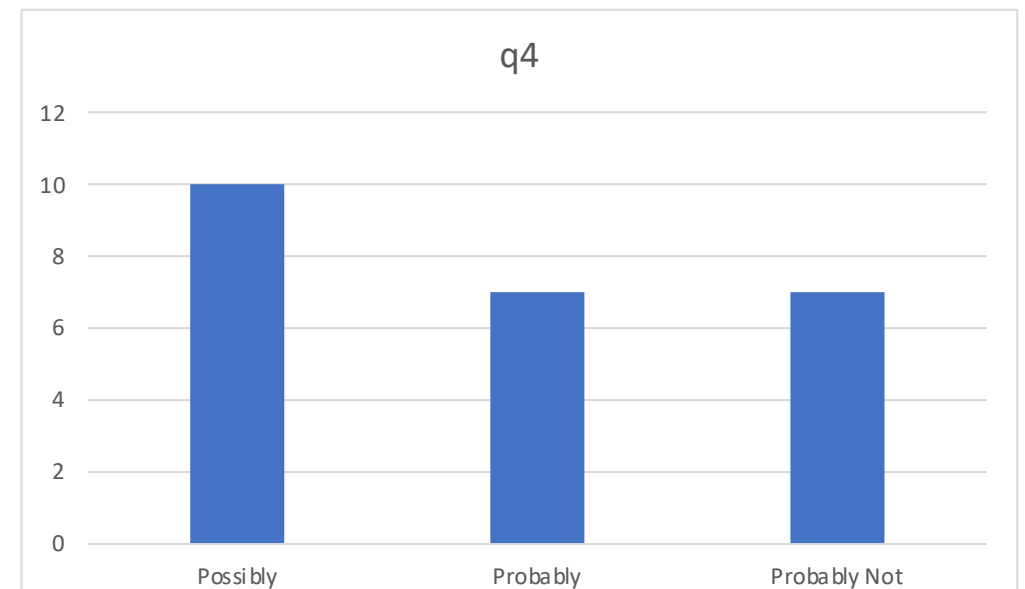


Q3-Q4

Q3. Do you think the creation and publication of research data will be acknowledged in research reports and/ or related peer reviewed publications?

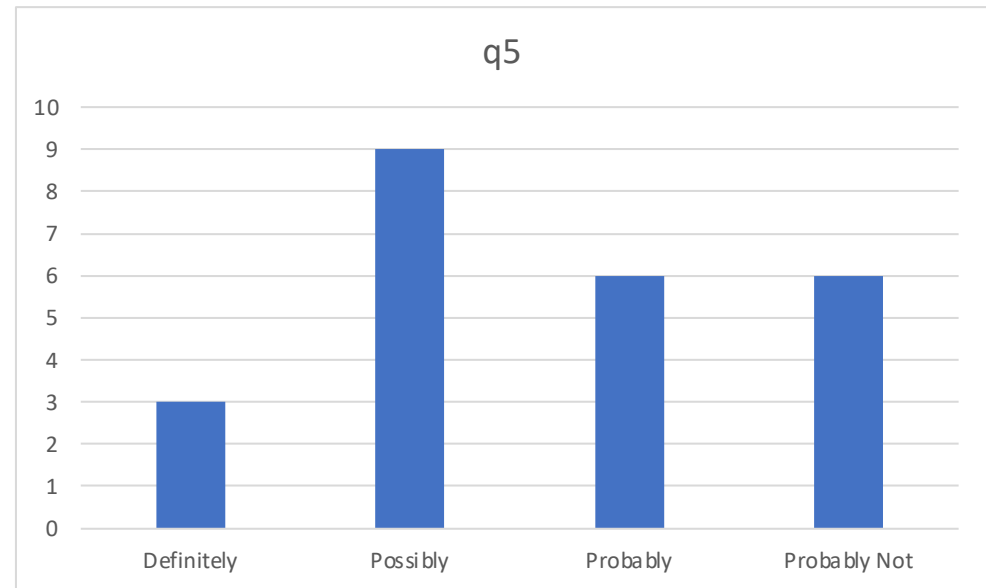


Q4. Is there a review scheme to review the quality of research data and, for research proposals, the quality of a research data management plan?

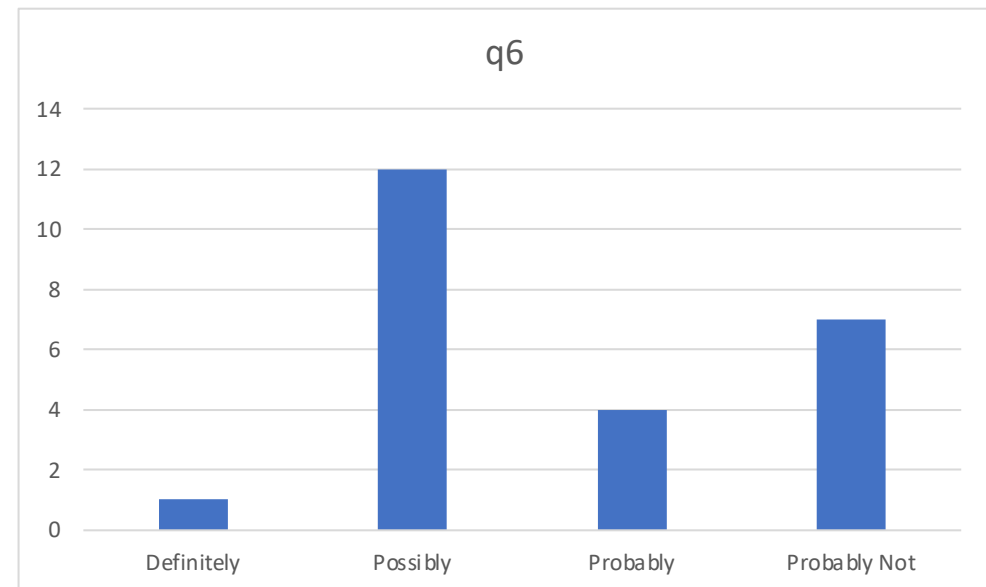


Q5-Q6

Q5. Are there resources available in the scientific community which can be easily accessed and used to store, search and access published research data including resources to interpret and (re)use the research data?



Q6. Training and education: are there related resources and processes available to disseminate the ideas and foster the creation / use of research data management?



Summary so far

- Uncertainties exist across the board

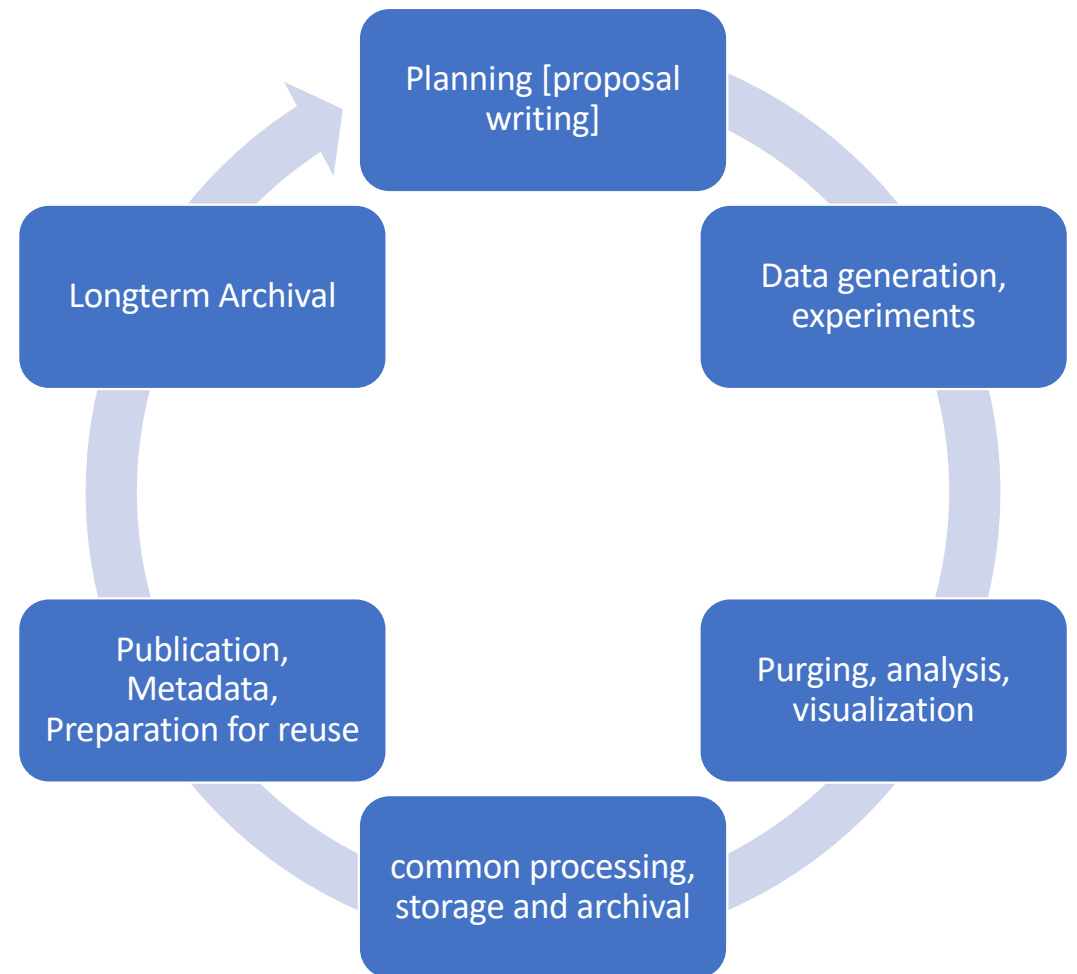
... but RDM is coming?!

... how can we hone it to our needs?

... how can we make RDM truly helpful for and with the CS community?

Important: support of the research process

- Life cycle not a free lunch either
- Additional activities
 - Search for existing data
 - Looking for a storage place
 - Meta Data
 - Longterm archival
- FAIR (Find, Access, Interoperate Reuse) - principles



Alternatives? What if we don't do this?

- It will be hard to buck the general trend
- Transparency also in our scientific processes is important
- Some subdisciplines already started

What might be the intention of the publishers?

- Require the data of the paper as well
- Sell the data later back to you and the community
- Run a profitable consulting business assessing research and research trends

If we do this: infrastructure is necessary

- Meta data based repositories and search
- Long-term archival
- Community engagement
 - Definition of common standards for meta data, interoperation protocols
 - Operation of interoperable repositories
 - Definition of quality standards esp. for publications

Discussion and guiding questions

- What are our high level goals as CS [academic and scientific] community?
- What are the key ingredients for putting RDM for CS into a sustainable action?
- How to raise the awareness in the community?

Thank you for your attention and cooperation