

PNI-HDRI and related projects

- Photonen-Neutronen-Ionen High Data Rate Processing and Analysis Initiative
- Project lifetime: 05/2010-04/2014
- Project page: <http://www.pni-hdri.de/>
- Partner:
 - DESY – Facilities: Doris, Flash, Petra-III
 - Forschungszentrum Jülich (FZJ) – Facilities: @FRM-II
 - Helmholtz Zentrum Berlin (HZB) – Facilities: HMI, Bessy
 - Helmholtz Zentrum Geesthacht (HZG) – Facilities: @DESY, @FRM-II, @ESS
 - GSI Helmholtzzentrum für Schwerionenforschung (GSI) - Facilities: SIS/ESR, FAIR
 - Karlsruher Institut für Technologie (KIT) – Facilities: Anka



- **WP 1: Data Management**

- Standard data format declarations and API implementation
 - Cooperation with PaNdata
- Web portal for remote data management
 - No intentions to federate
- Data lifetime policies
 - Adopting PaNdata
- Evaluation of authentication schemes and implementation
 - Adopting EuroFEL(?)

- **WP 2: Real time data processing**

- Data processing with dedicated hardware
- Real-time data assessment with parallel computing:

- **WP3: Data Analysis, Modeling and Simulation**

→ Very limited overlap/synergies with CRISP, but with PaNdata.



- **Detector Technology and Systems Platform**
 - 9 HGF facilities (+ potential external partners like MPG, PSI, RAL/STFC, LAL, FNAL)
 - Technologies for highly integrated 2D/3D detectors
 - ASICs, CdZnTe, etc
 - Ultrafast data transfer
 - Radiation hard FPGAs, analog optical signal transport
 - Prototypical detector design

→ Some commonalities with CRISP, but not on the IT-sector



- Large-Scale Data Management and Analysis
 - Migration, Preservation, Curation of Data
 - Data discovery, mining, visualization, simulation
 - Use Policies
 - Standards for protocols, formats, metadata workflows
 - Storage System Design
 - Data intensive computing & applications
 - Federated Data Infrastructure
 - Unified global access and namespaces
 - Wide range of disciplines
 - Energy, non-spectroscopy, biology, earth sciences, health, structure of matter
 - 11 partners from HGF, universities, DKRZ

→ Many common topics with CRISP and PaNdata ODI

