

Matter and Technologies

2. MT Annual Meeting

Karlsruhe, 8.3.2016-10.3.2016

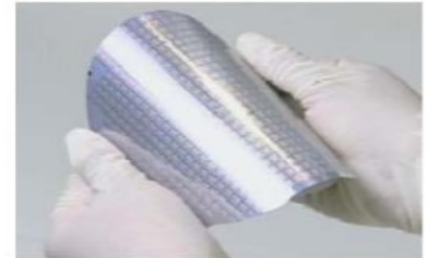
Ties Behnke, program speaker

Matter and Technologies: Our Mission

Bundle competence available in matter
in accelerator and detectors science at Helmholtz:

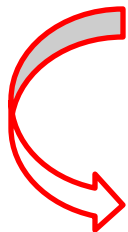
“Matter and Technologies” will be a platform
for fundamental developments in technologies
to prepare for the future of the field.

Driven by science
Needed by the science
Important for society
Relevant for industry



Technology is the motor of innovation and excellence

Fundamental research is one of the most efficient driving forces
for new technologies



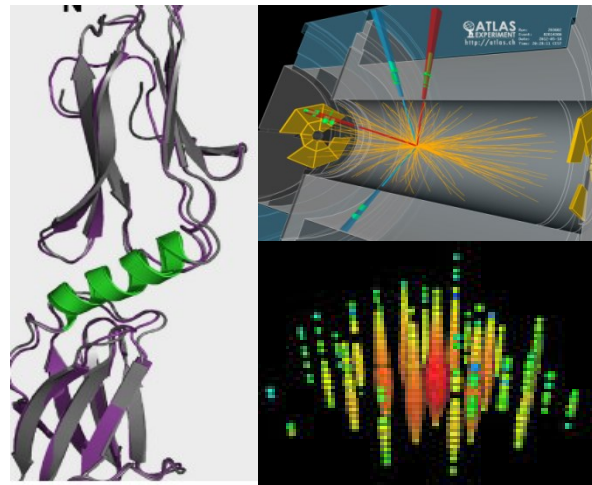
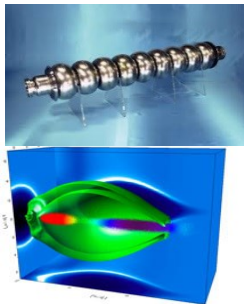
Matter and Technologies: Challenges

Matter: complex questions
complex methods

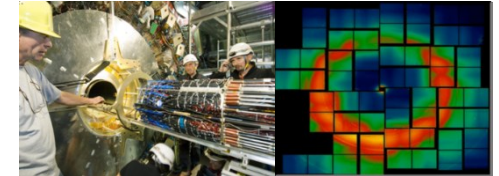
Accelerators:

We need

- High intensity
- High energy
- Reliability
- Compactness



Science Driven
Driving Science
Develop Technologies for
tomorrows challenges



Detectors

We need

- Granularity
- Information handling
- Fast readout
- Integration

Matter and Technologies

Accelerator (ARD)

DESY, FZJ, GSI, HZB, HZDR, KIT
Andreas Jankowiak, HZDR



Detector technologies and Systems(DTS)

DESY, FZJ, GSI, HZDR, KIT
Marc Weber, KIT

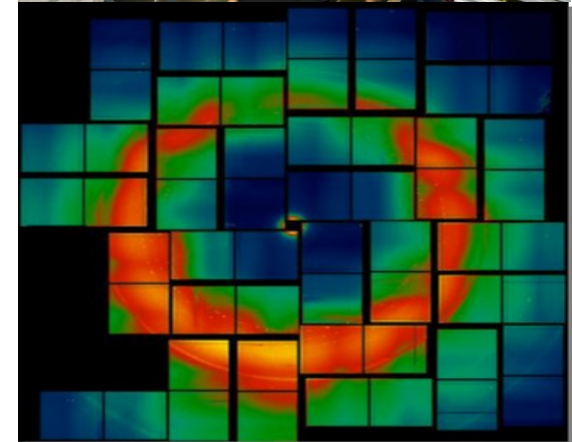
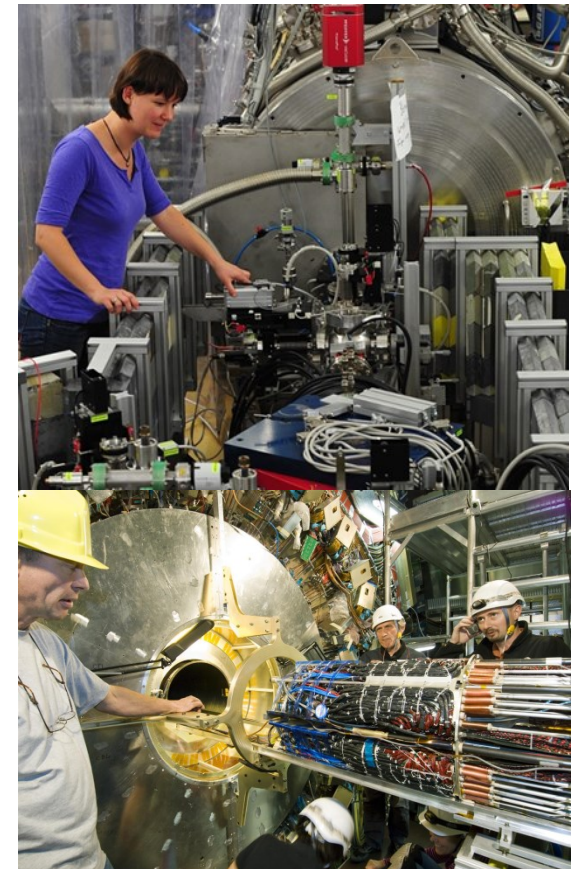


Cross program activity “Computing, Large scale data handling and processing”

Programme wide and topic-centered regular coordination meetings

Coordination with matter management

Coordination with center managements



Matter and Technologies

AC Andreas Jankowiak, HZB, replaces
Reinhard Brinkmann, DESY, as
topic speaker ARD.

KIT



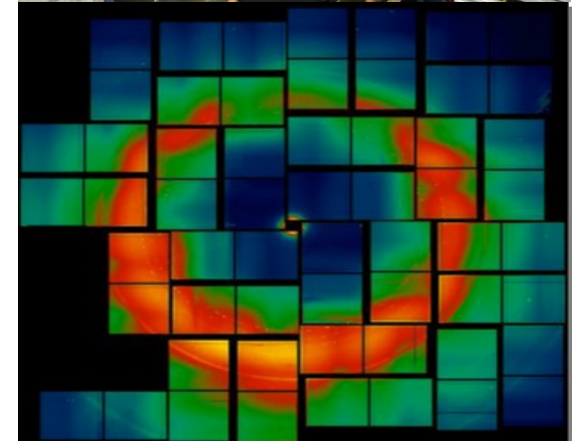
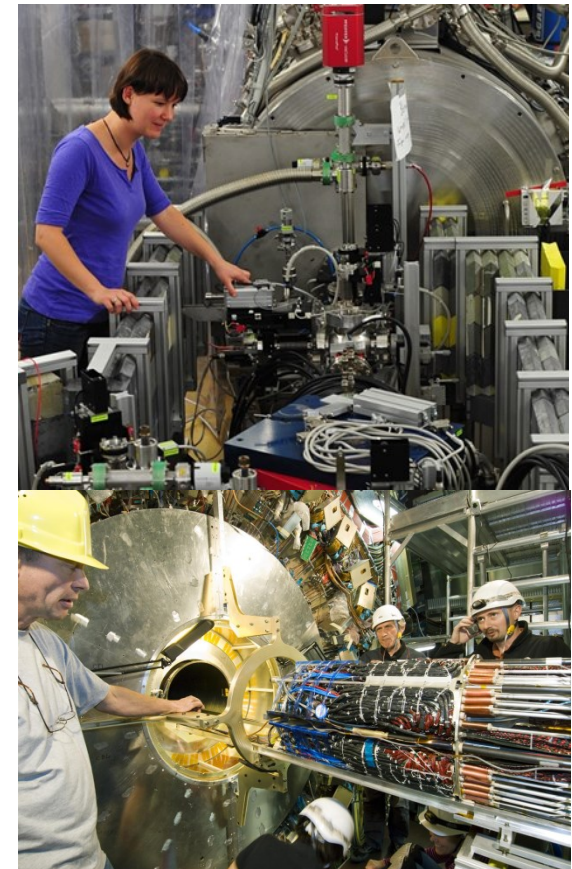
DE Many thanks to Reinhard for his
work and central role in shaping
ARD and MT

S)

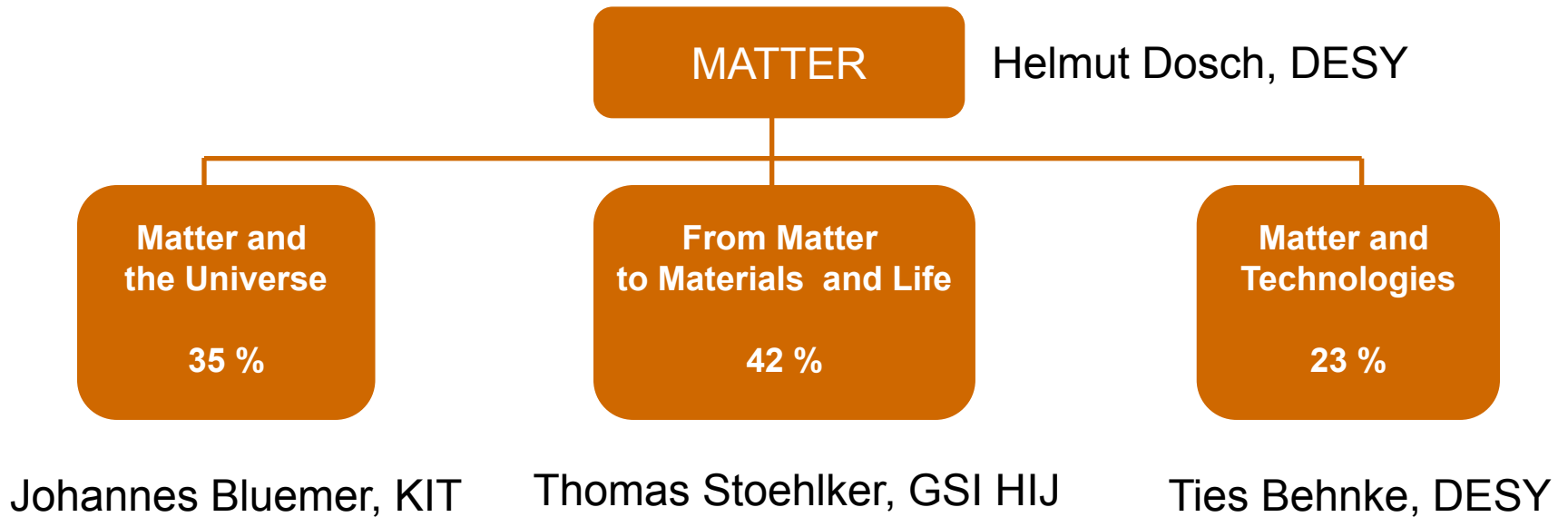


Cross program activity “Computing, Large scale
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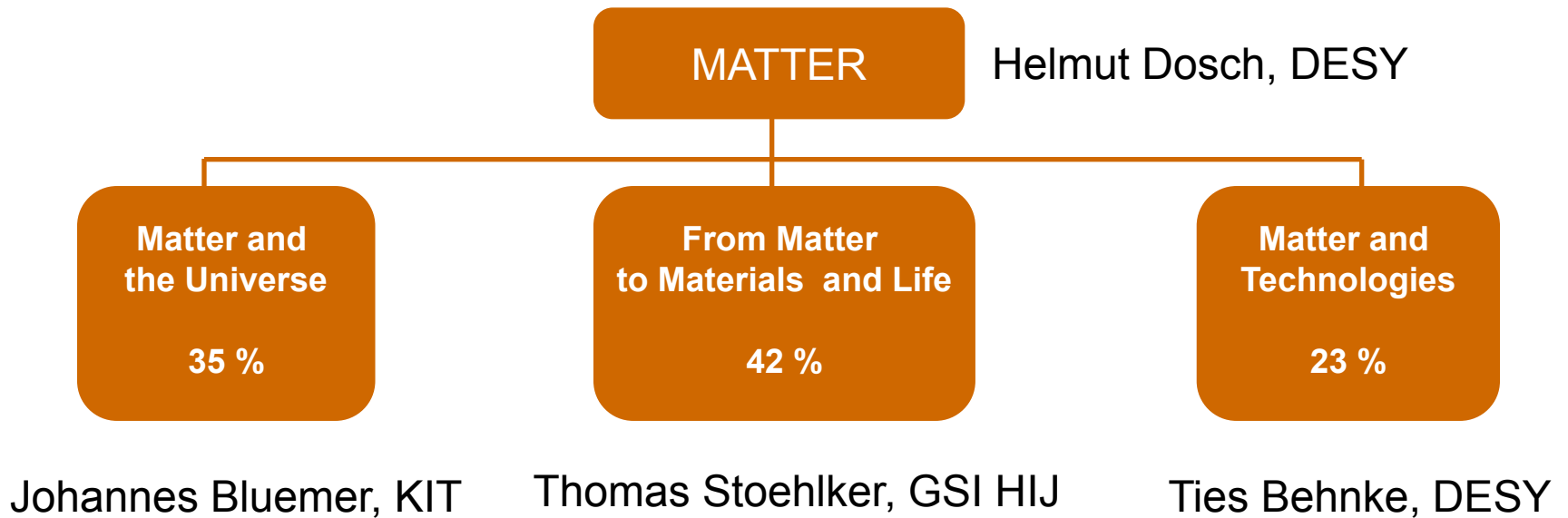
Programme wide and topic-centered regular
coordination meetings
Coordination with matter management
Coordination with center managements



Research Field “Matter”

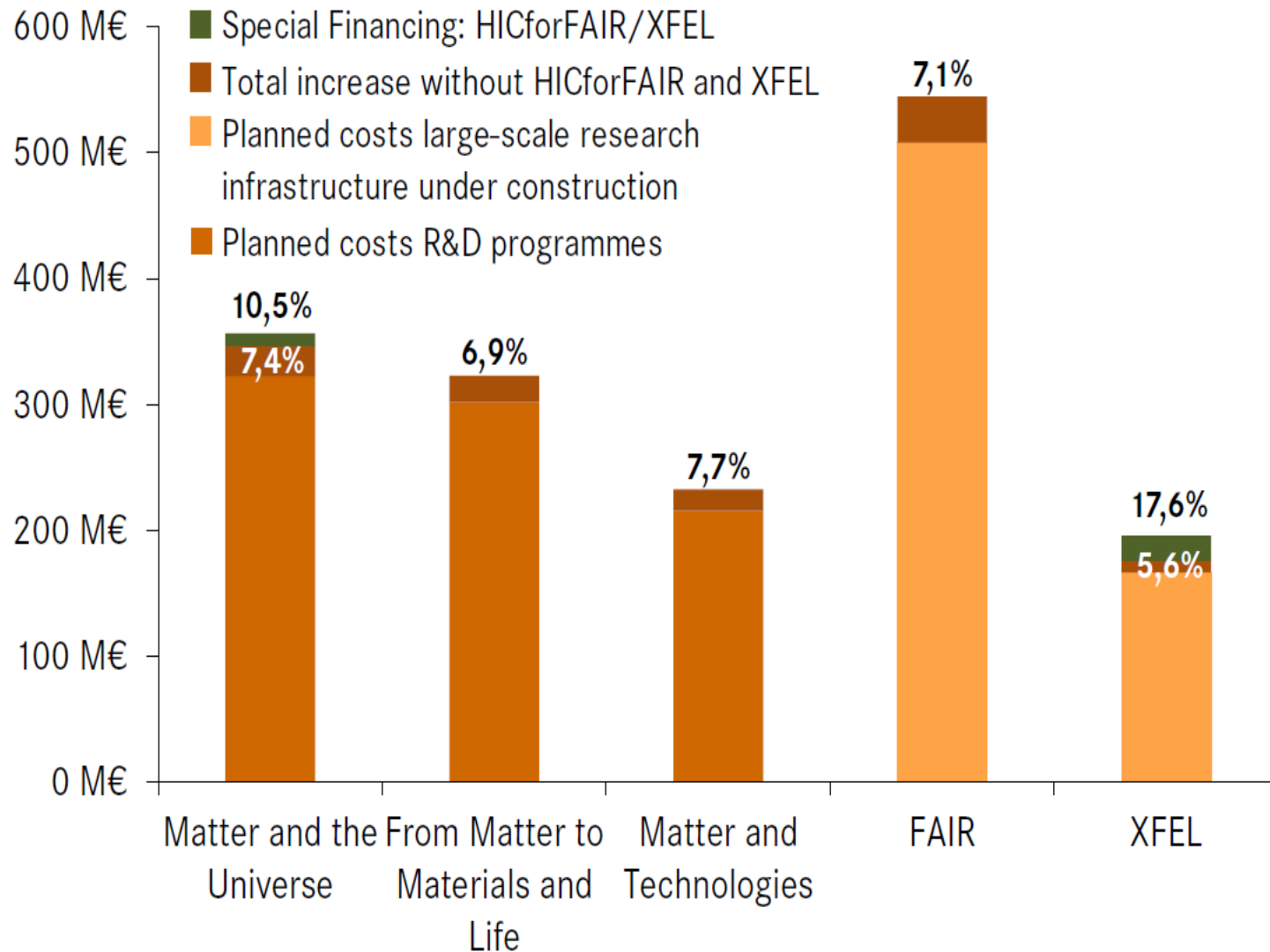


Research Field “Matter”



Thomas Stoehlker replaces
Andreas Schreyer, who went to
become research director at the ESS

Development of the Costs within Matter



Matter and Technologies: Recommendations

Strategic recommendations:

- The development of CW RF to FLASH and XFEL should be viewed as the highest priority objective of topic Accelerator R&D (ARD).
- The development of laser plasma acceleration should be pursued with high priority
- During the mid-term reviews, it should be examined to what extent the planned objectives of the programme have been achieved, and if necessary new plan objectives have to be formulated. In addition, functionality and success of the management and coordination structures of the topic should be checked.
- A long-term perspective for the programme topic Detectors Technologies and Systems (DTS) should be developed.
- For DTS the development of shared research infrastructures is highly recommended. These infrastructures should be also accessible for university partners.
- The transfer of technology in both programme topics should be further advanced considering probable developments which take place at the periphery of the programme topics.

This meeting

MT after one year, where are we standing.

Did we achieve our initial goals?

Are we pursuing the right projects?

Where can we improve further

- More cooperation ARD/ DTS
- More communication?
- More visibility to the outside?
- Etc.

Programm today

- Status of ARD (Andreas Jankowiak)
- Status of DTS (Marc Weber)

- TIARA, a European Initiative to promote sustainable Accelerator R&D (Roy Aleksan)
- Accelerator for Hadron Therapy: the Industry Perspective (Heiko Rohdjess)
- CMOS Imagers Sensors and Electronics at IMS Duisburg (Werner Brockherde)

- New Detectors for Katrin (Susanne Mertens)
- Accelerator Physic and Technology in China (Qing Qin)

- Poster Session
- Reception