



High-D

R&D for highly segmented multidimensional detectors for future experiments

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The High-D collaboration

RWTH Aachen, HU Berlin, TU Darmstadt, U Freiburg, U Giessen, U Göttingen, U Frankfurt a. M., U Hamburg, DESY, U Heidelberg, JGU Mainz, MPI für Physik München, TU München, U Bonn, FZ Jülich, GSI

BMBF funding 2021 -2024

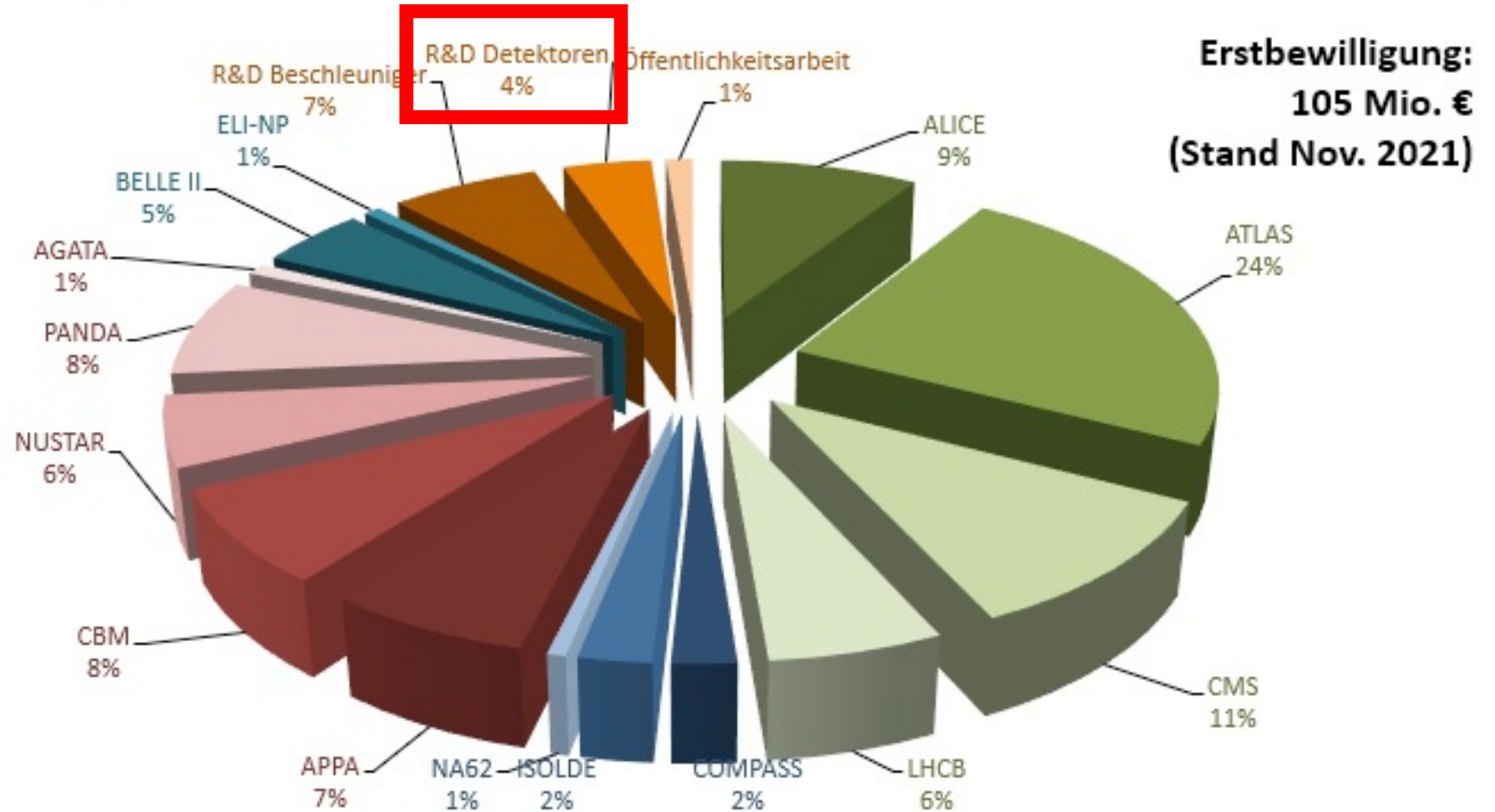
„Physik der kleinsten Teilchen“ FP 2021-2024

Total R&D Detektoren

~4,5 Mill.
15 projects

High-D:

~1,5 Mill.
7 projects



The High-D consortium

First large scale coordinated effort on detector development in High-Energy and Hadron&Nuclear Physics

Mandate:

- Research on new generation **high-precision detectors** with unprecedented spatial, temporal, and energetic resolution, **for applications at future accelerator-based experiments at both the Energy Frontier as well as the Intensity Frontier**

Members:

10 universities + 4 research centers in Germany

Program:

Fundamental research on 5D detectors with **extreme granularity** and on **novel reconstruction techniques**

The High-D research overview

Higher segmentation is achieved by:

- novel microelectronic technologies
- novel semiconductor designs
- new segmentation concepts
- novel readout electronics

to ensure optimal reconstruction precision these **must be accompanied by:**

- novel algorithms that effectively utilize 5D information
- integration of all components of a detector system (“particle flow” approach)

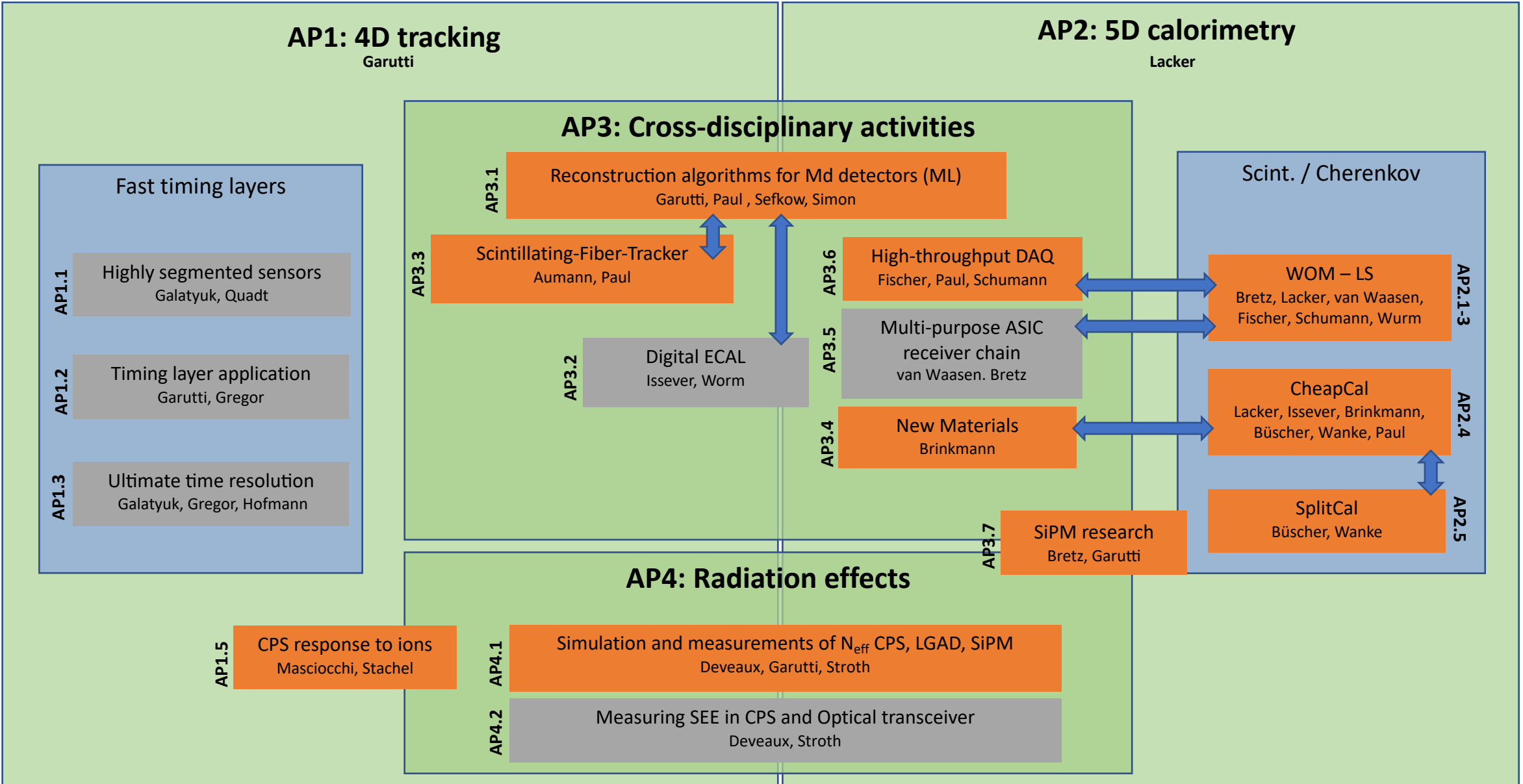
Consortium divided in 4 interconnected work packages:



- Two main pillars: **4D tracking** and **5D calorimetry**
- Two cross-linking packages

High-granular Multi-dimensional detectors

Receive BMBF funds
Receive other funds



Aims

- Overview of detector development activities in Germany
- Stimulate cross-communities exchange & cooperation
- Conduct and develop concrete scientific projects
- Network building for young scientists

High-D web page

- Static web page with mandate and structure of consortium:

<https://www.physik.hu-berlin.de/de/eephys/genericdetectorrnd/rnd2>

- Living web page updated from Consortium members

<https://confluence.desy.de/display/HIGHD/High-D+Home>

Logo competition

High-D still needs a logo

which will become the **symbol for high-precision detector development in Germany**

Some proposals are already collected

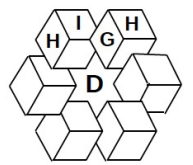
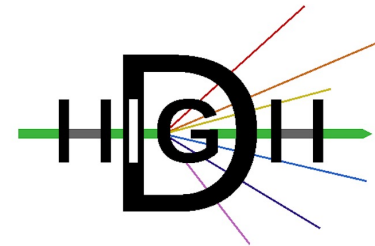
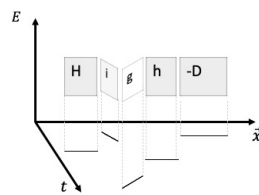
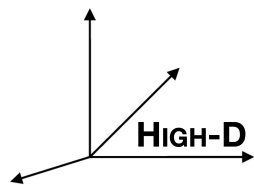
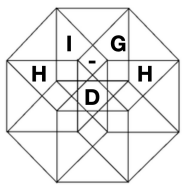
Please send more till tomorrow lunch time

All logo will appear here:

<https://terminplaner4.dfn.de/3OfxMKtWpLmKQjJx>

But voting will be opened only tomorrow 13:00.

Each one has 3 votes / please use a nickname to vote



Concluding remarks

High-D

is a consortium to coordinate the effort on detector development in HEP and Hadron&Nuclear Physics

It needs your input & participation to become a success !

Let us talk science now ...