

Muon Collider Forum News

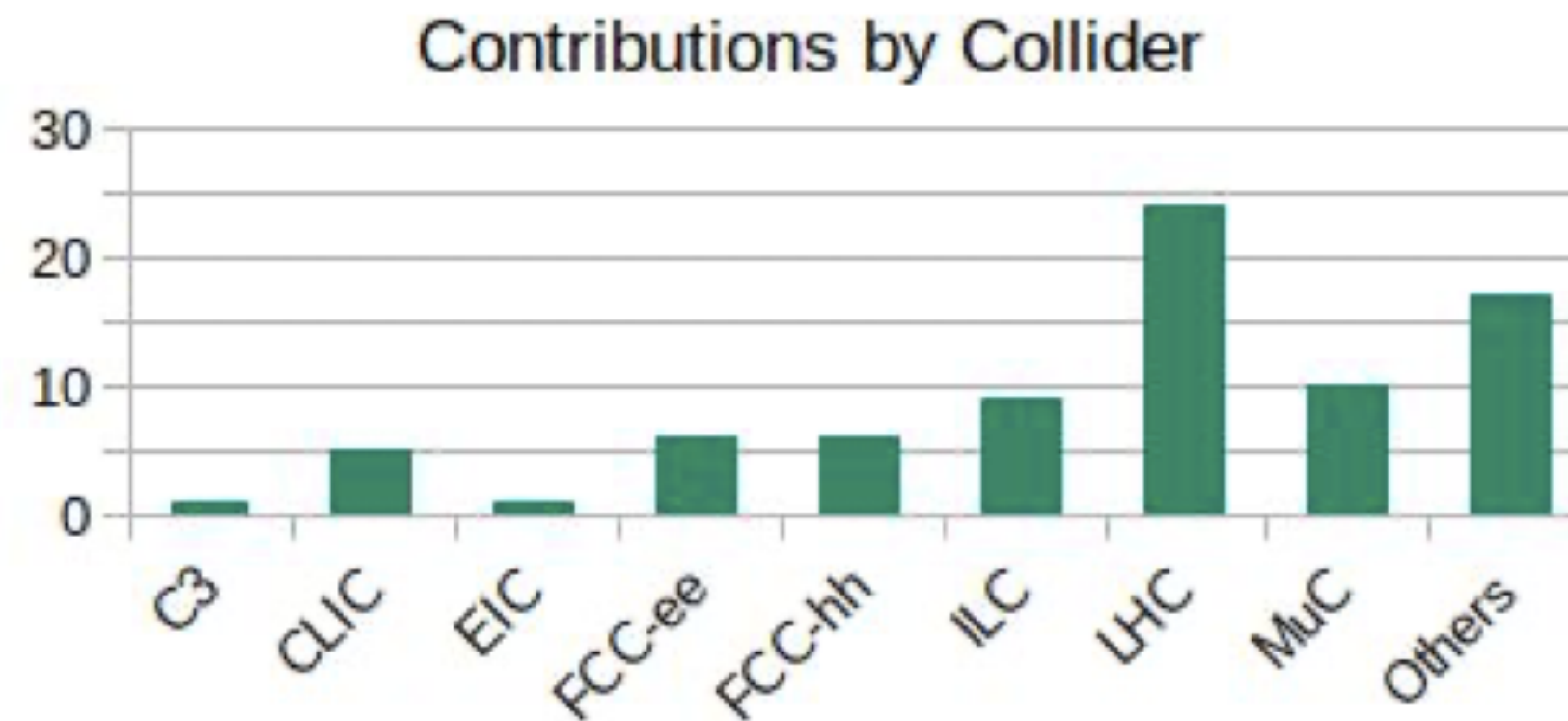
AF: Derun Li, Diktys Stratakis

EF: Kevin Black, Sergo Jindariani

TF: Fabio Maltoni, Patrick Meade

Updates/Plans

- Muon collider forum was formed in Nov 2020 and has been meeting ~ monthly since
- There's been a great representation of Muon Collider research in Snowmass in white papers thus far and in many of the talks you've heard so far this week



e.g. Simone's talk on Monday with contributions to EFog

- This reflects a great deal more excitement than the previous snowmass given the opportunities explored for AF, **EF**, **TF**, + NF and others
- There are also many more physics investigations ongoing in both Europe and US so hopefully Snowmass is just the beginning of this resurgence!

Updates/Plans

- On top of the various Snowmass efforts there have been recent developments at CERN for the International Muon Collider Collaboration (IMCC)



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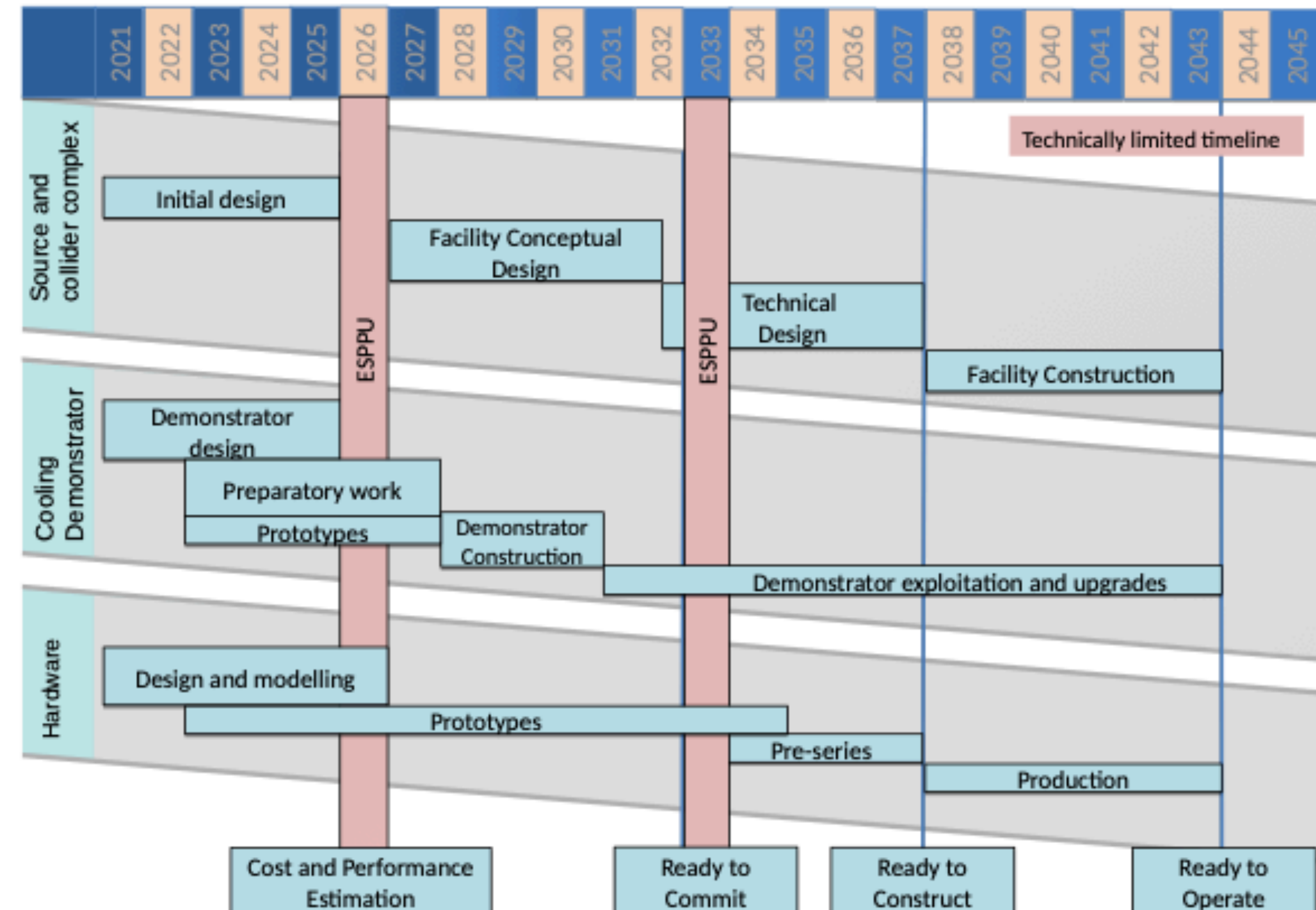


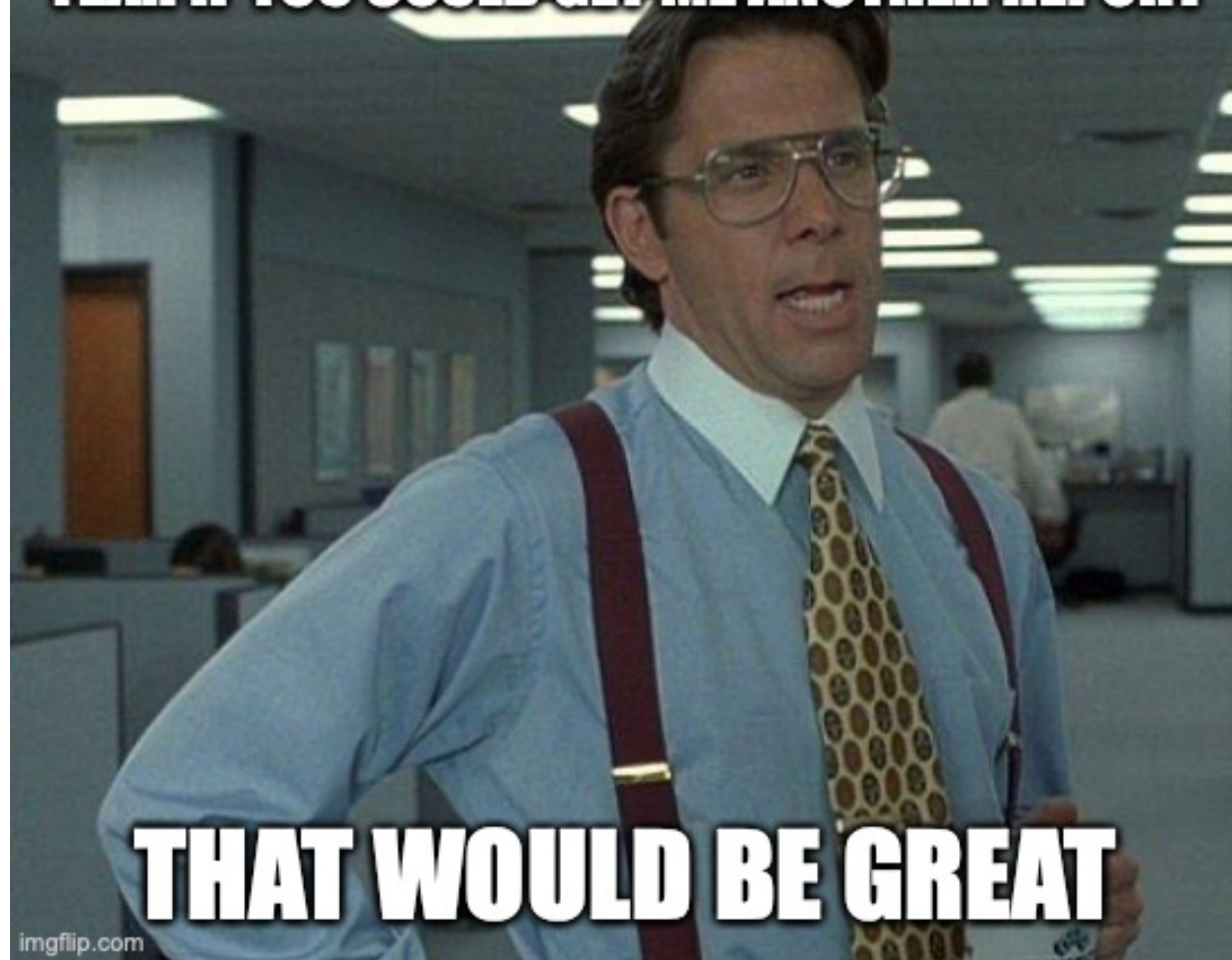
Fig. 5.3: A technically limited timeline for the muon collider R&D programme.

There were several IMCC white papers submitted to Snowmass

Updates/Plans

- What's the most useful thing to do with all these great results for the Snowmass Muon Collider Forum?

YEAH IF YOU COULD GET ME ANOTHER REPORT



THAT WOULD BE GREAT

Updates/Plans

- Muon Collider Forum Report - a coherent vision for muon colliders and from the US/Snowmass Perspective
 - Similar to a TG report but across frontiers - results are there for you to use already in EF
 - Summary of contributions across frontiers, emphasizing the physics case as well as what are the new results since 2013 across the frontiers.
 - **Focus of the report is a 10 TeV 10/ab physics program**
 - IMCC had a particular staging concept of 3 then 10 TeV, but for Snowmass we're agnostic, and investigating 125 GeV or possibly O(1) TeV for top physics or other physics cases
- We also are planning on emphasizing the potential US role for R&D, siting for IMC or even a bold vision of a US program by the next Snowmass

Plan for this session

- Since this is the Energy Frontier Meeting...
 - We decided to emphasize the physics case from the TF
 - How “ready” the collider concept is from the AF
 - There are numerous advances in detector technology in EF,IF as well but look at IMCC report and our forum report (or ask experts in audience)
- Discussion at the end to focus on what role can US play to exploit this rapidly growing excitement we’ve seen in Snowmass

What we need to figure out through R&D is a muon collider eventually...



Whether a new particle to collide finally breaks the precision versus energy dichotomy