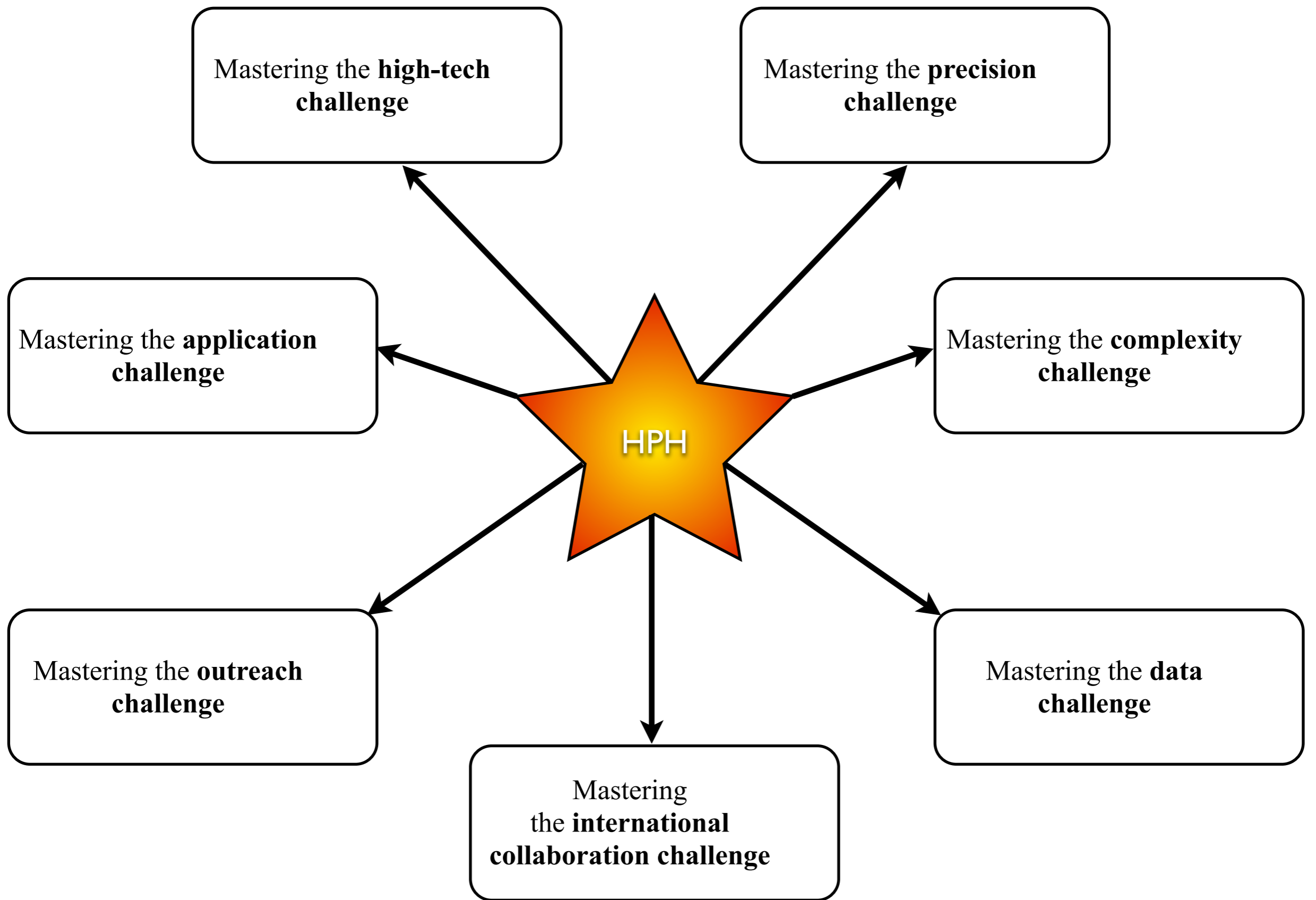


EU Programm Pläne



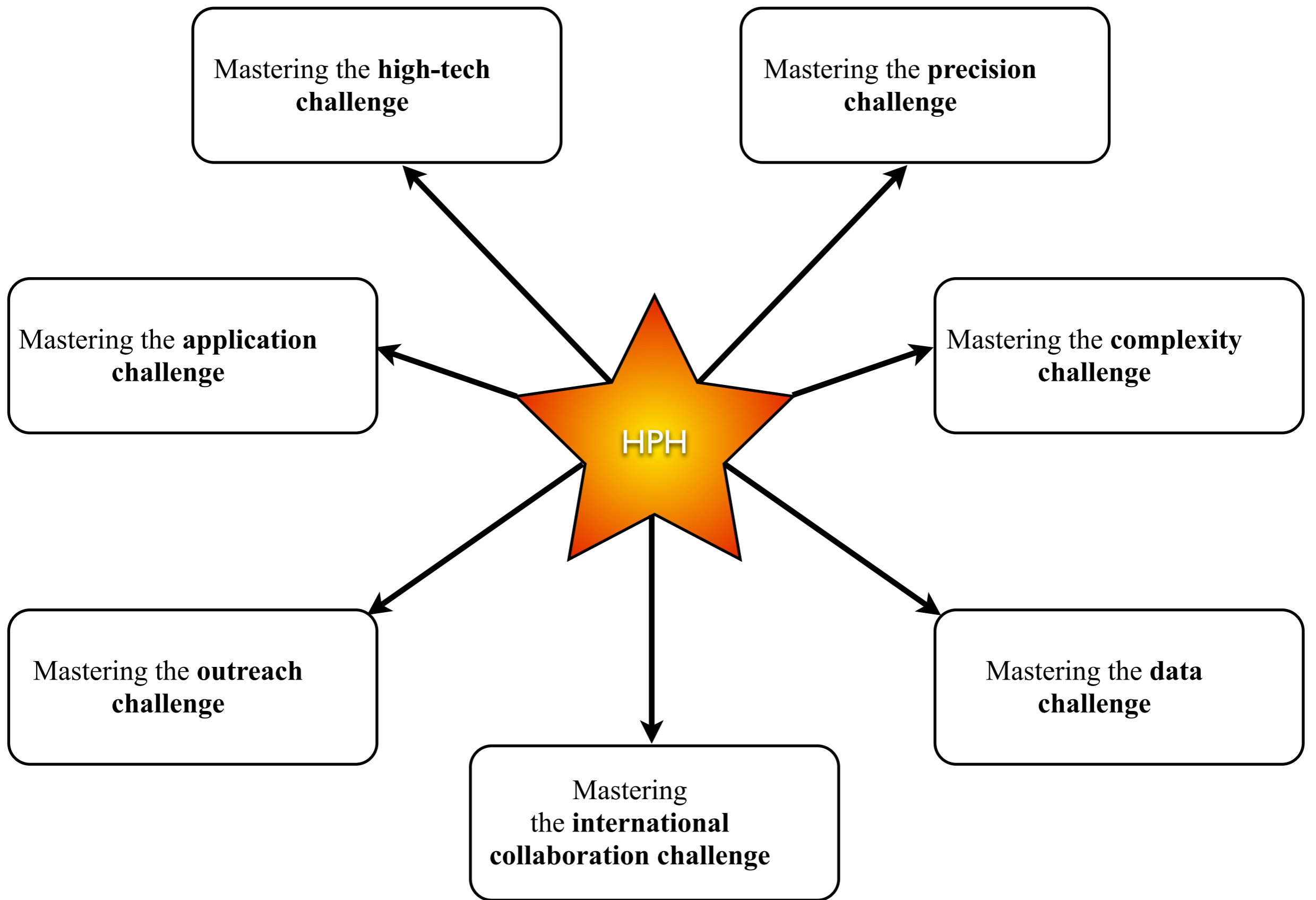
Ulrich Wiedner
Ruhr-Universität Bochum

Already lunch time?



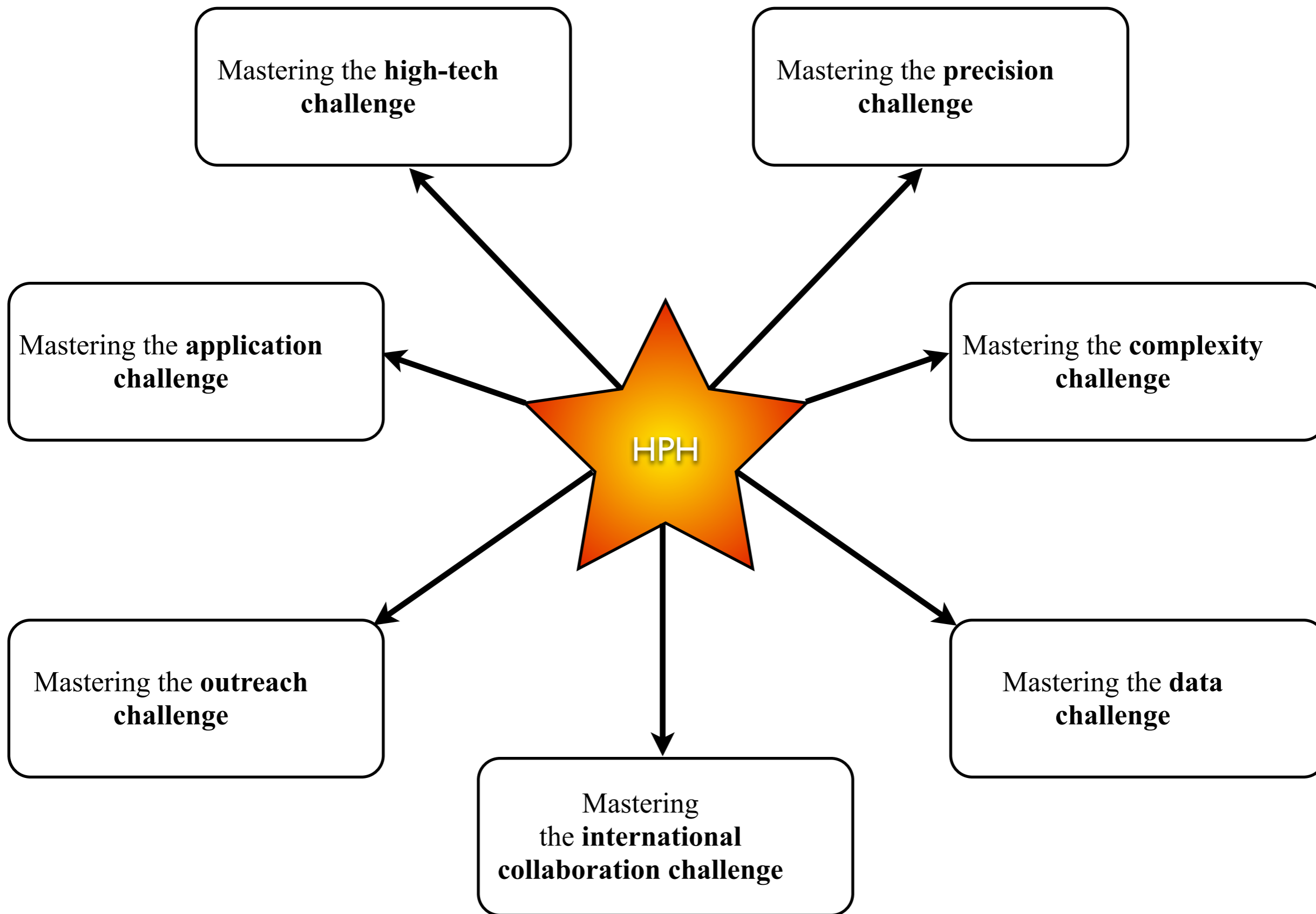
Mastering the **high-tech**
challenge

- new acceleration techniques for future accelerators, like laser cooling of beams
- developing and integrating new infrastructures and accelerators like the energy conserving MESA
- significant developments on cryogenically cooled beam targets
- development of new detector techniques with increased radiation hardness and high-speed readout



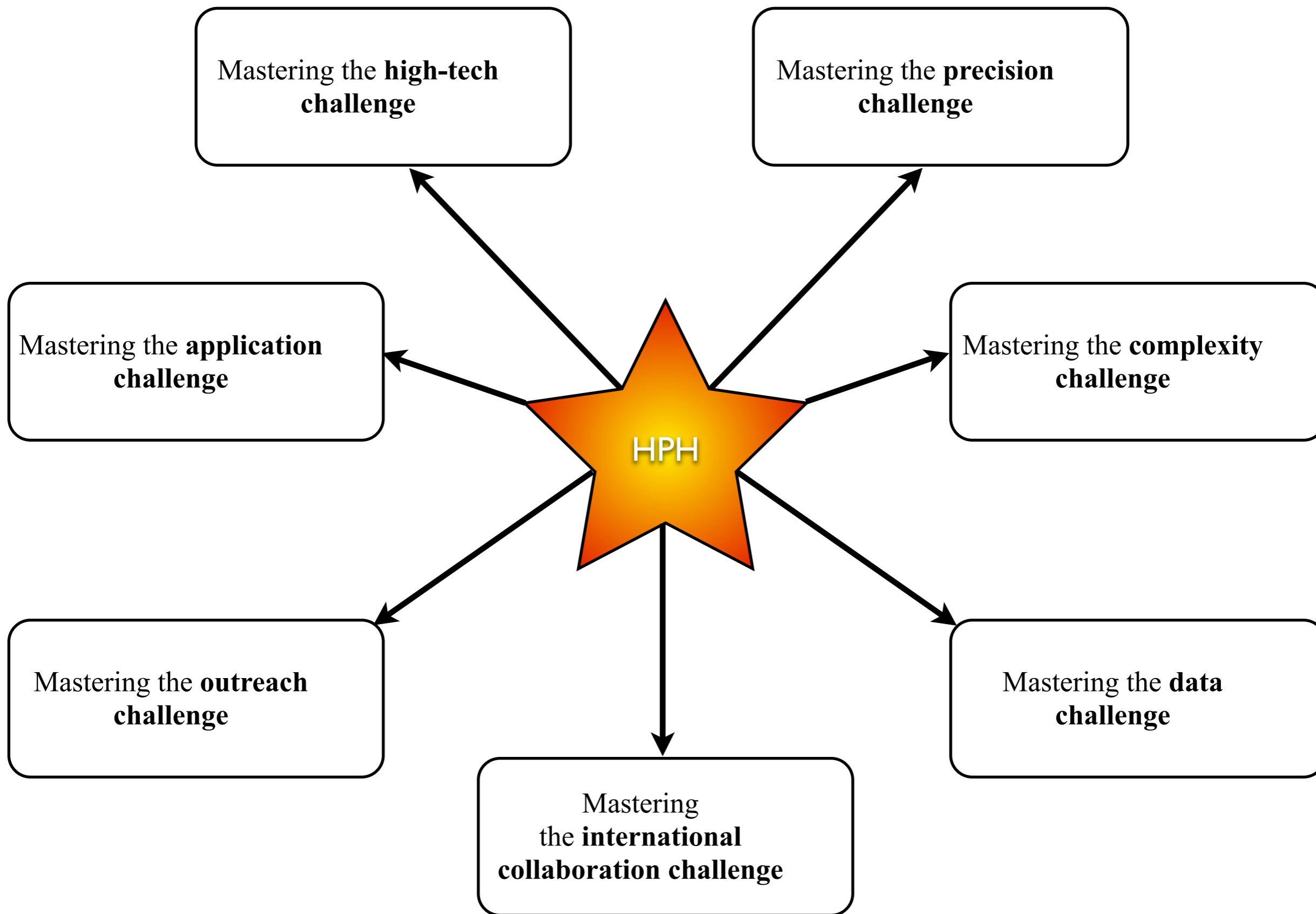
Mastering the **precision**
challenge

- Progress in understanding nature requires highest possible precision in measurements
- ...



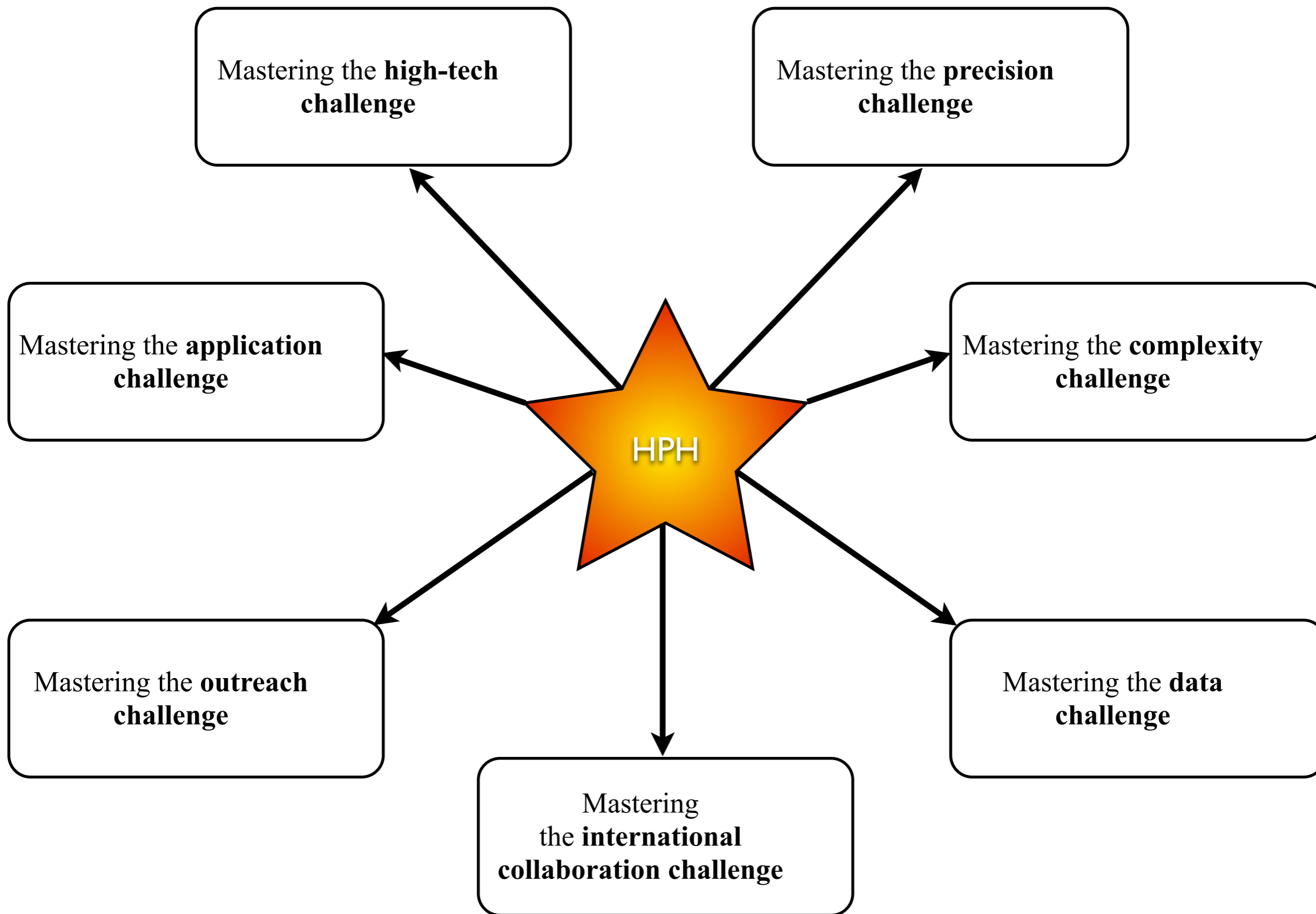
Mastering the **complexity**
challenge

- Hadron Physics deals with non-perturbative problems. The successful systematic study experimentally and theoretically might very well provide the key for other fields requiring also non-perturbative solutions – like e.g. weather phenomena.
-



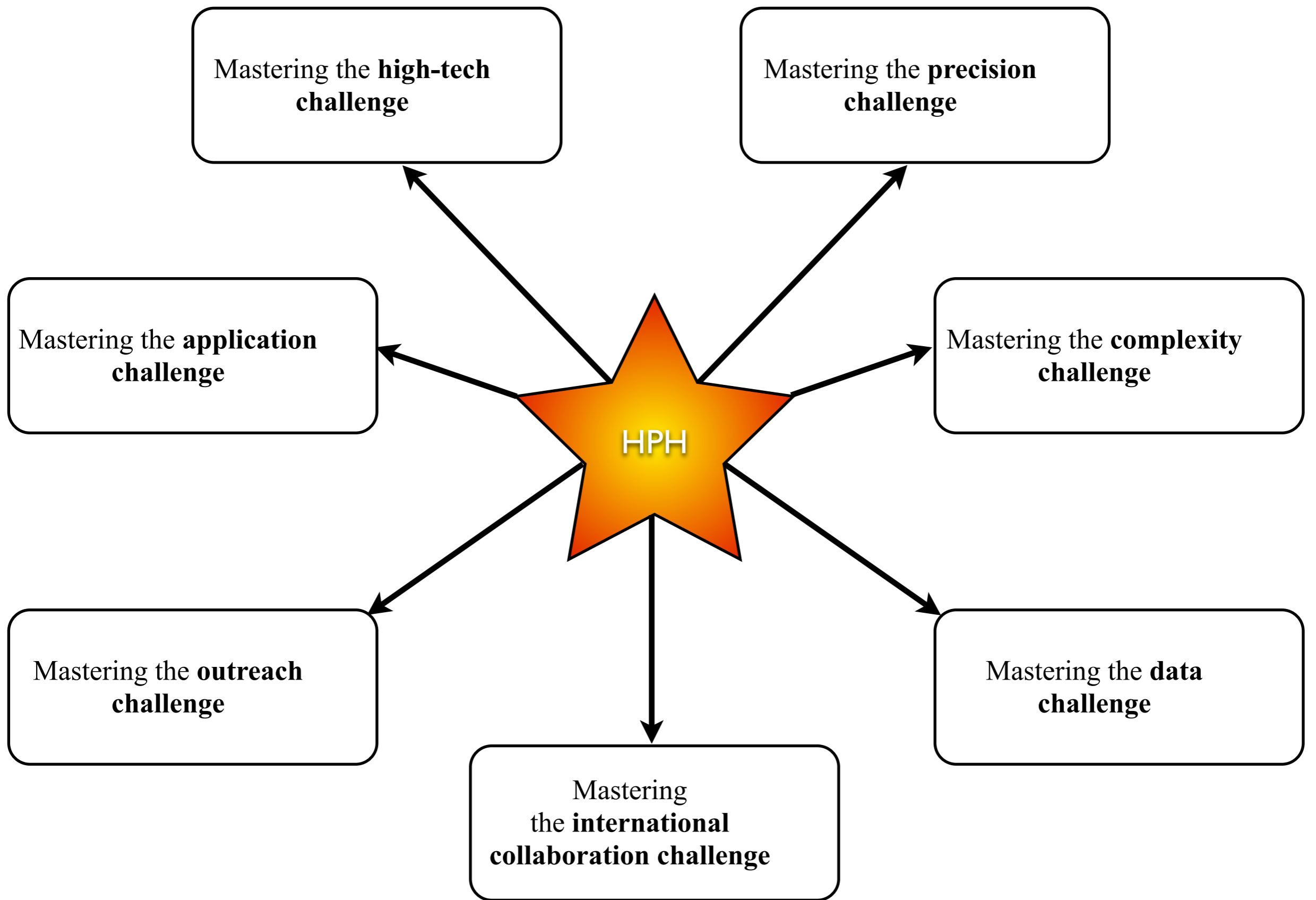
Mastering the **data**
challenge

- High-precision measurements require high-statistics data. Additionally, the most interesting data appear in rare processes asking for even more data to be taken. The experiments of the future will therefore deal with an unprecedented amount of data, requiring new analysis techniques, sophisticated pre-processing of data at the trigger level, intelligent and at the same time energy-efficient computer centers.
- ...



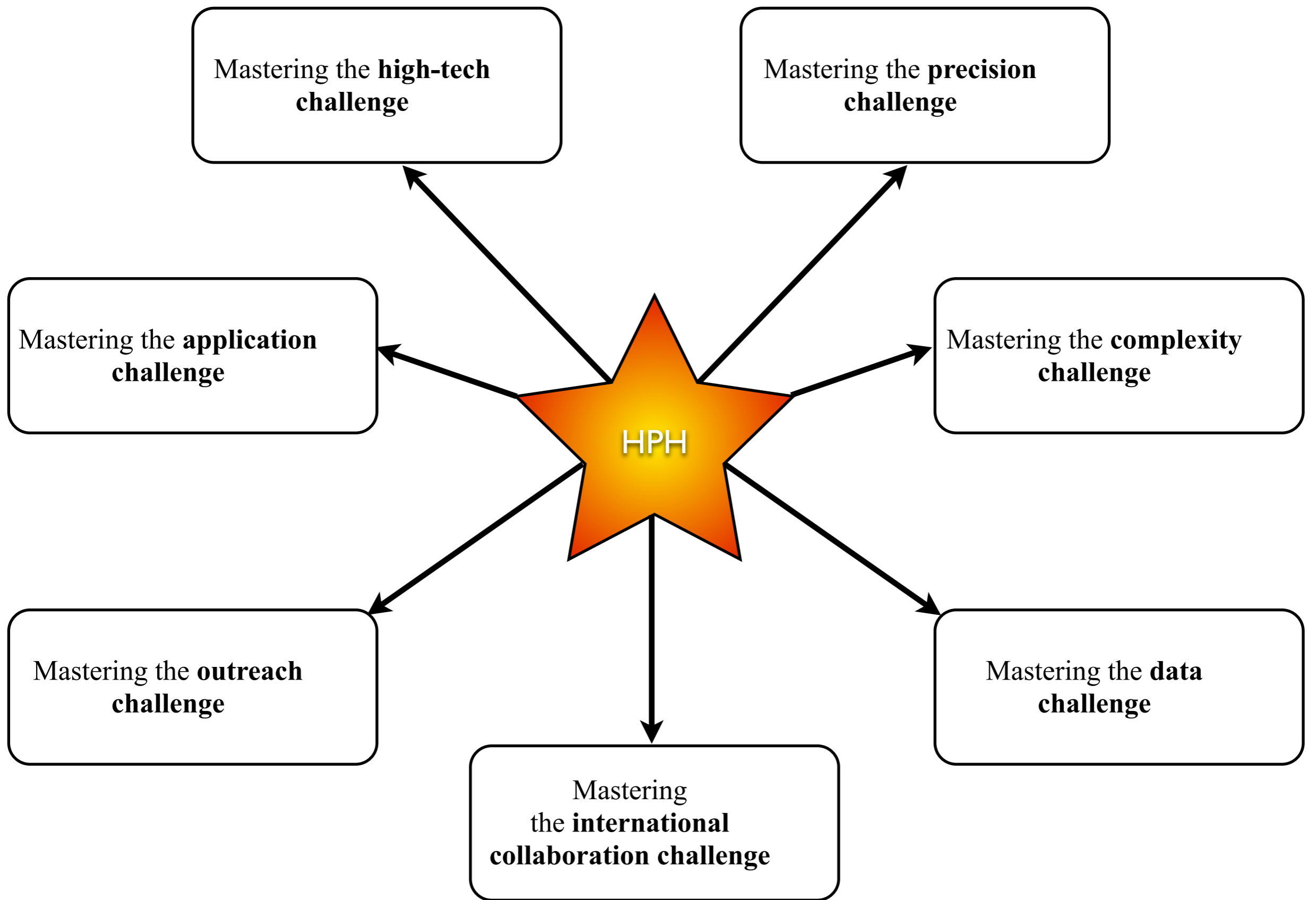
Mastering
the **international**
collaboration challenge

- Successful Hadron Physics is done in international collaborations. This opens up the opportunity for young researches and students to spend time in different laboratories of participating countries and gain experience in a foreign research environment.
- Hadron Physics is a priority area for the American Government which is running and extending national laboratories in the field. The new facilities and the new generation of experiments complement nicely the field active in Europe. Therefore we plan a close collaboration between the US authorities (DOE and DOE funded groups) and the HPH participants. Preliminary discussions on how to achieve this have already started. Similar possibilities exist for Japan. Russia is already involved in the FAIR facility.
- Emerging countries like China, India, Thailand and Brazil have recently begun to invest in the field of Hadron Physics by participating e.g. in upcoming research European infrastructures like FAIR and/or building up own facilities. A truly global collaboration and exchange would profit all societies.



**Mastering the outreach
challenge**

- Hadron Physics is a fascinating field, which has the potential to draw and bind high-school students and young people into science. A compelling outreach program for the general public with some emphasis on school children should be implemented in HPH.



Mastering the **application
challenge**

- Techniques developed for Hadron Physics often have applications in other fields of like medicine. Materials for polarised targets act as tracers for dedicated NMR spectroscopy.
- Hadron beams utilising e.g. antiprotons offer unique possibilities in medical treatments that otherwise cannot be achieved.

Roadmap

http://ec.europa.eu/research/horizon2020/index_en.cfm?pg=h2020-documents

COUNCIL DECISION ESTABLISHING THE SPECIFIC PROGRAMME
IMPLEMENTING HORIZON 2020 - THE FRAMEWORK PROGRAMME
FOR RESEARCH AND INNOVATION (2014-2020)

Research infrastructures for nuclear physics. This activity aims at furthering the integration of, and access to, the key research infrastructures in Europe for studying the properties of exotic nuclei or of nuclear matter at extreme conditions.

Important notice:

The present document is meant to facilitate the discussions towards the preparation of the work programme 2014 – 2015. It does not at this stage cover all relevant aspects and it does not prejudge the outcome of the on-going interinstitutional negotiations on Horizon 2020 or internal work on cross-cutting aspects. Hence, it remains subject to change. Information, such as indicative budgets per call/area, will be provided at later stage.

Call 2 - Integrating and opening research infrastructures of pan-European interest

Deadline for proposals September 2, 2014

HORIZON 2020 – WORK PROGRAMME 2014-2015

European research infrastructures (including e-Infrastructures)

Integrating Activities are the main instrument to realise the Innovation Union flagship initiative's Commitment n. 4: "*Opening of Member State operated research infrastructures to the full European user community*", with a structuring impact on the ERA and on the way research infrastructures operate, evolve and interact with similar facilities and with their users. In particular:

- Researchers will have wider, simplified, and more efficient access to the best research infrastructures they require to conduct their research, irrespective of location. They benefit from an increased focus on user needs.
- A new generation of researchers is educated that is ready to exploit in the best way all the essential tools needed for their research.
- Operators of related infrastructures develop synergies and complementary capabilities, leading to improved and harmonised services. There is less duplication of services, leading to an improved use of resources across Europe.
- Closer interactions between larger number of researchers active in and around a number of infrastructures facilitate cross-disciplinary fertilisations and a wider sharing of information, knowledge and technologies across fields and between academia and industry.
- Innovation is fostered through a reinforced partnership of research organisations with industry.
- The integration of major scientific equipment or sets of instruments and of knowledge-based resources (collections, archives, structured scientific information, data infrastructures, etc.) leads to a better management of the continuous flow of data collected or produced by these facilities and resources.

Type of action: Research & innovation action

Jetzt:

Entwicklung individueller Proposals

Deadline: 1. März 2014

25.-27. März 2014

Community Kick-Off Meeting in Bochum

Auswahl individueller Proposals

April - August 2014

Schreiben des Gesamtproposals

Danke für die Aufmerksamkeit