

The PUNCH4NFDI Consortium

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1. News and Highlights

Important progress was made at the [Hackathon by TAs 2 and 4](#) at University Bonn in April. Ten co-workers from AIP, Bonn University, DESY, and KIT spent two days focused on bridging the remaining gaps between Compute4PUNCH/Storage4PUNCH and the [REANA](#) workflow engine. These services were both usable by themselves, but including them into the same workflow needed more work. It is now possible to run elaborate workflows via REANA and use the distributed compute and storage resources (C4P and S4P) within PUNCH4NFDI. This allows co-locating data and compute resources, executing analyses and retrieving the results for further access in a different location. These REANA workflows are reproducible and reusable.

A presentation on REANA, the associated registry for digital research products (RPR), and several workflows/ use cases making use of the different resources were given at the [9th PUNCH4NFDI General Meeting](#) in June.



Figure 1: Participants of the TA2/TA4 Hackathon at dinner. Image: Arman Khalatyan

A user story **Software to the data: Running container interactively on compute centres** was recently published on the PUNCH4NFDI website. In this article, Marcel Trattner (HTW) demonstrates how container can be used "interactively" at the Jülich Supercomputing Centre, which offers an interface for Jupyter Lab with the added option to start the Jupyter server instance from a custom container. For these tests, Marcel successfully applied to the [PUNCH_ASTRO compute projects](#).

In case you have news that you want to share with PUNCH4NFDI, don't hesitate to send a mail to info@punch4nfdi.de . You can access all newsletters on our [web site](#).

2. NFDI and related topics

The **Consortial Assembly** of the NFDI has elected new chairpersons after the first two-year term has ended. Within the next term, the chairmanship will be held by Prof Dr Christoph Eberl (NFDI-MatWerk), Dr Barbara Ebert (NFDI4Biodiversity) and Prof Dr Stefanie Weidtkamp-Peters (NFDI4BIOIMAGE) as a cooperative team on a rolling basis.

Base4NFDI: In the fifth round of proposal submission to Base4NFDI, the only submission was for nfdi.software. This proposal was re-submitted after a first rejection in August 2023 and has now been successful. We are happy that with this new project, PUNCH4NFDI is actively contributing to a second Base4NFDI project after IAM4NFDI.

The deadline for the next round of proposal submission is on 1 August, 2024.

To receive further news concerning Base4NFDI, you can follow the project on [LinkedIn](#) or visit their [website](#).

NFDI sections and task forces: The Task Force **Governance and Sustainability** was formed in March 2024. The first objective of the TF is to formulate the consortias' view of the NFDI after 2028.

3. Formal, legal and financial topics

The consortium continues to request funds on an approximately steady basis in 2024. Figure 2 shows that in the first and second quarter in 2024, PUNCH4NFDI has requested funds amounting to roughly half of the available annual budget.

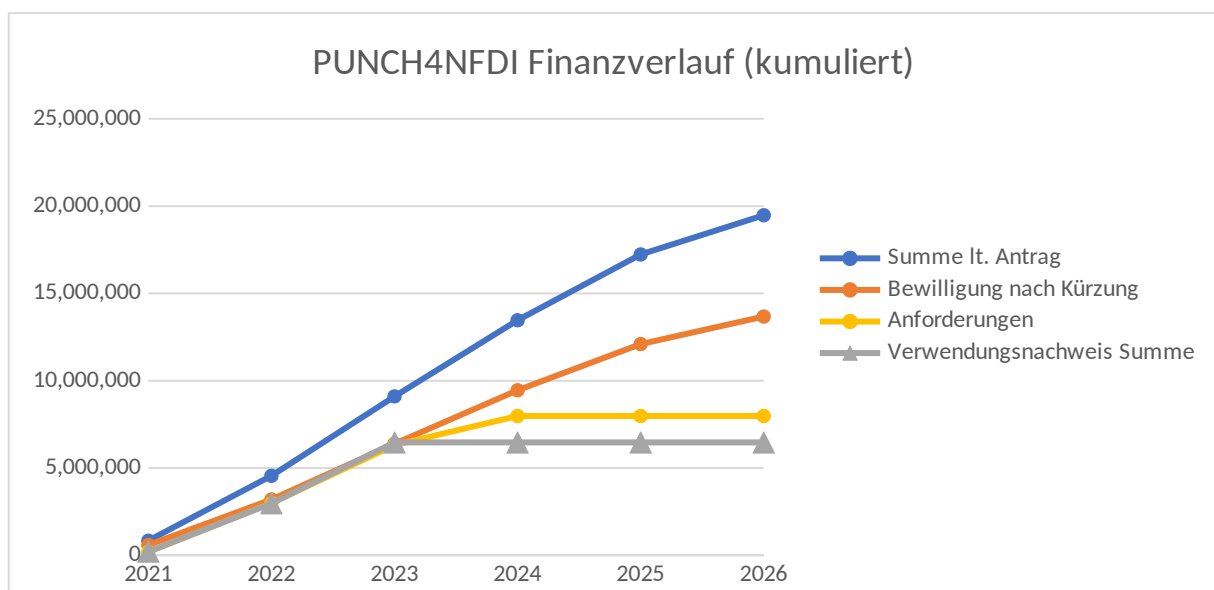


Figure 2: Spending profile of PUNCH4NFDI including Q4/2021 – Q2/2024. Blue - proposal; orange - DFG grant; yellow - actual spending; gray - Jahresverwendungsnachweis.

4. Status of the consortium

New people

New people who contribute to the work programme of PUNCH4NFDI are our most valuable asset! In this category of the newsletter, we try to give short introductions of newcomers to the consortium – welcome to everybody!



Sebastian-Achim Müller (MPIK, TA6): For as long as I remember, pictures of our universe drove my curiosity. However, while pictures of celestial bodies are awe inspiring, one question always pops up: How to make the next picture even sharper. What technological boundary needs to be overcome in order to see what is currently invisible and unknown. During my master thesis, I got consumed by gamma ray astronomy and especially its terrestrial branch: the atmospheric Cherenkov method.

Together with cosmic ray physics, this field is a magnificent blend of high energy particle physics and astronomy. Today, I research the very frontier of the atmospheric Cherenkov method and I further got the opportunity to participate in the High Energetic Stereoscopic System (H.E.S.S.), an array of Cherenkov telescopes in Namibia with a rich legacy of contributions to gamma ray astronomy, such as a thorough galactic plane survey. With the help of PUNCH4NFDI, our group at the Max Planck Institute for nuclear physics explores ways to publish the archived observations of H.E.S.S.. The H.E.S.S. public archive shall span over an observation era of over a decade and shall live up to the F.A.I.R. principles. Since its very beginning, H.E.S.S. investigated and developed solutions for its 'Data Management' (TA2), 'Data irreversibility' (TA5), and 'Data Transformations' (TA3). Since, the existing H.E.S.S. infrastructure was created without its own publication in mind, we take the opportunity to make the public archive and its tools stand-alone, and more closely tied into the F.A.I.R. principles from the beginning. Finally, we are confident, that the distribution, advertisement, and interdisciplinary linking of the H.E.S.S. public archive will profit from PUNCH4NFDI's efforts in 'synergies and services' (TA6).

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5. Upcoming events and excitements

- On 31 July, the second event in the series **Diversity in Physical Sciences** will take place from 10:00 – 11:00. Speaker at this event is Astrid Schneidewind (FZJ, DAPHNE4NFDI).

- TA5 is hosting a **2nd PUNCH4NFDI Workshop on Machine Learning and Data Processing on FPGAs** as lunch-to-lunch meeting on 18-19 September at TU Dresden. Click [here](#) for more information.
- The 2nd MaRDI Workshop on Scientific Computing takes place in Marburg on 16-18 October.
- NFDI is co-organizing the EOSC Symposium 2024 on 21-23 October in Berlin. Subsequent to the official event are dedicated EOSCxNFDI sessions.
- On 6 November a **Workshop Long Term Data Issues: Preservation, Archiving and Access in the NFDI** will take place online. Further information will follow.
- The first **Base4NFDI User Conference** takes place on 20-21 November in Berlin. Further information is available [here](#).
- The **PUNCH4NFDI Annual Meeting 2024** will take place on 27-29 November in Bonn. It will enclose a half-day **Community and User Meeting** on 28 November for presentations and discussions on RDM topics in the PUNCH sciences. The agenda will be available on the [Indico page](#) in due time.
- A **PYA training** preceding the Annual Meeting is currently under planning for 26-27 November.

6. Recent talks, results, and publications

This is a collection of several publications by PUNCH4NFDI members which can also be found at least partly on the web page, the [results page](#) and in ZENODO (<https://zenodo.org> – just search for “PUNCH4NFDI” or – if you are interested in the broader scope – “NFDI”).

- Report on the impact of On-line Filtering on the Discovery Potential
- Learning from the present for the future: The Jülich LOFAR Long-term Archive
- Citizen Science in Data-intensive Physics: PUNCH4NFDI Perspective

Deliverable reports

- TA5 (V. Lenok): Report on Impact of on-line Filtering on Discovery Potential
- TA5 (A. Redelbach): Curation & metadata schemes for Dynamic Filtering
- TA5 (M. Kramer): Strategy concept for identifying highly complex (multi-parametric) signals in huge data streams
- TA5 (A. Redelbach): Specifying the concept of a Dynamic Archive