The Steering Board

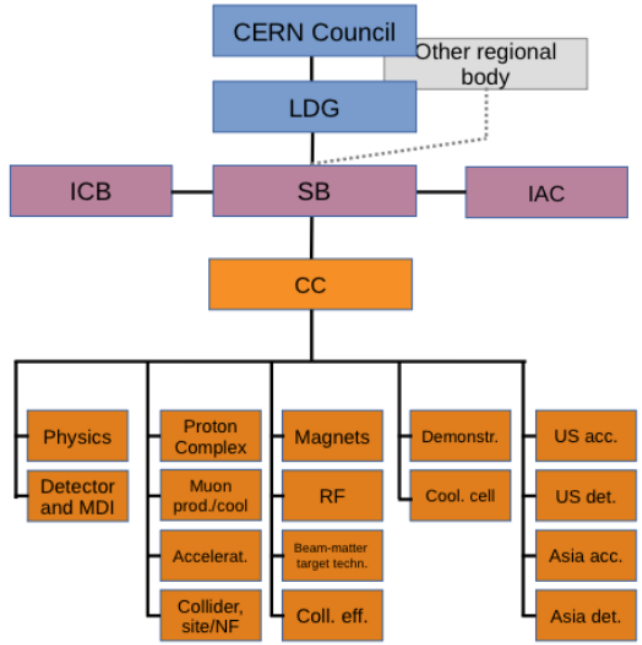
The SB is composed of:

- The lead representative of the Host Organisation (for CERN the ATS director Mike Lamont)
- Up to two additional members appointed by the Host Organisation, Gianluigi Arduini, Steinar Stapnes (Chair)
- Up to three members appointed by the ICB

  Dave Newbold (STFC), Mats Lindroos (ESS), Pierre Vedrine (CEA)
  - Director of National laboratories and Particle Physics, STFC and Leader of the LDG
  - ESS Head of Accelerator Division and Accelerator sub-project
  - Head of Accelerators, Cryogenics and Magnetism Division (DACM), CEA – IRFU
- The Study Leader, Deputies, ICB chair
- Also appointed but interim this year, Beate Heinemann, Director for Particle Physics DESY
- Invited from the US:

  Mark Palmer (BNL), Sergo Jindariani (FNAL), Sridhara Dasu (Wisconsin),

  Diktys Stratakis (FNAL)



Muon Collider Steering Board #2

Tuesday 16 Jan 2024, 16:00 → 18:00 Europe/Zurich

Description Join Zoom Meeting
https://cern.zoom.us/j/9187562625?pwd=czMvbzd1eGxLWmRuV2UxNGwvUk5vZz09

Meeting ID: 918 756 2625
Passcode: 00422785

16:00 → 16:07 **Welcome and updates concerning recent LDG interactions** 7m Minutes

- Draft minutes previous meeting
- Presentations in Frascati meeting in the July, and presentation and related report in the LDG session in November

Speaker: Steinar Stapnes (CERN)

Frascati LDG meeti... | LDG_muColl-7.pdf | Minutes-SG1.docx | Minutes-SG1.pdf | Muon_LDG_Novem...

16:10 → 16:25 **Muon Collider Interim report - status and next steps** 15m Minutes

- Including key issues identified as priorities for the study

Speaker: Daniel Schulte (CERN)

SB_January_2024_... | SB_January_2024_...

16:35 → 16:45 **International Advisory Committee (IAC)** 10m Minutes

- Their first task is to review the interim report
- Proposal of members - with mandate
- Guidelines: small number of fixed members, one or two SB members ex-officio, a number of specialists chosen review by review

Speaker: Steinar Stapnes (CERN)

charge-IAC.docx | charge-IAC.pdf

16:50 → 16:57 **Collaboration status and news** 7m Minutes

Speaker: Nadia Pastrone (INFN Torino (IT))

IMCC_SB_ICB_NPa...

17:00 → 17:15 **Update from the US after P5** 15m Minutes

- Including key issues considered important/priorities for ramping up the US effort related to muon collider studies and participation and integration in the IMCC

Speakers: Dr Mark Palmer (BNL), with US colleagues ....

P5-IMCC_SC_2024... | P5-IMCC_SC_2024...

17:25 → 17:30 **AOB and next meeting** 5m

Possible topics for next meeting:
- IAC report
- Collaboration organisation in more detail - also related to expanding the collaboration
- Demonstrator ideas and process
- More from the US, and other regions
- Other

Speakers: All comments welcome, Steinar Stapnes (CERN)

International MUON Collider Collaboration

IAC

An International Advisory Committee (IAC) is set to follow and regularly review the progress of the International Muon Collider Collaboration.

The mandate of the IAC:
The mandate of the IAC is to review the scientific and technical progress of the study. 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. The same group will act as Advisory Committee for MuCol EC design study.

The IAC is set up by and reports to the Muon Collider Steering Group (SG). The SG will initiate the reviews, define the charge in each case, and call on the IAC to implement them. If deemed necessary for a review, the committee will be complemented by additional experts within the topic(s) covered in the review.

As a first task, the IAC will review the IMCC Interim Report.

This review

Charge for the review of IMCC Interim Report:

- The review will address all elements of the report covering the accelerator, detector and physics studies, e.g. scope, parameters and results as presented, work planned and in progress as presented, report completeness and inconsistencies. The committee shall provide advice on priorities for further work and improvements for the final report expected by the end of 2025.

- The IAC shall consider how the muon collider study is presented and pursued in the landscape of other studies, e.g. for Higgs factories, hadron machines and high energy e+e- machines, and if appropriate, provide advice for common or complementary studies.

- The committee is invited to give suggestions on any aspect of the IMCC activities beyond the above items.

The review format:

The review will take place in February, by zoom, based on around 4 hours of presentation including discussion time. The interim report shall be made available to the reviewers around two weeks before the review.

A written review report shall be delivered to the chair of the SG by 8.3.2024.

The review report (~4-6 pages) is expected to have a general part, and comment on each chapter of the IMCC interim report, providing observations/comments/recommendations for each part.

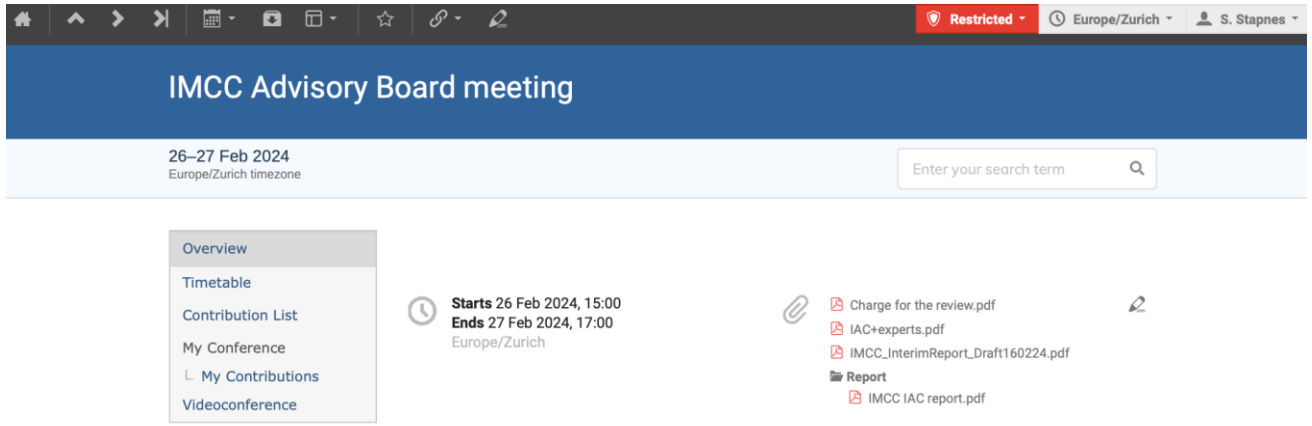
IAC and additional experts

IAC:

Ursula Bassler	IN2P3 (interim Chair covering this review)
Mauro Mezzetto	INFN
Hongwei Zhao	Inst. of Modern Physics (IMP)
Akira Yamamoto	KEK
Maurizio Vretenar	CERN
Stewart Boogert	Cockcroft
Sarah Demers	Yale
Giorgio Apollinari	FNAL

Additional experts:

Marica Biagini	INFN
Luis Tabarez	CIEMAT
Giovanni Bisoffi	INFN
Jenny List	DESY
Halina Abramowicz	Tel Aviv
Lyn Evans	CERN



International MUON Collider Collaboration

https://indico.cern.ch/event/1383018/overview (password protected)

Contains:

- Report as of 16.2 (in the meantime it has developed) given to the IAC
- Their review report received 8.3
- Both internal, not in the public domain

Additionally, the IAC members have provided more detailed comments on Overleaf and in a Google document.

These documents are not only available for the IMCC to improve the current report, but also to shape/advice further work and contents of future report(s)

Overall comments

Most important for Interim Report – to be fully developed for final report:

- "Pedagogical" introduction of the muon collider, including main progress since MAP, and main goals/challenges (more on US goals) – and a short EXEC summary
- Overall resource shortage estimate, and "work" opportunities in all chapters
- Clearer on physics results (level of details and references), refer to luminosity measurements, and explore opportunities related to "radical" technology improvements and AI/ML
- Clearer on timeline and staging (technology driven) – already in intro and reflected in magnet chapter. A side-remark for future reports: a clear expressed feeling that the muon collider timeline is more important than reaching the ultimate performance (e.g. luminosity).

- Longer term:

  Explore - with common "studies" - synergies & complementarities with Higgs factories, Muon Collider and Hadron Collider, wrt physics primarily,

  but also to encourage/stimulate common work on detectors, software and a widening community