



## Particle, Universe, NuClei and Hadrons for the Nationale ForschunsDatenInfrastruktur

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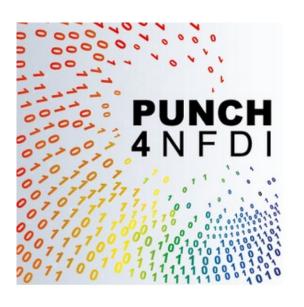
#### Presentation:

The PUNCH4NFDI consortium covers the German community of particle, astroparticle, nuclear, and hadron physicists.

The goal of PUNCH4NFDI is to develop and share solutions for challenges FAIR data and assuring (Findable, Accessible, Interoperable, Reusable) data.

The main product of PUNCH4NFDI will be a science data platform that consist of a data lake with storage and cloud computing systems, a data transformation layer allowing the analysis of the data, and a user- friendly interface functioning as a data portal

# PUNCH4NFDI



#### Objectives and aims:

Enable live analysis

and live peer review

How to use and Science data plateform Data archives manage big data How to assure Open source Description of data. FAIR principles codes metadata, persistent identifiers, analysis worklows and code. Deal with irreversibility Detailed simulation, and knowledge challenge use cases Facilitate cross Establish a Marketplace for tool methods experiment and cross Data management community data analysis and services

Educate professionals and

non professionals

### Tasks and work packages:

TAI: Management and governance

WP 1: Management setup

WP 2: Financial and administration

WP 3 : Controlling and reporting

WP 4 : Consortium organization

TA2: Data management

WP1: Standardized access to data and metadata

WP 2 : Compute4PUNCH

WP 3: Automatisation and optimization of big data management workflows

TA3: Data transformation

WP 1: Statistical methods

WP 2: Numerical methods and simulation

WP 3: Machine learning methods

WP 4 : Methods for analysis across datasets

TA4: Data portal

WP 1: Digital research products and their catalogue

WP 2 : Mapping and collating metadata

WP 3: Implementation of interfaces

WP 4: Build and operate the science data portal

TA5: Data irreversibility

WP 1: Implications for discovery potential and reproducibility

WP 2 : Dynamic filtering WP 3: Dynamic archiving

WP 4 : Scaling workflows

WP 5 : Evaluation and validation of instrument response

TA6: Sunergies and services

WP 1: Marketplace

WP 2 : Authorization and authentication infrastructure

WP 3 : FAIRness

WP 4 : Open-source data analysis tools

WP 5 : Services in big data management

TA7: Training, education, outreach citizen science

Methods

WP1: raining of scientists

WP 2 : Education of students

WP 3 : Public outreach

WP 4: Support for citizen science





































