

# Superconductivity for Sustainable Energy Systems and Particle Accelerators

## Session 6: Technology Transfer and Cooperation, Friday, 20.10.2023

“Open group discussion on challenges, technological perspectives and future opportunities in industry and academia.”

### Table #1

#### Challenges in industrial/academic cooperation.

*Host: Martina Bauer, GSI*

##### Questions for discussion

- What goes well? What are the barriers? e.g. legal aspects and framework conditions; mutual standards (quality & safety); ability to act / speed; resources; access; data sharing
- What can we improve?
- What fosters these cooperations?
- How to improve implementation and validation of technical innovations?
- Are there funding opportunities for sustainability that should be explored jointly?
- What role do communication formats such as joint workshops or large events like the BSBF play? Which are helpful in exploring opportunities for cooperation?
- What role do joint associations and communities of interest have here?
- How can these challenges and their suggested improvements be addressed to policy-makers?
- How can commercial interest and exchange of expertise be balanced?

### Table #2

#### Technological perspectives and upcoming R&D needs/trends on superconductivity in sustainable energy systems and particle accelerators in industry and academia.

*Host: Christian Roux, GSI*

##### Questions for discussion

- How can different fields/markets profit from each other (material/resources/expertise)? Can we identify common interest clusters to bundle effort?
- Critically needed improvements in performance and key parameters? (e.g. cooling, system design,...)
- How can a reduction of energy consumption and thus operating costs be achieved?
- Can we reduce our consumable (Helium, electricity) consumption?
- In which new technical areas could superconductivity have added value and be applied in the future?
- What are tangible opportunities and synergies in the field of superconductivity, particle accelerators and energy efficiency between industry and RIs?

### Table #3

#### Future concepts and future applications.

*Host: Tiemo Winkler, GSI*

##### Questions for discussion

- Do you have ideas how to apply superconducting technologies in fields of energy efficiency?
- Which improvements or modifications of sc cables would empower new commercial applications, especially applications in energy systems ?
- Is there infrastructure that could be made available to each other? (e.g. cryogenic test stands/plants, labs, ...)
- In which areas does industry strive to carry out developments jointly with public institutions?
- Development goals for HTS magnets – where do we go?
- Future cooling concepts for HTS applications?
- Many applications are on the horizon. What are thresholds and key milestones?