Some Comments

D. Schulte

Contact

Web page: http://muoncollider.web.cern.ch

Mailing lists:

for the physics and detector:

MUONCOLLIDER_DETECTOR_PHYSICS@cern.ch,

for the collider:

MUONCOLLIDER_FACILITY@cern.ch

New: in case you only want the test facility

muoncollider_testfacility@cern.ch

go to https://e-groups.cern.ch and search for groups with "muoncollider" to subscribe

Collaboration: Objective and Scope

Objective:

In time for the next European Strategy for Particle Physics Update, the study aims to **establish whether the investment into a full CDR and a demonstrator is scientifically justified**.

It will provide a baseline concept, well-supported performance expectations and assess the associated key risks as well as cost and power consumption drivers. It will also identify an R&D path to demonstrate the feasibility of the collider.

Deliverable:

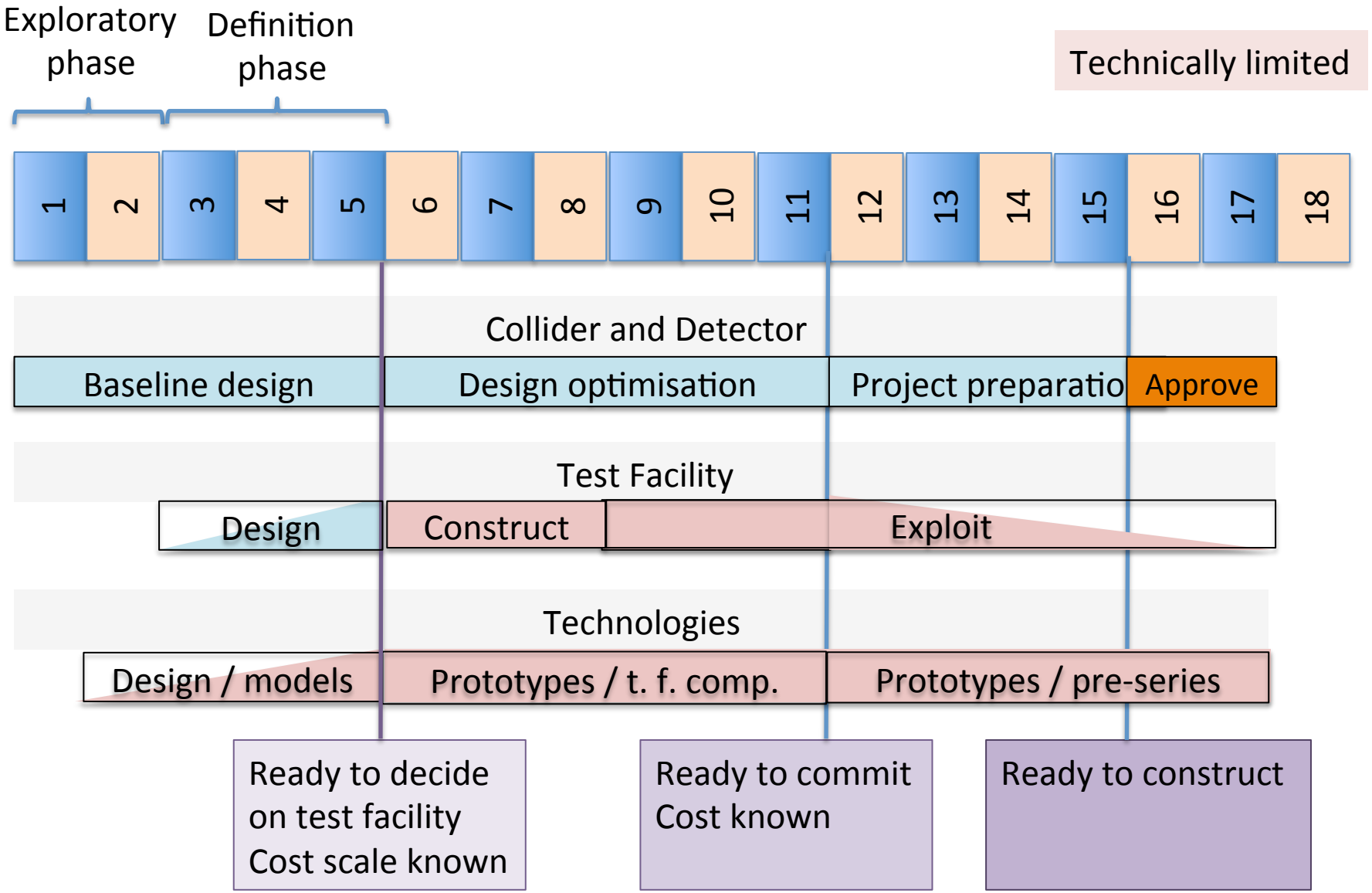
Report assessing muon collider potential and describing R&D path to CDR

Scope:

- Focus on two energy ranges:
  - **3 TeV**, if possible with technology ready for construction in 10-20 years
  - **10+ TeV**, with more advanced technology
- Explore synergy with other options (neutrino/higgs factory)
- Define **R&D path**

Some adjustment for other regions

Collaboration: Potential Long-Term Timeline

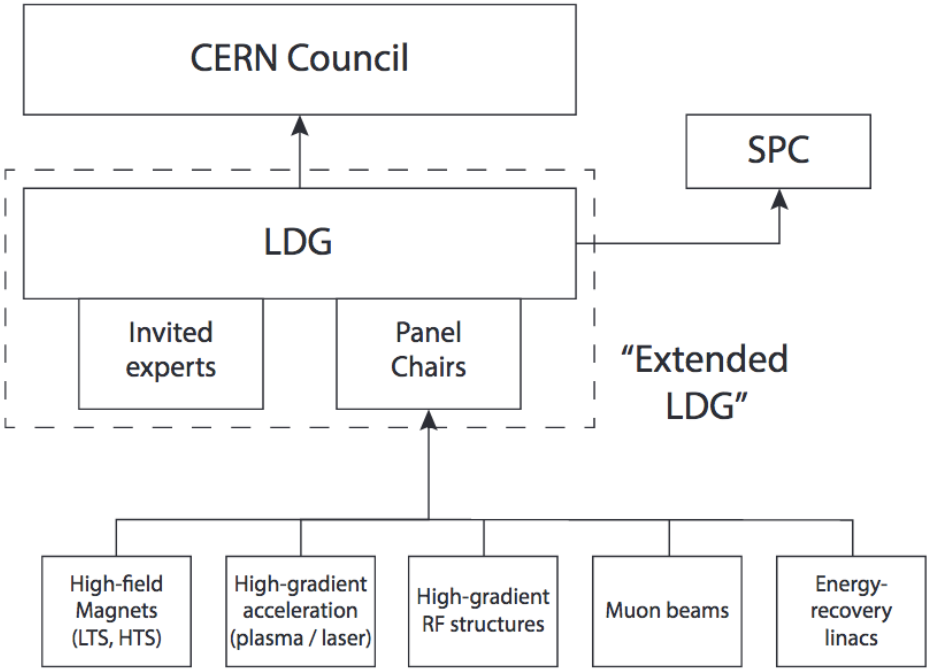


European Accelerator R&D Roadmap

LDG: directors of the largest European Laboratories

Panels

- Magnets: P. Vedrine
- Plasma: R. Assmann
- RF: S. Bousson
- Muons: D. Schulte
- ERL: M. Klein



- March Council: confirm of roadmap scope and process
- June Council: present background to process (no recommendations)
- July EPS-HEP: public presentation of progress for feedback
- September SPC / Council: present of interim findings (facts, not priorities)
- December Council: gain approval of the final report

Roadmap Goals

- Provide an agreed structure for a coordinated and intensified programme of particle accelerator R&D, including into new technologies, to be coordinated across national laboratories
- Be compatible and commensurate with corresponding roadmaps in detectors, computing and other developments, with a compatible timeline and deliverables
- Be based on the goals of the European Strategy, but defined in its implementation through consultation with the community and, where appropriate, through the work of expert panels
- Take into account, and coordinate with, **international activities** and work being carried out in other **related scientific fields**, including development of new large-scale facilities
- **Specify a series of concrete deliverables, including demonstrators, over the next decade**
- Be designed to inform, through its outcomes, subsequent updates to the European Strategy.

Panel Role

From D: Newbold

Panel role:

- Establish key R&D needs, as dictated by the scientific priorities
- Consult widely with the **European and international communities**, taking into account the capabilities and interests of stakeholders
- Take explicitly into account the plans and needs in related scientific fields
- Propose ambitious but realistic objectives, work plans, and deliverables
- Give options and scenarios for European investment and activity level

NOT in scope:

- Planning for specific future facilities
- Planning of funding routes, beyond the overall cost of the proposed R&D programme
- Statements of institutional or national commitment.

Muon Beam Panel

Members: Daniel Schulte (CERN), Mark Palmer (BNL), Tabea Arndt (KIT), Antoine Chance (CEA/IRFU) Jean-Pierre Delahaye (retired), Angeles Faus-Golfe (IN2P3/IJClab), Simone Gilardoni (CERN), Philippe Lebrun (European Scientific Institute), Ken Long (Imperial College London), Elias Metral (CERN), Nadia Pastrone (INFN-Torino), Lionel Quettier (CEA/IRFU), Tor Raubenheimer (SLAC), Chris Rogers (STFC-RAL), Mike Seidel (EPFL and PSI), Diktys Stratakis (FNAL), Akira Yamamoto (KEK and CERN)

Use the input from the collaboration and community

- in regular collaboration meetings and in dedicated ones

Will profit from this workshop on muon collider testing opportunities

Foresee three community meetings

- First in May, date to be defined
- Please contribute

Need to Prepare

- Have to start understanding how we can distribute the work
  - Prepare input for the collaboration board, the partners institute management and funding agencies
  - There will be addenda for the MoCs

- Prepare EU co-funded activity
  - need to start soon to be ready early next year

- Start a stakeholders meeting
  - to discuss contributions, sharing of work, resources, …
  - Similar timescale than for community meeting

- Include all interested partners
  - test facility can have interest beyond the Muon Collider Collaboration

Memorandum of Cooperation

Basically ready, waiting for final polishing

CERN is initially hosting the study

- International collaboration board (ICB) representing all partners
  - elect chair and study leader
  - can **invite other partners** to discuss but not vote (to include institutes that cannot sign yet)
- Study leader
- Advisory committee reporting to ICB

Addenda to describe actual contribution of partners