

Research Software Policy Establishment at Helmholtz – Activities and Results

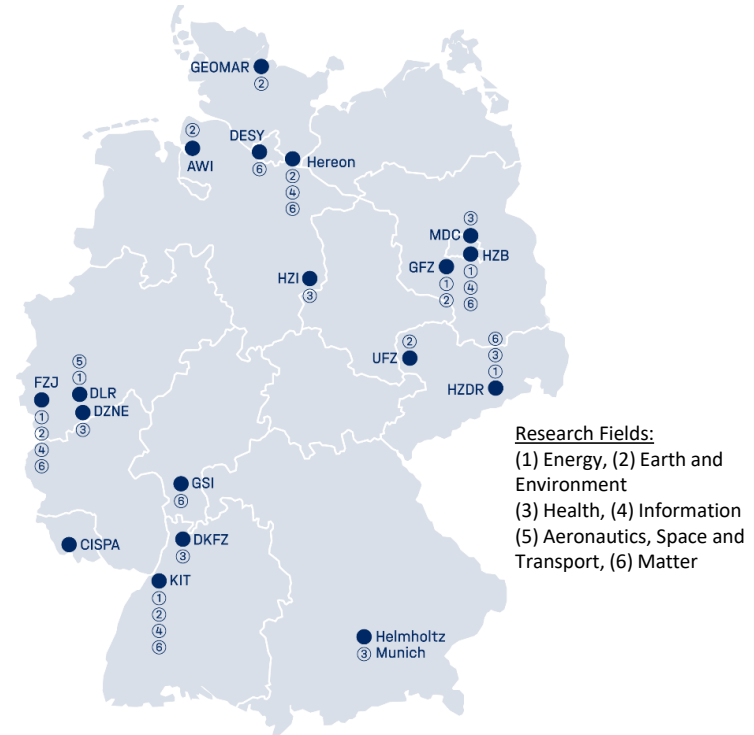
Tobias Schlauch (DLR), Uwe Konrad (HZDR)

deRSE24, Würzburg, 06.03.2024

Helmholtz Research Mission and Strategy

Research for Grand Challenges

- Systems solutions for grand challenges based on:
 - Scientific excellence
 - Interdisciplinarity and critical mass
 - long term research programs
- Helmholtz provides a highly attractive environment for talents and brilliant brains
- Profound expertise in large scale research infrastructure
- Helmholtz as a prime strategic partner at the local, national and international level
- Transfer of knowledge into economy and society



The six research fields of the Helmholtz Association

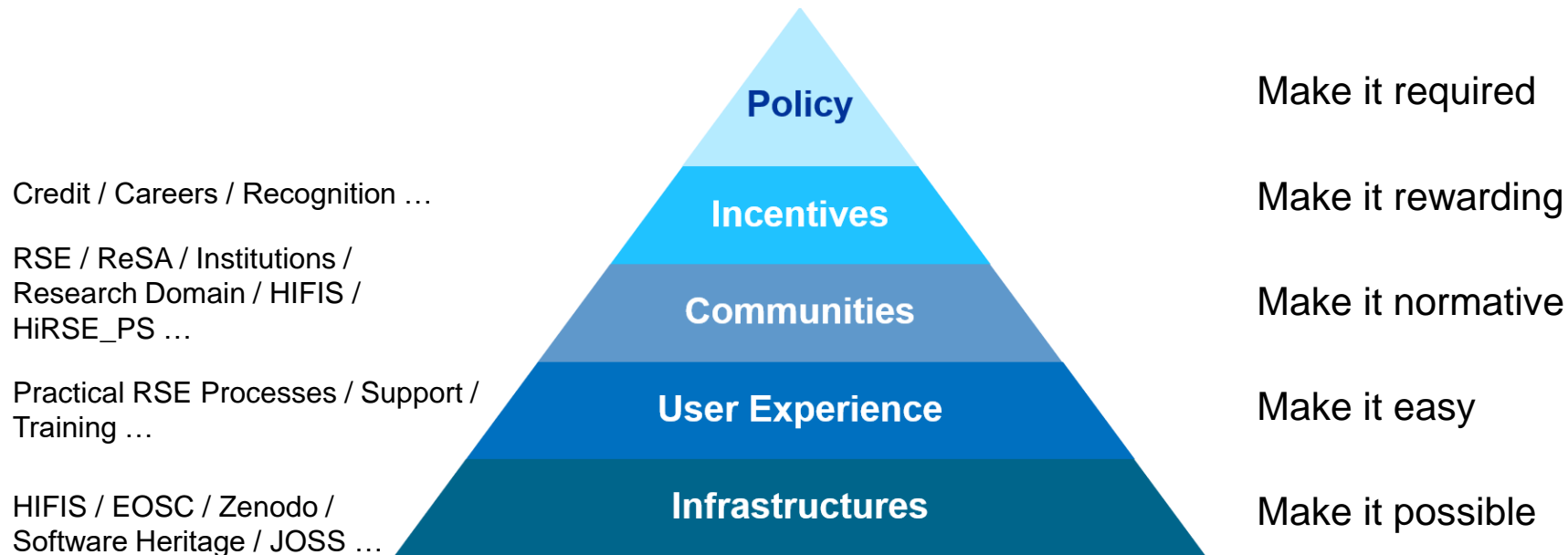


Research Software Policy Development at Helmholtz

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The Role of Software Policies

Goal: Make software a first class research output!

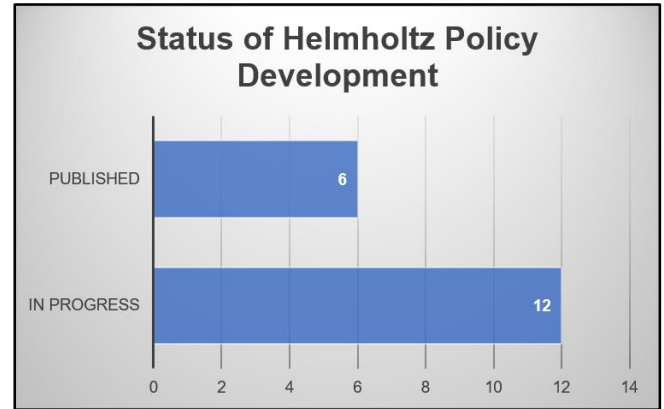


Based on: Gruenpeter, M., Mastering the Art of Research Software Metadata and Metrics, RDA 21st, Salzburg 23.10.2023
and [COS 's Theory of Change Infographic](#) created by Center of Open Science, licensed under [CC BY 4.0](#).

Research Software Policy Development at Helmholtz

Current Status and Challenges

- Goal: Establishment of research software policies in all Helmholtz centers by 2025!
- Challenges:
 - Different culture and starting conditions regarding research software at the Helmholtz centers
 - Practical implementation of processes and support offerings
 - Driving cultural change up to the concrete research group
- How is the topic organized at Helmholtz?
 - [Task Group Research Software](#) drives the research software policy establishment
 - For more information: Pampel, H. & Bertelmann, R.: [Policies and networking for the sustainable handling of research software at Helmholtz](#), deRSE23



Research Software Policy Development at Helmholtz

Starting Point: Research Software Model Policy

Goal: The Research Software Model Policy sets the framework and guides the entire process!



Research Software Policy Development at Helmholtz

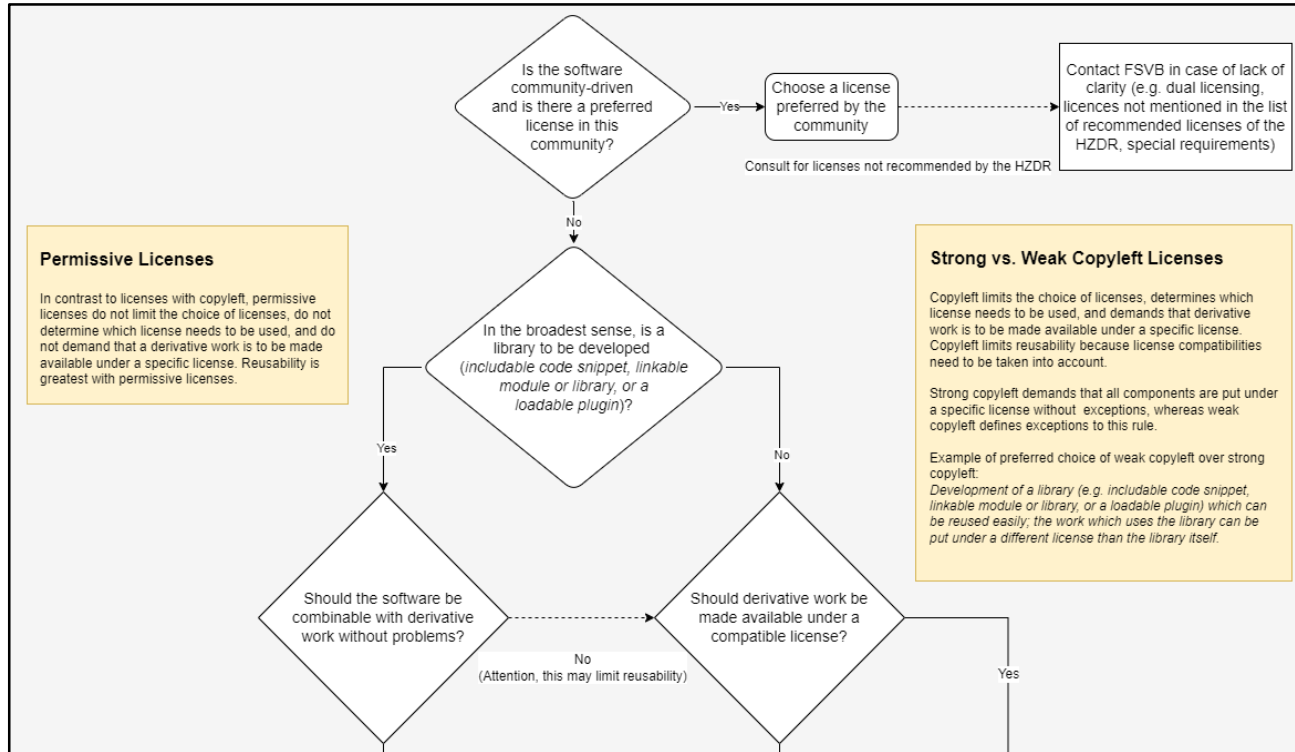
More to Add: Software Application Classes

- Goals:
 - Support identification of relevant practices concerning development, quality assurance and maintenance of research software
 - Involve decision-makers at an early stage
 - Support selection of suitable licenses in early development phases

Application Class	Development Team	Utilization	Transfer	SE Standards
0	institute	in local team	not planned	low
1	institute	at institute	within a limited framework	medium
2	institute and partners	by partners or customers	distribution with license	high
3	distributed	product or SaaS	commercial or (large) OS software	professional

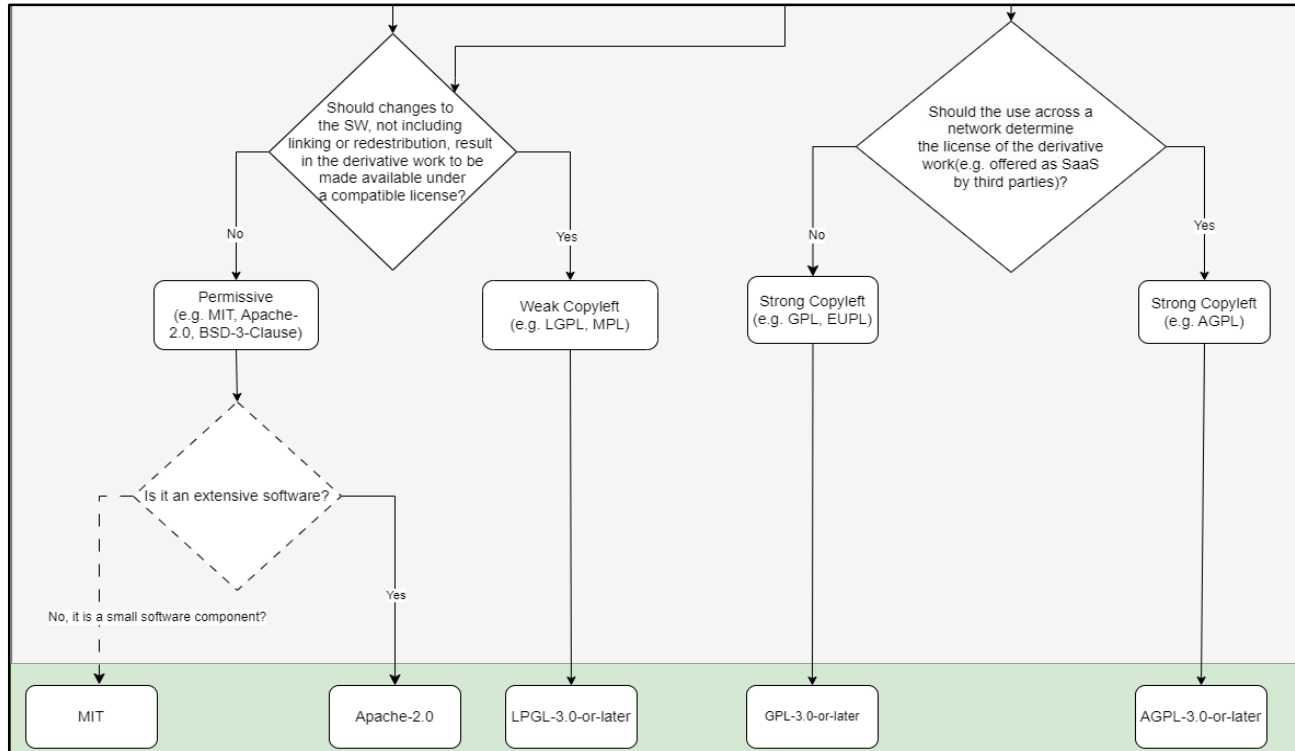
Research Software Policy Development at Helmholtz

More to Add: Guidance for the Open Source License Selection (1/2)



Research Software Policy Development at Helmholtz

More to Add: Guidance for the Open Source License Selection (2/2)

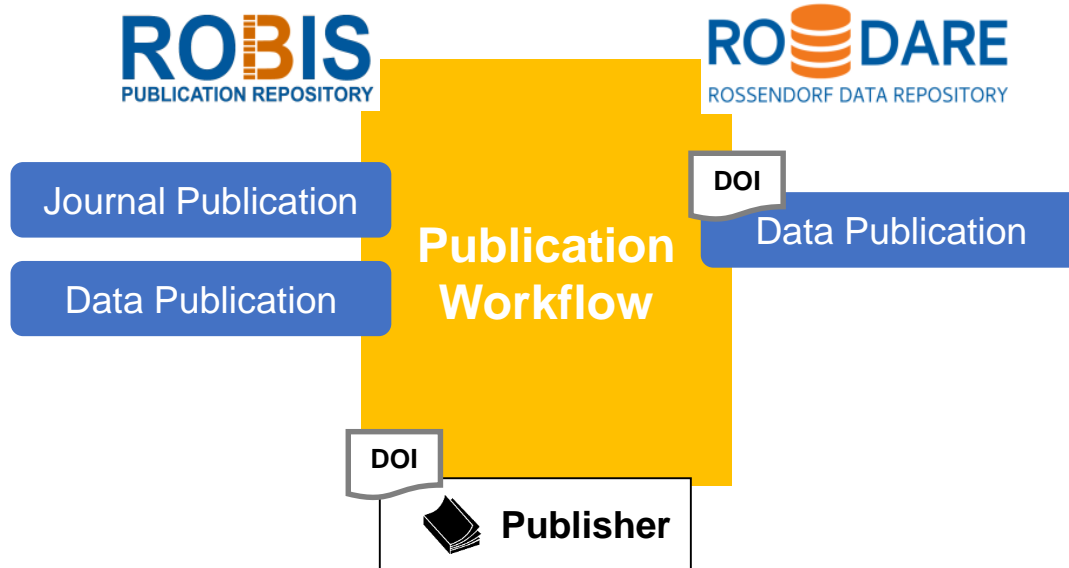


Research Software Policy Development at Helmholtz

More to Add: Unified Publication Process at the Example of HZDR

Institutional Publication DB

Publication Repository



Research Software Policy Development at Helmholtz

More to Add: Unified Publication Process at the Example of HZDR

Institutional Publication DB



Journal Publication

Data Publication

Publication Repository



DOI

Data Publication

**Publication
Workflow**

DOI



Publisher

Code Repository

GitLab

Helmholtz
Codebase

GitHub

Research Software Policy Development at Helmholtz

More to Add: Unified Publication Process at the Example of HZDR

Institutional Publication DB



Journal Publication

Data Publication

Software
Publication

DOI



Publisher

Publication
Workflow

Publication Repository



DOI

Data Publication

Software
Publication

DOI

Zenodo

Code Repository

GitLab

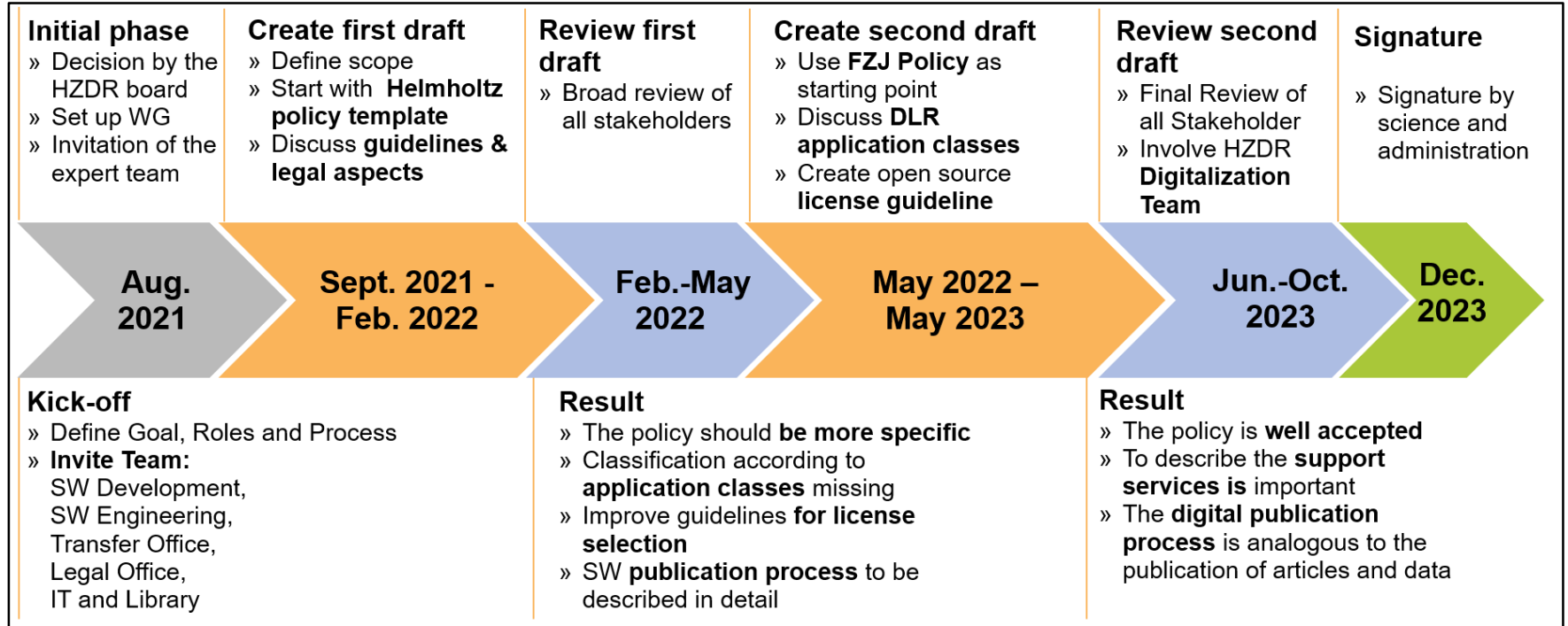
Helmholtz
Codebase

GitHub



Research Software Policy Development at Helmholtz

More to Add: Timeline at the Example of the HZDR



Central Support for Policy Establishment at Helmholtz

Central Support for Policy Establishment at Helmholtz Helmholtz Research Software Forum

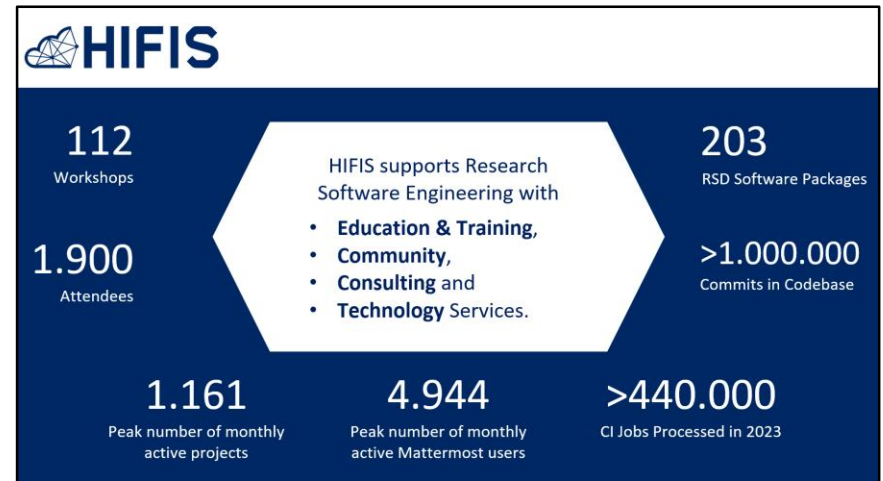
- Goal: Provide an opportunity to for experience exchange and sharing updates with regard to Helmholtz center specific research software policy development
- Approach:
 - Dedicated event series organized by the Helmholtz Open Science Office and HIFIS Software
 - Mix of talks, discussions, interactive sessions to discuss policy related topics
 - Involve Helmholtz centers in organization to provide networking opportunities
- Since 2021 five events have been organized and further events are planned!



Central Support for Policy Establishment at Helmholtz Support Through HIFIS Software



- [HIFIS Software](#) provides basic infrastructure and support offerings for research software development at Helmholtz
- Dedicated support for policy development:
 - Consultation on individual problems
 - Expert talks on topics such as software licensing and software citation
 - “Buffet workshops” on good development practice with individual hands-on sessions to initiate discussion in the center



Central Support for Policy Establishment at Helmholtz Helmholtz Incubator Software Award

- Goals:
 - Promote the development of professional and high-quality research software
 - Recognize the commitment to software as the basis of modern Data Science
- Current status:
 - 41 submissions from 16 Helmholtz centers!
 - Evaluation process nearly completed, results are expected later this year



Summary

Summary

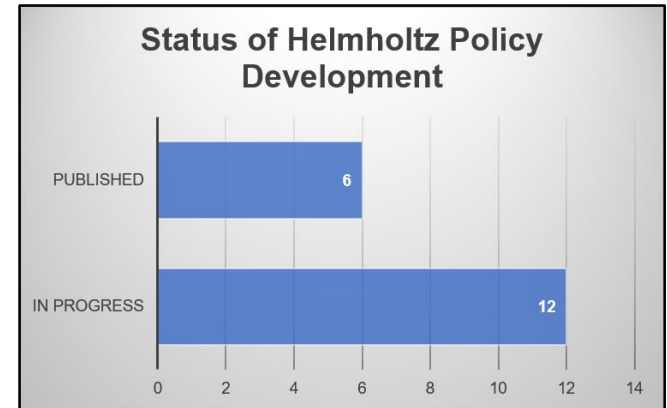
There is no single solution that fits all!

- Every Helmholtz center has its specific culture and starting conditions
- There are many aspects for which practical solutions need to be found – start early!

The individual Helmholtz centers are not alone!

- Exchange and discussion through the Open Science Initiative and the Helmholtz Research Software Forum
- Basic infrastructure and support through HIFIS Software
- Recognize good software development practice through the Helmholtz Incubator Software Award

There is still a good way to go!



Further readings

- Helmholtz Open Science Office (2019): Model Policy on Sustainable Software at the Helmholtz Centers, <https://os.helmholtz.de/en/open-research-software/model-policy/>
- Messerschmidt, R. et al. (2021): Checklist to Support the Helmholtz Centers in Implementing Policies on Sustainable Research Software, <https://doi.org/10.48440/os.helmholtz.038>
- Helmholtz Open Science Office (2022): Helmholtz Open Science Policy, <https://os.helmholtz.de/en/open-science-in-helmholtz/open-science-policy/>
- Konrad, Uwe et al. (2024): HZDR Software Policy, <https://doi.org/10.14278/rodare.2748>
- Schlauch, Tobias et al. (2018): DLR Software Engineering Guidelines, <https://doi.org/10.5281/zenodo.1344612>
- Deutsches Zentrum für Luft- und Raumfahrt e.V. (2022): Broschüre: Nutzung von Open-Source-Software im DLR, https://www.dlr.de/de/medien/publikationen/broschueren/opensource-software_dlr_2022.pdf

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Thank you!

What are your Questions?

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