

The PUNCH4NFDI Consortium

Particles, Universe, NuClei and Hadrons for the NFDI

Thomas Schörner (DESY)

3rd PUNCH4NFDI General Meeting

12 April 2022



News

High-Level Milestones

... have been formalized – now preparing final steps

Milestone 1: An integrated prototype package of dynamic digital research products, the science data platform, and the Compute4PUNCH compute and storage resources (Storage4PUNCH) coupled with single sign on (AAI).

Milestone 2: Data irreversibility solutions – a new kind of science in the age of too-large-to-be-stored data streams

Milestone 3: The PUNCH market place including notice board and communication tools as a place for efficient exchange of data management solutions, methods, services, standards, tools, protocols, and software is an offer to the NFDI as part of a federated system of discipline-specific market places

Milestone 4: Rolling out the PUNCH4NFDI outreach and education programme (TA7)

Milestone 1: An integrated prototype package of dynamic digital research products, the science data platform, and the Compute4PUNCH compute and storage resources (Storage4PUNCH) coupled with single sign on (AAI).

- **Dynamic digital research products (DRPs)** – the basis of reproducible data analysis and simulation, and of easily interfaceable workflows combining PUNCH (and other) data. (TA2/3/4)
- By 31.12.2022 Prototype implementation of DRPs, including a selected set of data and services

Science data platform – the biotope for FAIR and open data / DRP providing access via portal and AAI. (TA4/6)

- By 31.12.2023: Prototype implementation of a platform with selected set of data, services, and workflows, based on one common AAI (see next point)
- By 31.12.2023: One common AAI for the PUNCH communities and beyond – a convenient single-sign on method for secure data and access.

PUNCH & Storage4PUNCH – standards and prototypes for computing and storage infrastructures of the PUNCH4NFDI communities and beyond including advanced workflows for intelligent compute and data handling. (TA2)

- 2022: Compute4PUNCH: prototype of a federated computing infrastructure
- 2022: Storage4PUNCH: prototype of a federated storage infrastructure

2023: standards for federating computing and storage infrastructures regarding protocols and specification of interfaces for the

... this package of combined deliverables will allow to access open data and other open research products from a selected range of sources across PUNCH4NFDI and beyond

... research environments. The milestone will enable the collaboration within and between research groups on the development of analysis workflows, and the combination of research products within the supported range of formats and tools.

High-Level Milestones

... have been formalized – now preparing final steps

Aiming for small summarising (also: public) document.
For outside world only without dates.

PUNCH4NFDI-2022-01
<https://doi.org/10.1016/j.physletb.2012.08.020>



PUNCH4NFDI High-Level Milestones

Orientation for the consortium's work and outreach

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11th April 2022

Abstract: The PUNCH4NFDI Consortium

1 Introduction

The PUNCH4NFDI consortium¹ in the German national research data initiative NFDI² taken from the consortium proposal submitted to the German Research Association DFG in September 2020 [1].

2 Milestone 1

Milestone 1: An integrated prototype package of dynamic digital research products, the science data platform, and the Compute4PUNCH compute and storage resources (Storage4PUNCH) coupled with single sign on (AAI).

- Dynamic digital research products (DRPs) the basis of reproducible data analysis and simulation, and of easily interfaceable workflows combining PUNCH (and other) data.
 - By 31.12.2022 Prototype implementation of DRPs, including a selected set of data and services
- PUNCH science data platform the biotope for FAIR and open data / DRP lifecycles, providing access via portal and AAI.
 - By 31.12.2023: Prototype implementation of a platform with selected set of

data, services, and workflows, based on one common AAI (see next point)

- By 31.12.2023: One common AAI for the PUNCH communities and beyond a convenient single-sign on method for secure data and service access.
- Compute4PUNCH & Storage4PUNCH standards and prototypes for federating computing and storage infrastructures of the PUNCH4NFDI communities and beyond including advanced workflows for intelligent compute and data handling.
 - By 30.09.2022: Compute4PUNCH: prototype of a federated computing infrastructure
 - By 31.12.2022: Storage4PUNCH: prototype of a federated storage infrastructure
 - By 30.06.2023: standards for federating computing and storage infrastructures regarding protocols and specification of interfaces for the integration.

Benefit: This package of combined deliverables will allow to access open data and other open research products from a selected range of sources across PUNCH4NFDI and beyond using advanced workflows on federated compute and storage infrastructures. It will also enable creation and re-use of dynamic research products including analysis and simulation workflows based on

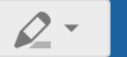
¹<https://www.punch4nfdi.de>

²<https://www.nfdi.de>

Workshop with DAPHNE et al.

>50 discussion commonalities

Workshop on NFDI tools / services / synergies between physics-related consortia and others



 Tuesday Apr 5, 2022, 9:00 AM → 5:30 PM Europe/Berlin

Description In this 1-day workshop, representatives of the physics-related and other NFDI consortia (PUNCH4NFDI, DAPHNE4NFDI, FAIRMat, NFDI4Phys, but also MaRDI, NFDI4Culture etc.) will discuss among themselves and with representatives from ErUM/DIGUM, Helmholtz and others the issue of tools, synergies and services in the NFDI and in the relevant scientific disciplines.

The goal of the workshop is to foster the exchange on existing competences and solutions and, based on this fuller picture, to discuss knowledge exchange and the development / setup of common tools and services. The workshop will consist of presentations introducing competences and solutions with ample discussion time, and it is intended as a start of a regular productive exchange between NFDI, ErUM etc.

Main topics to be addressed will be (but open for further suggestions):

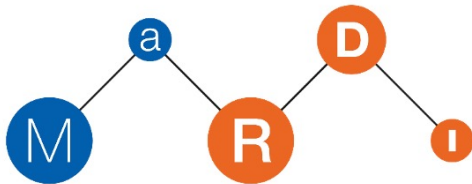
- Analysis workflows and distributed computing
- Software repositories for common software solutions
- Metadata schemas
- AAI and other collaborative tools

Workshop with DAPHNE et al.

>50 discussion commonalities



- i) ErUM-NFDI workshop in September – milestones?
- ii) Any input for NFDI base services proposal?
- iii) Use of PUNCH experience with AAI and gitlab as immediate service to others (NFDI and ErUM)?
- iv) Involve Helmholtz experiences?
- v) How to continue: self-organisation or dedicated workshops to be organised?



DPG Talks

By Andreas (KET / KAT) and Kilian (KHuK)

First talk in Zenodo: <https://zenodo.org/record/6383637#.YIPgdy0Rr3U>

TA 2: Prototyping / Federated Storage & Computing



Common PUNCH-AAI (based on Helmholtz-AAI)

Storage4PUNCH

- › Two test systems in place:
 - › DESY (dCache based)
 - › Bonn (Xrootd based)
- › Access for all PUNCH4NFDI members
- › Read and write access through PUNCH-AAI web tokens
- › Support for a number of transfer protocols:
WebDAV, Xrootd

Compute4PUNCH

- › Implemented via an Overlay Batch System
- › First login node at KIT
 - › Access for all PUNCH4NFDI members
 - › OIDC token based (mccli)
- › Initially included resources at
 - › KIT(batch), Bonn(batch), Münster(Cloud)
- › Container registry

First (still less demanding) workflows from the community are being ported

Upcoming Events

PUNCHLunch, NFDI talks, annual meeting

2 May 2022 – NFDI InfraTalk: “Data management in PUNCH sciences” (C. Wissing / M. Hoefft)

11 May 2022 – NFDI ToolsTalk: “PUNCH4NFDI AAI” (H. Enke, K. Schwarz)

28/29 September 2022: PUNCH4NFDI Annual Meeting –
hopefully in person maybe in Hamburg or Goettingen

PUNCHLunches: see intranet: <https://intra.punch4nfdi.de/?md=/docs/Consortium/PLList.md>

Twitter & Social Media

Working on our outreach

Looking for interested (younger) colleagues to take over esp. our Twitter account. Any volunteers?

Particles, Universe, NuClei and Hadrons for the NFDI
A consortium in the NFDI.

Home Consortium & NFDI News & Events Services Use cases Internal

The National Research Data Infrastructure (in original German: Nationale Forschungs-Daten Infrastruktur [NFDI](#)) has the objective to systematically index, edit, interconnect and make available the valuable stock of data from science and research.

PUNCH4NFDI is the NFDI consortium of particle, astro-, astroparticle, hadron and nuclear physics, representing about 9.000 scientists with a Ph.D. in Germany, from universities, the Max Planck society, the Leibniz Association, and the Helmholtz Association. PUNCH physics addresses the fundamental constituents of matter and their interactions, as well as their role for the development of the largest structures in the universe - stars and galaxies. The achievements of PUNCH science range from the discovery of the Higgs boson (top left) over the installation of a 1 cubic kilometre particle detector for neutrino detection in the antarctic ice (top right) to the detection of the quark-gluon plasma in heavy-ion collisions (bottom left) and the first picture ever of the black hole at the heart of the Milky Way (bottom right).

Contact
... for PUNCH4NFDI users: support@punch4nfdi.de
... for other interests: info@punch4nfdi.de

Mailing List
Registration to the mailing list punch4nfdi-general and to the PUNCH4NFDI newsletter: Send an e-mail to sympa_at_desy.de with subject **subscribe punch4nfdi-general name surname and empty body**

Latest news

PUNCH High-Level Milestones
PUNCH High-Level Milestones have been defined: [PDF, 42KB](#)

PUNCH-Lunch: an online jour fixe around PUNCH4NFDI topics biweekly Thursdays 12:30-13:30

PUNCH4NFDI
167 Tweets

Particles, Universe, NuClei and Hadrons for the NFDI

PUNCH4NFDI
@Punch4NFDI

Particles, Universe, NuClei and Hadrons for the NFDI

punch4nfdi.de Joined October 2020

86 Following 216 Followers

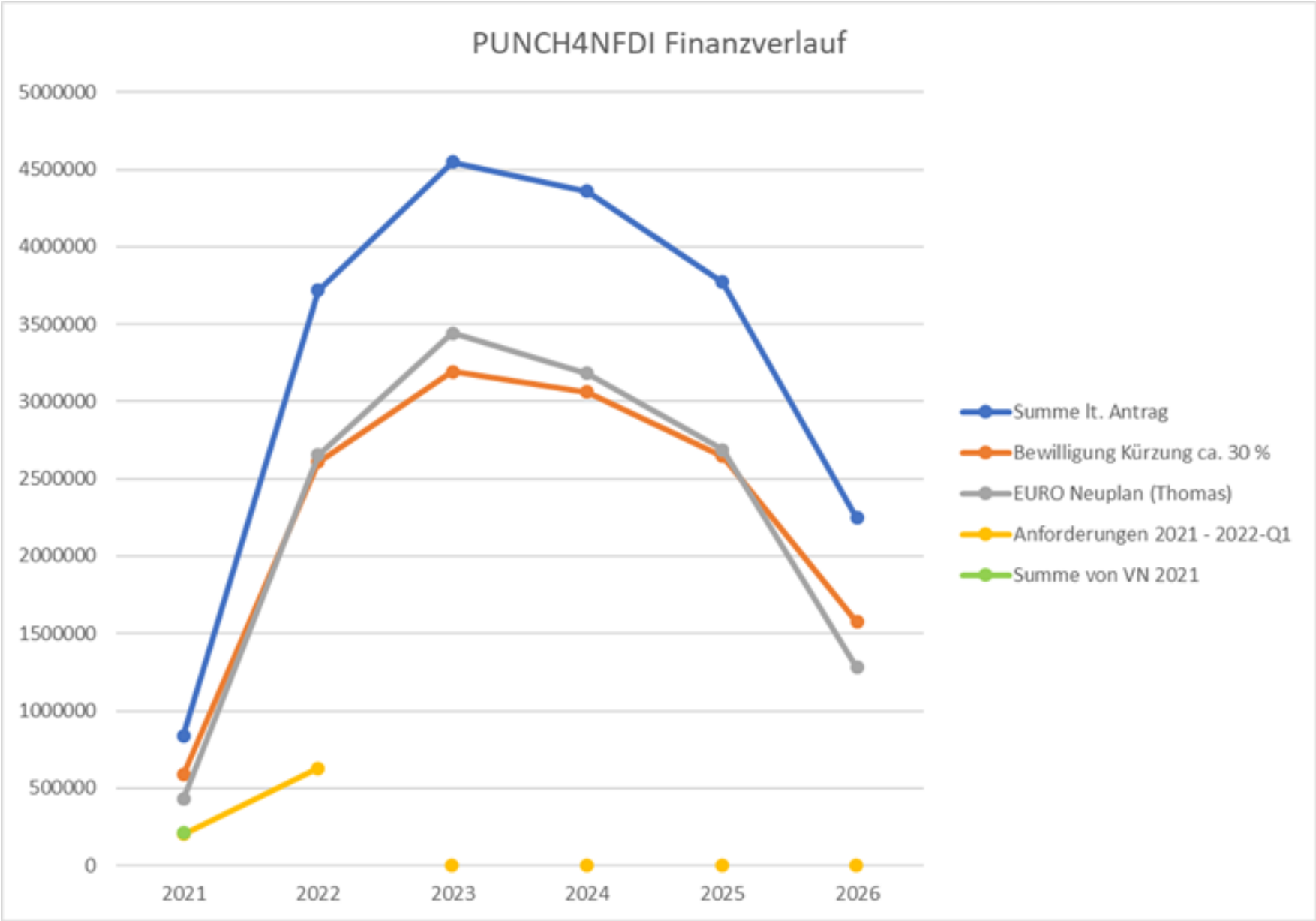
Tweets Tweets & replies Media Likes

PUNCH4NFDI @Punch4NFDI · Apr 8
@PUNCH4NFDI-Sprecher [@ThomasSchorner](#) wurde als einer der Co-Sprecher für die Task Area "Service Negotiation & Development Process Coordination" der [#base4nfdi](#)-Initiative bestätigt! Wir wünschen viel Spaß mit der neuen Aufgabe! [#NFDIrocks](#)

Finances

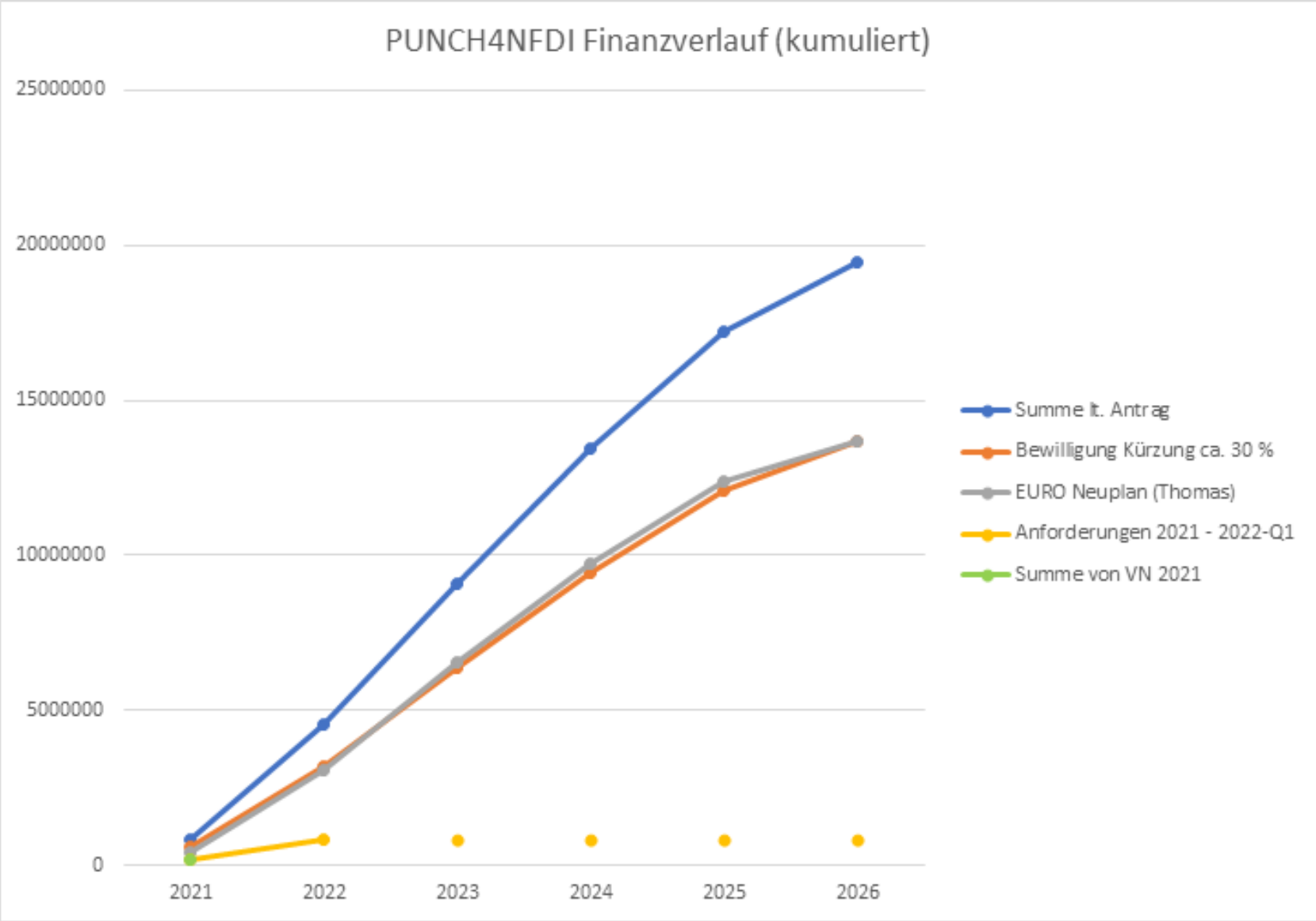
Time profile

We are not spending enough money. Another iteration on needs and requests from co-applicants will come soon.



Finances

... accumulated



Reporting

First quarterly report due

Unfortunately missing lots of feedback from Tas, coapplicants, and participants

Collaborative Tools

(Harry)

Base services in the NFDI

- the Base4NFDI initiative

The Base4NFDI Initiative

A “Verbund” proposal for base services in the NFDI

Reminder: DFG call for “base services in the NFDI” –
LoI deadline 21 March, proposal deadline 29 April

One LoI submitted: “Base4NFDI” – a “Verbund” of ALL
19 funded round 1 and 2 consortia, with interest from most
3rd-round initiatives.

Idea: Propose an NFDI-wide scheme for providing base services to the entire German science system – and NOT already now individual services.

Scheme comprises clear process – including all NFDI bodies (sections, senate, consortia assembly) - to identify, define, implement and deploy services for the benefit of all consortia. Message: We are not yet in a position to put forward a given service now – requires more time to think and agree.

“Fast-lane” candidates: AAI / IAM, PID, terminology services. But many more ideas already now considered (e.g. multiclouds). PUNCH – together with DAPHNE, FAIRMat and others? – can make contributions.

PUNCH embedded via co-spokesperson, sections, working groups, writing teams ...



New people

New People in PUNCH?

Christian Schmidt-Sonntag (Bielefeld)

Maik Sowinski (FZJ, TA3/5)

Caspar Schmitt TA 3 (LMU, TA3)

Elias Dubbeldam (UHH, TA 3)

Basavaraja Bheemalingappa Sagar (DESY)

Joeri Hermans (UHH)

Marcel Trattner (HTW Berlin)

Project Manager (DESY) → starting 1 June

Anybody else?

Please send short (5 lines) self-introduction and picture (with copyright) to info@punch4nfdi.de, covering who / what / when / where / which TA

New people?

New open positions?

New publications?

→ info@punch4nfdi.de

AOB

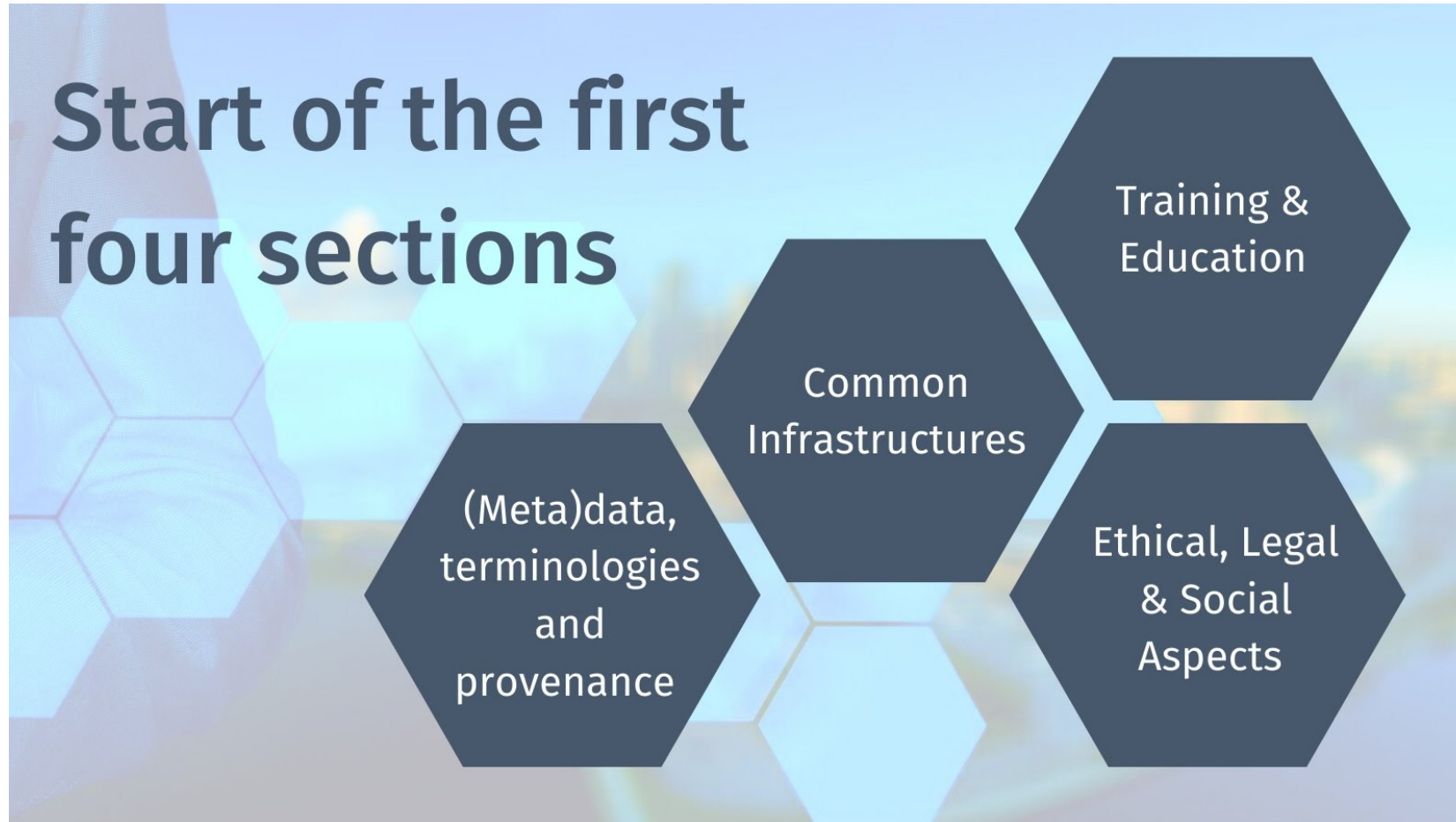
AOB

NFDI Sections

(Christoph, Harry, Andreas, Frank)

The NFDI Sections

Four working already – more to come.



Please make sure your institution authorizes you to vote for it the sections in which you are active!

ELSA - Sections "Ethical, Legal & Social Aspects"

Concept of Section:

- <https://zenodo.org/record/5675972/files/Sektionskonzept-ELSA.pdf?download=1>

Topics:

- Data protection law, intellectual property law and research ethics are cross-cutting issues that affect all projects that (a) collect, process or archive (personal) research data and/or (b) work with data or artefacts to which persons or organisations have exploitation rights.
- Preparing the topics in a generally understandable way, also for consultation purposes.
- Pointing out blueprints and design options for exchange within the NFDI
- Developing the common NFDI context (translation work)
- Use of existing knowledge within the consortia

1st official selection meeting:

- More than 60 participants (not only from the consortia, but also experts from the NFDI-partner)
- Election of section speakers: Franziska Boehm (FIZ Karlsruhe); Ulrich Sax (NFDI4Health)
- First actions:
 - Consultation (opinion poll of the scientific disciplines) of BMBF for “Chances and risks of the EU data act”
https://docs.google.com/document/d/1_UZykhhytzypoWqKreX71x95UC3I3atCL7Jvp402y-s/edit
 - Active participation in Base4NFDI, e.g. by Kati Mozygamba, Uli Sax, Grischka Petri, Franziska Boehm
 - Communication via RocketChat: <https://all-chat.nfdi.de/channel/section-ethical-legal-aspects> & mailing-list: section-elsa@lists.nfdi.de (first register at <https://lists.nfdi.de/postorius/lists/>)

Thank you!

The PUNCH4NFDI Consortium

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