

## Task Force Open Science: Research Data Management at CESAER Universities

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# About CESAER

Conference of European Schools for Advanced Engineering Education and Research

**CESAER** is the strong and united voice of universities of science and technology in Europe

→ over 50 leading S&T Universities

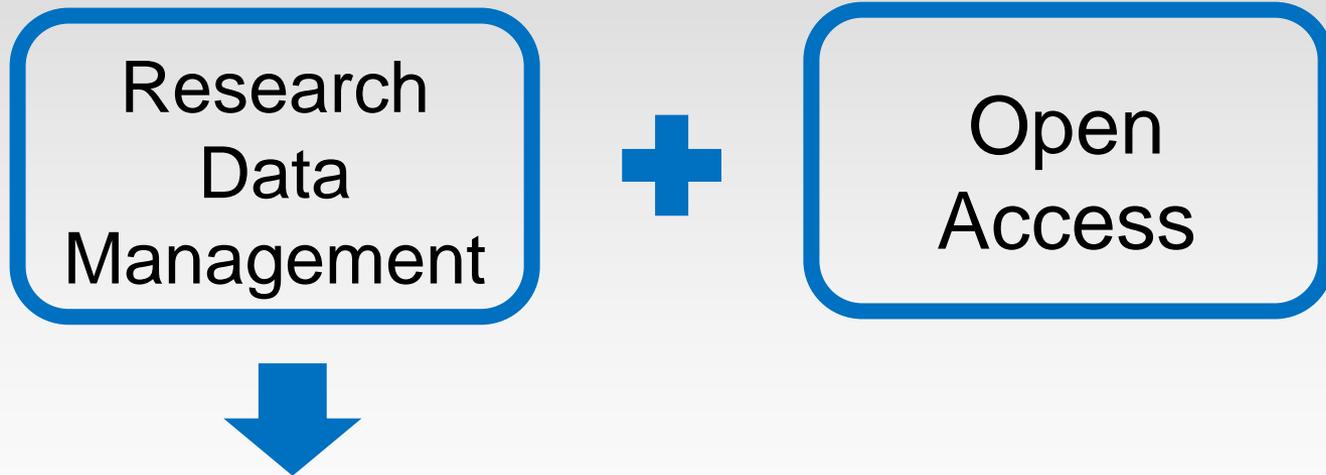
→ members educate over 1 million students & employ over 88,000 academic staff



# Task Force Open Science

→ 23 institutions represented

Two subgroups working on:



White Paper: <http://doi.org/10.5281/zenodo.3665372>

# Survey



## Aim

To compare RDM activities with a **special focus on engineering disciplines** and the challenges faced when providing suitable RDM support services, training & infrastructure

## Target group

- All CESAER member institutions
- Persons/team responsible for RDM support and services
- One answer per institution



# Policy & Organization [1]



- RDM policies in place in 66.7% of institutions and is work in progress for several
- Significant variations in structure but most address the essential issues for RDM: FAIR Data, Reproducibility, Data Preservation, Data Sharing, DMPs, Openness
- Policies also clarifies the responsibilities regarding researchers, institutions, faculty, others

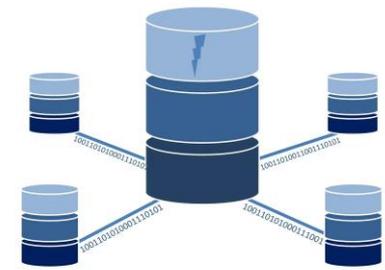
# Policy & Organization [2]



## Challenges

- Policies are often **generic** and the lack of **Discipline/Faculty - specific guidelines** hinder compliance
- Relevant topics for S&T universities such as **IPR & data ownership** and dealing with **Research Software** are rarely mentioned
- Far **too few institutional incentives** for researchers to make them comply with research data policies

# Infrastructure & Tools [1]



An important number of universities offer **Data storage** (66.7%) and Data repositories/archives (52.4%)

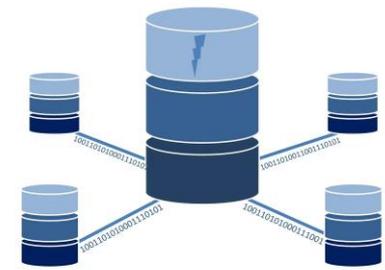
More than half offer RDM tools. For example:

- **DMP Tools (66.7%)**
- **HPC (61.9%)**
- **Version Control Tools (57.1%)**

Less than half also offer:

- **Jupyter Notebooks (33.3%)**
- **ELNs (28.6%)**

# Infrastructure & Tools [2]



## Challenges

- Large size of the data produced/collected within technical/engineering as a main challenge for Storage and Data archiving/publishing
- Lack metadata standards/documentation hinder findability and re-use of the data stored and/or preserved
- Only few universities providing tools specific for technical/engineering disciplines

# Support services & Training [1]



- 81% have a dedicated team of **RDM Support** involving more than one administrative office, but mostly **Library staff** and **IT-managers**
- 90% believe that industrial collaboration is 'relevant' or 'very relevant' for the researchers
- 81% offer RDM training regularly and only 42.9% offer training tailored to technical/engineering disciplines

# Support services & Training [2]



## Challenges

Most difficult RDM topics to address are **DMPs**, **Documentation**, **Legal and Technical** issues as well as **Software**

When collaborating with industry:

- Data publication is a major issue in contrast to funder and journals requirements
- Archiving research data after the end of a project
- RDM workflows are not part of collaboration agreements

# Support Services & Training [3]

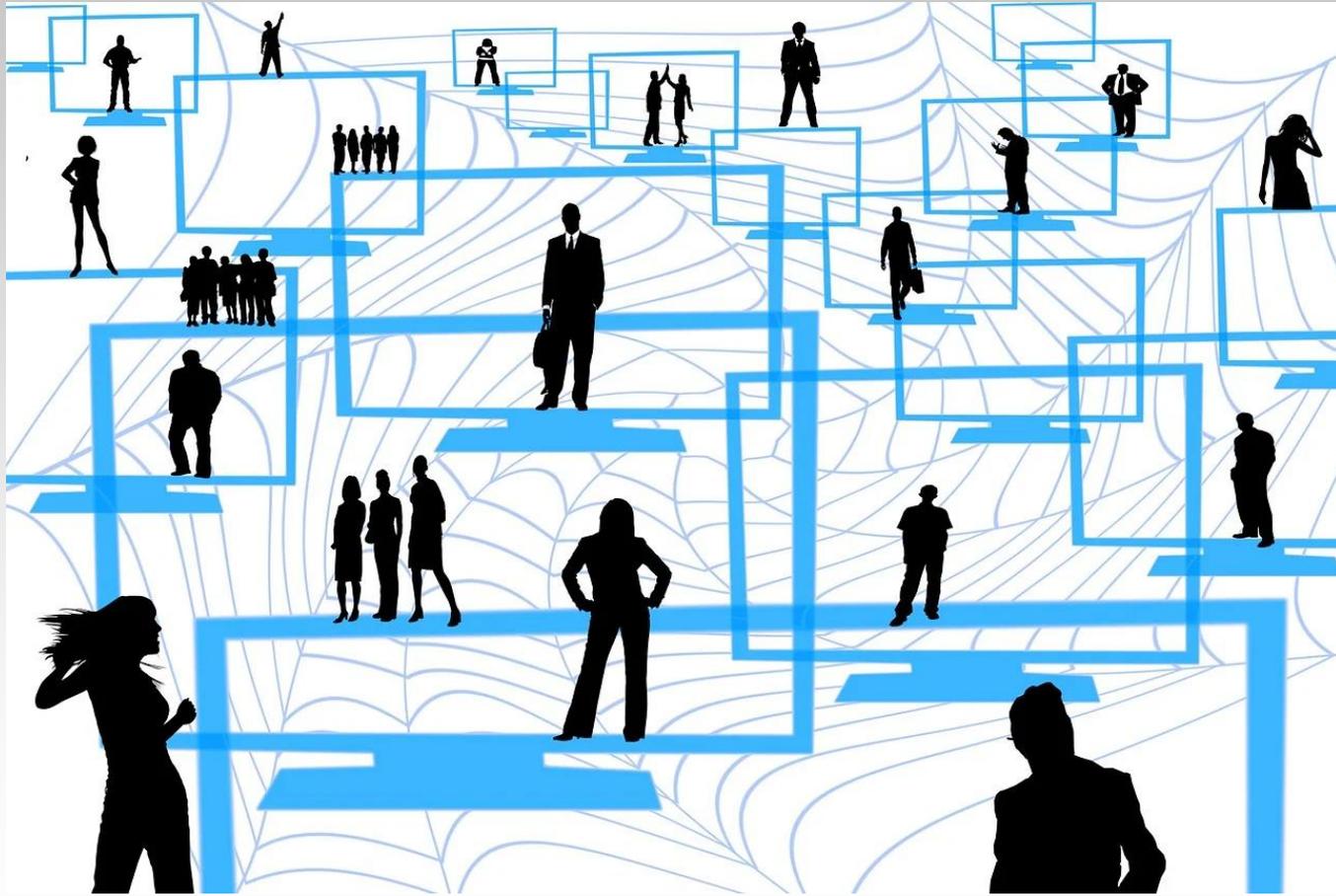


## Challenges

RDM trainings are provided regularly at most universities.

- When providing training tailored to technical/engineering disciplines there is a lack of **trainers and teaching materials** with the needed discipline-specific focus
- Lack of **interest from researchers**

# Next steps & Collaborations



# What can be the next steps for institutions?

- Develop sub-policies and/or **specific guidelines** for **discipline-specific workflows & software**
- Research Data Management support and IT working together on **data storage guidelines** that help researchers to determine which data must be stored, for how long and where
- Work on establishing **disciplines-specific support or communities** within the institution, e.g. by embedding **data stewards** within faculties or research groups

# What we should be working on collaboratively?

- RDM and FAIR data when [collaborating with industry](#) - CESAER TFI + TFOS in 2020
- [Incentives](#) to motivate & acknowledge researchers complying with RDM best practices - CESAER TFHR + TFOS in 2020
- Develop subject-specific [trainings materials & course plans](#) considering workflows at S&T universities
- Work closely together with research communities and/or relevant global communities on discipline-specific [metadata standards & tools](#) for implementing them, e.g. RDAinEng and RDA metadata group(s) CESAER

# Contact



***Thank you!***

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