

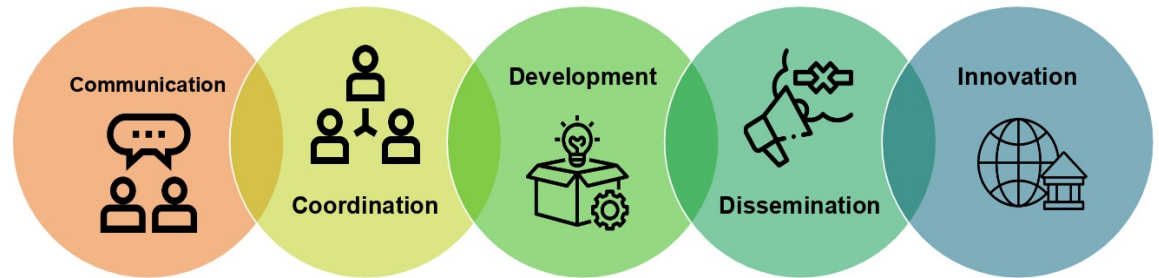
FH Detector R&D platform

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Detector R&D Platform overview

- Goal is to establish a common Detector R&D effort.
 - Define common strategy
 - Within FH, but also with others (FS/AP, Helmholtz/MT, Unis)
 - Improve communication.
 - Increase visibility
- Distribute MT-DTS material & invest funds (150k Euro / year)
 - Personpower (and disciplinary authority) stay within the groups.
 - No travel budget
- 2 coordinators with 3 years renewable mandate (staggered by 1.5 years)
- A steering group (2 years mandate) has been formed with representatives for each R&D topics and relevant contact persons.



Steering Group



Katja Krüger*
Calorimeter



Friederike Januschek
Cryogenic Detectors



Simon Spannagel
Silicon detectors



Christian Reckleben
ASICs & Si-photonics



Moritz Guthoff*
Integration



Andreas Nürnberg
DAF



Ties Behnke
MT contact



Lennart Huth
ITT contact



Marcel Stanitzki
Test Beam contact



Dario Ariza
Engineering contact

* Coordinators

Topics interest & DRD

Silicon detector development is a strong focus of our interest

- Monolithic CMOS
- SiPM development
- Software tool developments
- Involvement in DRD3

Calorimeter developments

- Highly granular SiPM on tile calorimeter
- Involvement in DRD6

Data transfer

- Silicon photonics
- Advanced interconnects
- Involvement in DRD7

Integration

- Detector integration center
- R&D on light weight mechanics, local cooling and cooling systems
- Involvement in DRD8

Cryogenic detectors

- Transition Edge Sensors
- Developments for axion/dark matter experiments

Infrastructure

- Detector Assembly Facility
- Test beam

Involvement in DRD1 (gaseous detectors) & DRD5 (quantum sensors) on observer level.

POF

- Our base budget is organized in so call Project Oriented Funding, with a funding period of seven years. Currently we are in POF IV, POF V starting in 2028.
- Research Field: Matter
 - Matter and the Universe (MU): Various particle physics experiments
 - Matter and Technology (MT): Detector Technology and Systems (DTS)
- Other Helmholtz centers are funded through the same scheme.
 - The project strategy (what we are researching) is defined commonly.
- For DESY-FH: Most funding comes through MU (includes detector upgrades). Detector R&D is located in MT-DTS.
 - MT-DTS funds for DESY are shared between FS and FH.

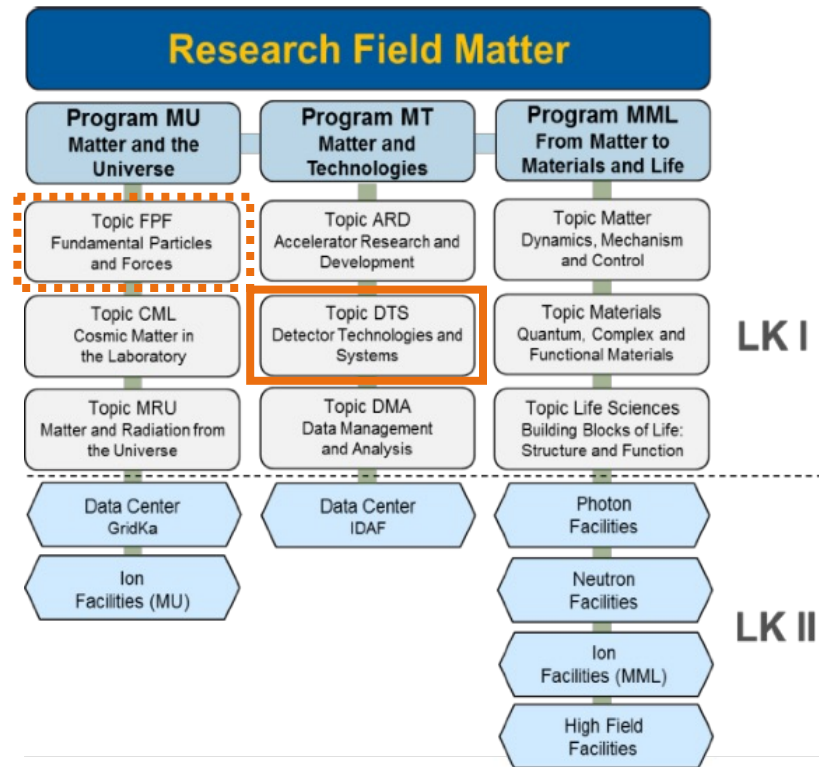


Figure 1: Program structure of the research field Matter for PoF IV (2021-2027).

- Active participation in MT-DTS is important to strengthen the program, invoke our R&D interest as part of the strategy. E.g. at the yearly MT meetings.

Career development

- Core aspect of platform mission, but still dormant.
- Ideas:
 - Central archive for Bachelor, Master and PhD projects.
 - Central access for students to look for projects.
 - List of projects can be used by our Professors to propose project to interested students.
- So far the platform activities is not considered in fellow selection.
 - Mostly detector fellows are needed for the Phase-2 upgrades (weak R&D component)
 - For career development, R&D is important. Partial contribution to a R&D activity is important.
 - List of possible part time contributions for fellows could be helpful.

Detector related events

- Instrumentation Seminar
- Retreats
- Journal clubs
- Lab tours
- Technology transfer seeding events?
- Your Idea!

Retreats - Today

- First of a series of planned bi-annual retreats
 - Future events also foreseen outside DESY
- Today: short contributions from people working on detector R&D in various FH groups at DESY
 - 12 minutes presentations + 3 minutes quick questions.
 - Plenty of time for discussion over coffee, served here.
 - 1,5 h lunch break should be enough to go to the canteen (nothing provided).
 - From 18:00 drinks and finger food at the canteen extension.
- In future:
 - Plan some more detailed contributions about Infrastructure, Organization (POF, ...)
 - Your ideas are very welcome!

Retreats - Today

HAVE FUN!