

International  
Muon Collider  
Collaboration



# The Muon Collider Collaboration

Memorandum of Collaboration(MoC): Being signed by collaboration members: [LINK](#)

Governance document: “Collaboration own” document, with updated description of the organisation, also taking into account being part of the European Accelerator R&D roadmap: [LINK](#)

Today the first International Collaboration Board meeting (more later)

Recently, a successful EU design study project application, to be started in 2023 (MuCol) – requires its own governance, but we should aim to minimize potential conflicts and overlapping responsibilities

# Governance Documents



## **Memorandum on Cooperation for the Muon Collider (MC) Study**

The original document

THE INSTITUTES, LABORATORIES, UNIVERSITIES AND FUNDING AGENCIES AND OTHER SIGNATORIES OF THIS MEMORANDUM ON COOPERATION AND CERN AS THE HOST ORGANIZATION (“the Participants”)

## Governance Structure of the International Muon Collider Collaboration

D. Schulte, M. Lamont

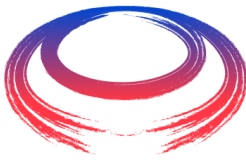
June 27, 2022

A proposal giving some more implementation detail and including LDG/Council requests

### **1 Preamble**

The International Muon Collider Collaboration (IMCC) was initiated in 2020 following the recommendations of the update of the European Strategy for Particle Physics. A Memorandum of Cooperation (MoC) was drawn up; 20 institutes have already signed or are in the process of doing so. CERN shall act

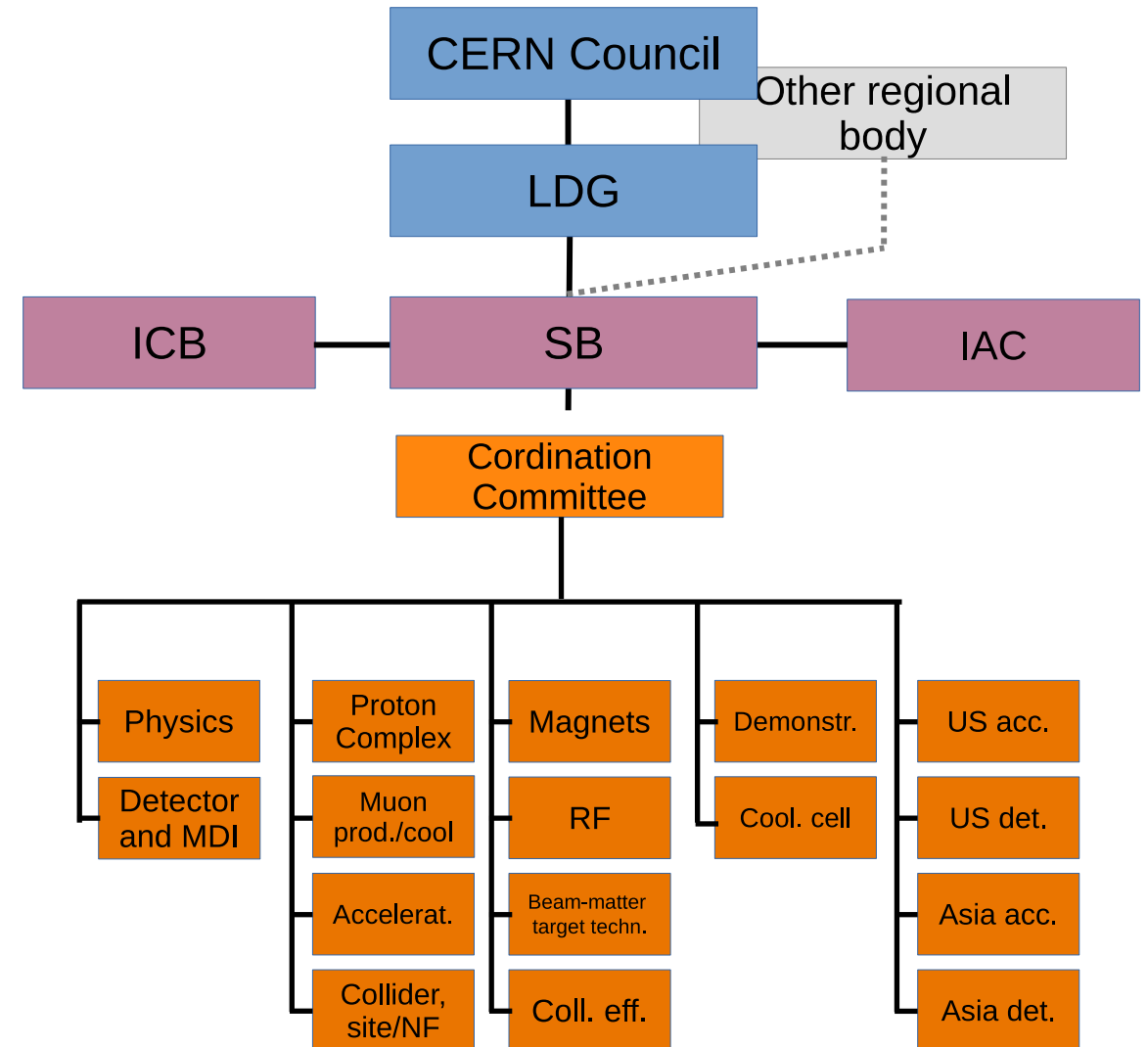
# Main elements of the governance structure



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## Formal organization

- **International Collaboration Board (ICB)**
  - First meeting today
- **Steering Board (SB)** (links to LDG, CERN Council, major FA, strategy ... )
  - Chair Steinar Stapnes
- **Coordination committee**
  - Study Leader Daniel Schulte, deputies: Andrea Wulzer, Donatella Lucchesi, Chris Rogers, to be endorsed by the ICB
  - The members are already working



# CC Members



Physics	Andrea Wulzer
Detector and MDI	Donatella Lucchesi

Protons	Natalia Milas
Muon production and cooling	Chris Rogers
Muon acceleration	Antoine Chance
Collider	Christian Carli

Magnets	Luca Bottura
RF	Alexej Grudiev
Beam-matter int. target systems	Anton Lechner
Collective effects	Elias Metral

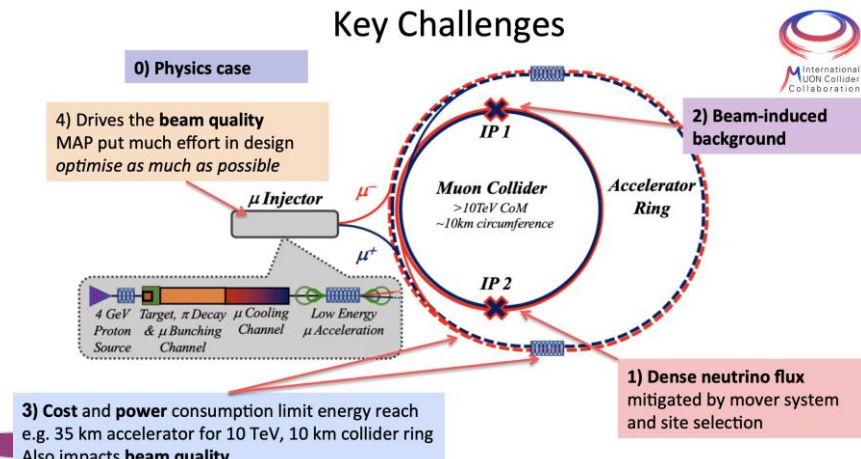
Cooling cell design	to be filled after EU decision
Demonstrator	Roberto Losito

US (detector)	Sergo Jindariani
US (accelerator)	Mark Palmer
Asia (China)	Jingyu Tang
Asia (Japan)	tbd

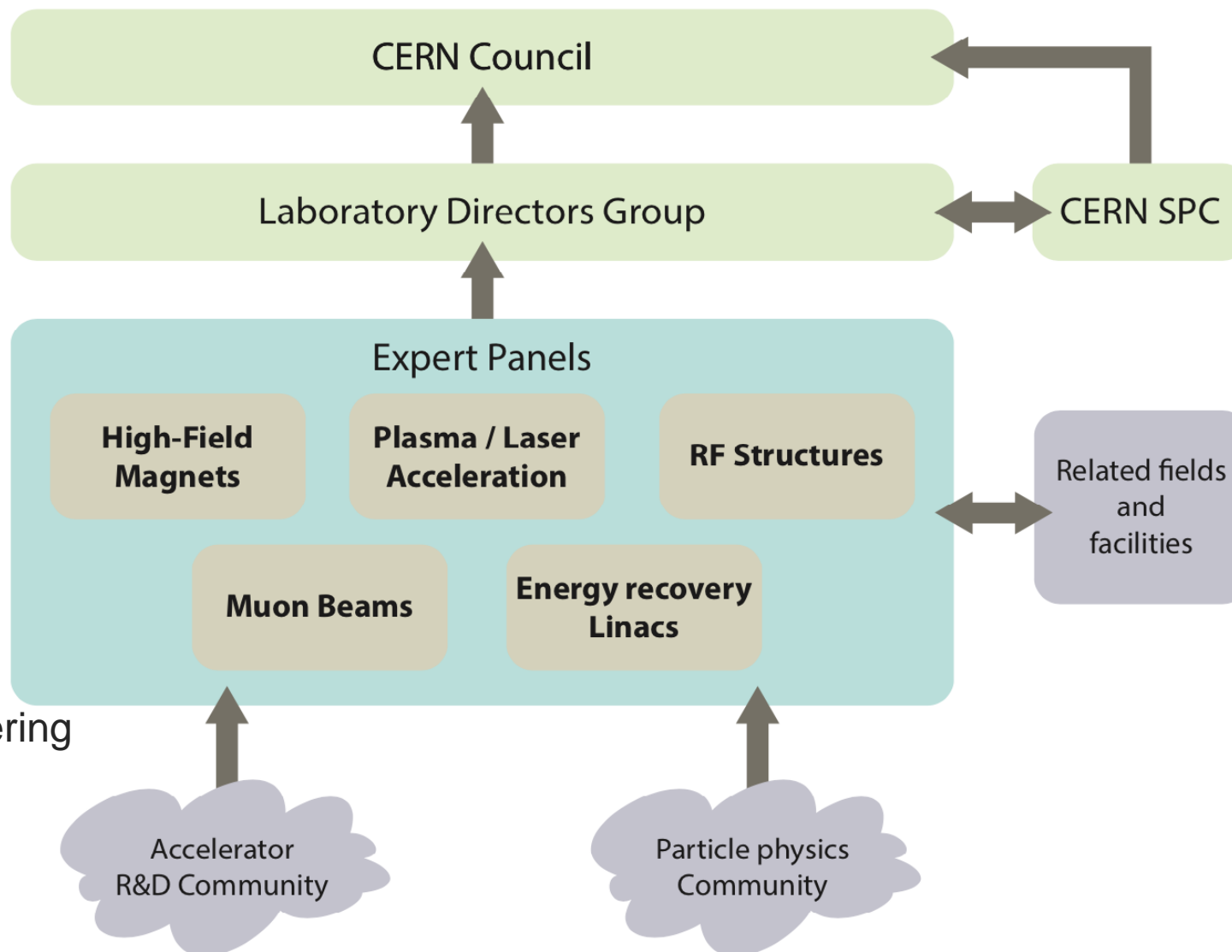
## EU Design Study WP leaders:

EU RF WP	Claude Marchand
Cooling cell	Lucio Rossi

Proposal for deputies (to be endorsed by ICB):  
 Andrea Wulzer, Donatella Lucchesi, Chris Rogers



<https://cds.cern.ch/record/2800190/files/146-138-PB.pdf>



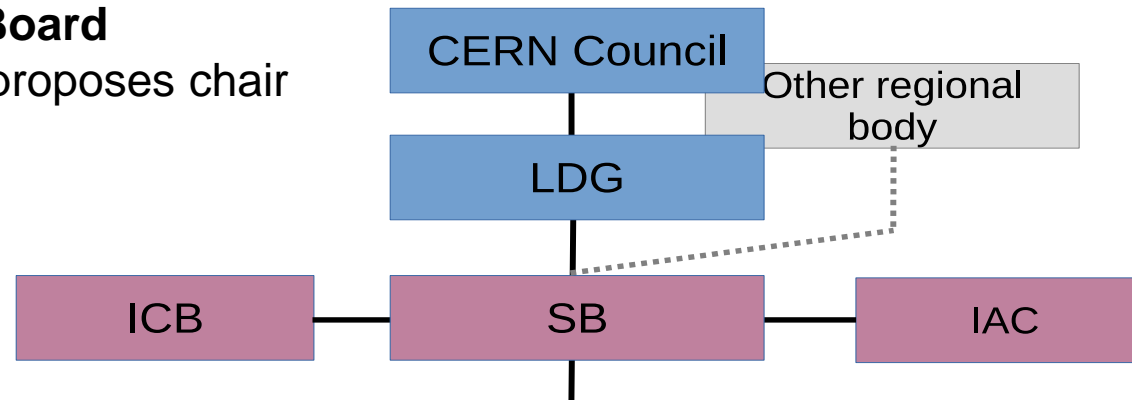
Note: For the muon collaboration this is addressed with a Steering Board (next slide)

# Steering Board

LDG / Council want committee(s) to oversee Roadmap, chair selected by LDG, similar for magnets, RF etc.

## Proposed solution: **Steering Board**

- host organisation (CERN) proposes chair (Steinar Stapnes)



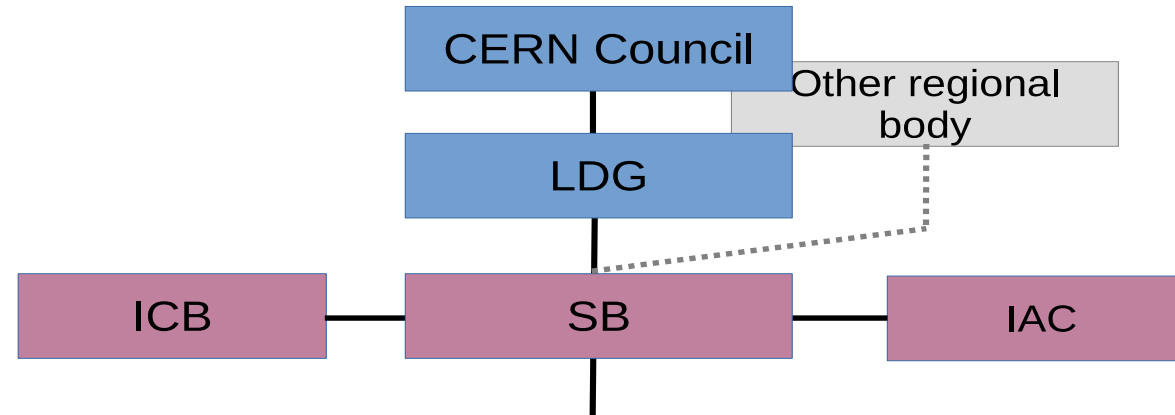
The **SB** oversees the execution of the Muon Collider Study by assessing the progress, resource usage and providing guidance. The SB will report to the Laboratory Directors Group (LDG) in Europe and to similar regional supervising organisations in other regions as required.

The SB is proposed to be composed of:

- the lead representative of the Host Organisation (for CERN the ATS director)
- up to two additional members appointed by the Host Organisation
- **up to three members appointed by the ICB**
- the Study Leader and Deputies

The Host Organisation appoints one of the members to act as the chair.

# International Collaboration Board



The ICBs role is to provide a forum for participants to examine ongoing activities, assure appropriate, well directed use of contributions and ensure a balanced portfolio of engagements. See draft mandate next page. The chair of the ICB is elected by its members.

The ICB consists of one representative of each participating institute that has signed the MoC. The ICB invites the following representatives as members with no voting rights:

- the Steering Board representatives of the host organisation,
- representatives of institutes that signed a letter of interest,
- the Study Leader and Deputies.

In addition, the ICB chair can invite other participants if deemed useful.

For example, in the meeting this week we have invited many institutes and observers that are in the process of joining the collaboration.



# IMCC ICB#1

Tuesday 11 Oct 2022, 18:00 → 20:00 Europe/Zurich

30/7-018 - Kjell Johnsen Auditorium (CERN)

Videoconference

IMCC ICB#1

Join

30/7-018

18:00 → 18:05 **Welcome**

5m

Speaker: Steinar Stapnes (CERN)

18:05 → 18:20 **ICB chair initial mandate**

15m

Speaker: Steinar Stapnes (CERN)

mandate.pdf Muon\_Collider\_Gove... MUON\_ICB\_Voting ri...

18:20 → 18:30 **Election procedure and electorate**

10m

- There are two candidates for the ICB chair election: Mohammad Eshraqi (ESS) and Nadia Pastrone (Torino).
- The election will be done electronically and can be launched after the ICB meeting. It can be kept open for a time to be decided, e.g. 24 hours.

Speaker: Steinar Stapnes (CERN)

Mamad-Eshraqi.pdf Nadia-Pastrone.pdf

18:30 → 18:40 **Endorsement of Study Leader and Deputies**

10m

Speaker: Steinar Stapnes (CERN)

18:40 → 18:55 **Short report by Study Leader**

15m

Speaker: Daniel Schulte (CERN)

18:55 → 19:05 **Future appointments of Steering Board members and other committee matters**

10m

Speaker: Steinar Stapnes (CERN)

19:05 → 19:15 **Next meeting and AOB**

10m



Search committee:  
Ken Long, Alan Bross,  
Mats Lindroos, Philippe  
Schune, Steinar Stapnes

Agenda:  
<https://indico.cern.ch/event/1209681/>



# Draft ICB chair mandate

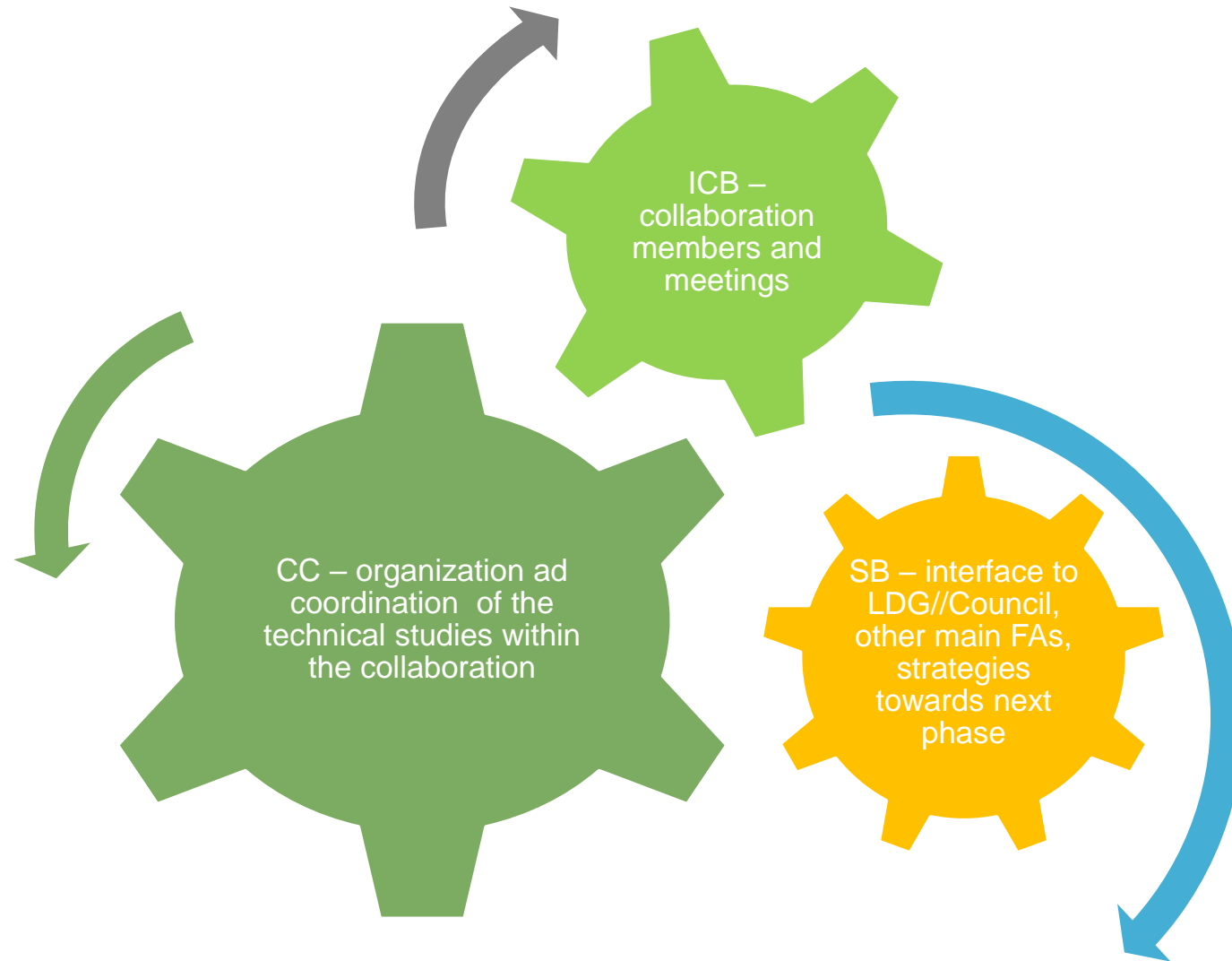
The ICB chair is elected by the International Collaboration Board for a term of 2 years renewable twice, with the following main duties:

- Call the Collaboration Board normally twice a year and prepare the agenda for these meeting.
- Review and, if necessary, clarify rules for representation, ex-officio participation, voting and invitations in and to the ICB. Strive to reach decisions by consensus.
- Foster strengthening of the collaboration by additional contribution of the present members and encourage and promote participation of new collaboration members.
- Define, in consultation with the study leader and steering group chair, the procedure for including new members in the collaboration.
- Work together with the study leader and steering board chair, to update as needed the rules and mandates for the main committees of the collaboration, currently CC, SB and IAC. This information should be kept updated in the Governance document.
- Ensure the ICB endorse or nominate members to these committee in the cases where the ICB are responsible, currently the IAC and the SB.
- Bring matters of importance to the ICB, for endorsement and if necessary for decisions. Such matters can brought to the ICB by the project management or other collaboration stakeholders.

It is expected that the ICB chair in his/her duty strive to consult with the project management and steering group and the ICB itself, as appropriate for the matter under consideration.

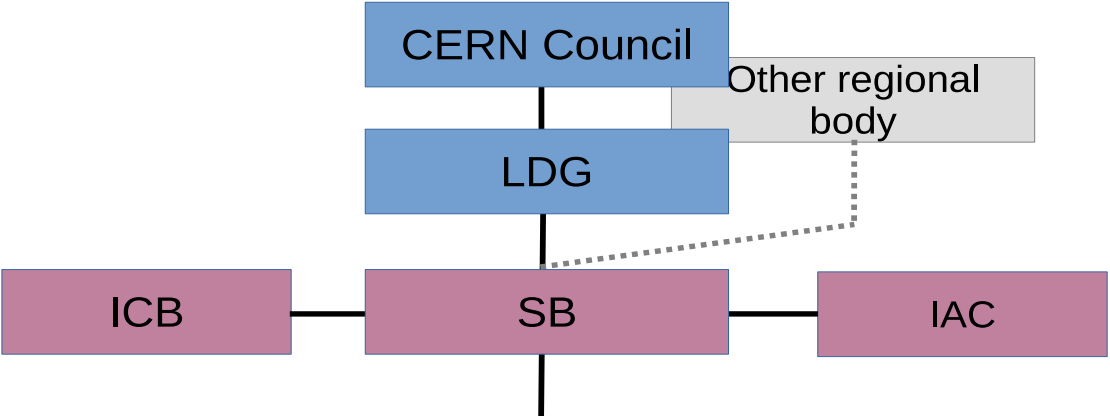
This mandate should be discussed, adapted and improved by the ICB as needed to follow the evolving nature of the collaboration and its governance structures.

# The three main wheels



Some tuning of roles and interfaces will be needed as the work moves ahead and the collaboration size increases

# International Advisory Committee



The mandate of the International Advisory Committee is to review the scientific and technical progress of the Study, typically on an annual basis and to submit recommendations to the ICB and SB.

The IAC consists of external experts, not actively participating in the Muon Collider Study, with expertise covering the key technological and scientific domains relevant to the Study.

# Main points

- The collaboration is very active – technical work moving ahead (CC)
- The collaboration has a solid basis of important institutes but is also (expected to) grow further rather quickly (MoC signature process, EU study and hopefully P5 providing key incentives)
- The EU study is an important achievement, and we need to deal with in the Collaboration Structure
- Further work on securing resources will be a priority (but not discussed in this talk)
- To establish a functional ICB with its Chair is important for next steps, goal this week
- Will also allow to complete the SB and later the IAC as foreseen

The main Governance Structures with ICB, Project management with study leader, deputies and CC, SB and IAC seems good and workable, but we should allow flexibility and adjustment of compositions and appointment procedures as we gain “operational” experience