

# UK future collider Town Hall Introduction

6<sup>th</sup> July 2023

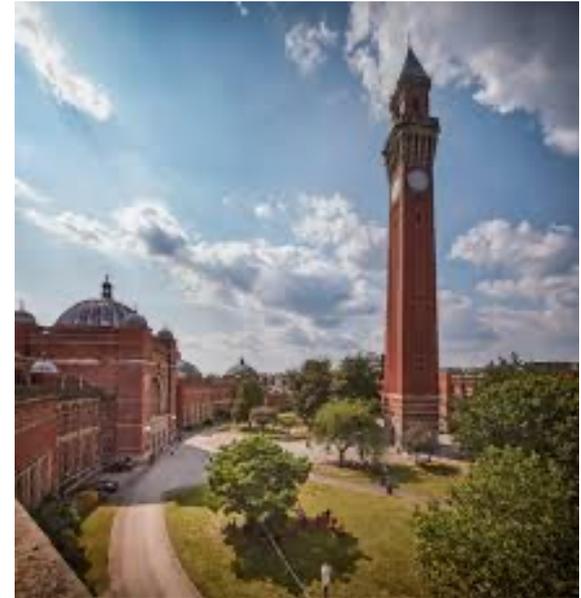
Sarah Williams (Cambridge), Andy Chisholm (Birmingham), Cristiano Sebastiani (Liverpool), Tevong You (KCL)  
Holly Pacey (Oxford), Eleni Skorda (Birmingham), Julia Allen (Edinburgh), Atanu Modak (RAL)

# Introduction

We hope today will provide a respectful and inclusive environment to discuss the future. Please respect the [CERN code of conduct](#)

- We hope that today will provide a forum for the UK community to discuss the landscape for future colliders beyond the (High-Luminosity-) LHC.
- This event follows two successful ECR events organized in the UK in 2022:
  - 24<sup>th</sup> April in Birmingham - [agenda](#).
  - 4<sup>th</sup> November in Cambridge - [agenda](#).

**Welcome to Birmingham  
(either in-person or virtually)**



**The November meeting included a panel with non-ECRs to provide Q+A/discussion. We collected feedback from the event and produced a [report](#) outlining recommendations.**

# Community recommendations from past ECR events

## 6 Summary of community recommendations

These recommendations have been compiled by the organising committee based on the discussions in the meeting and results of the survey.

1. An outreach-focussed event discussing how to “sell” the future collider roadmap to the public and policy makers would be welcome. This could be standalone or part of a broader event.
2. A town-hall style meeting enabling further discussion between ECRs and the broader UK community should be organised. In order to share ideas and thoughts this should be open to the full community.
3. The training opportunities in software and computing, and instrumentation, should be better documented and publicised amongst the HEP community, and discussions should be had on how to better encourage supervisors/PIs to support ECRs pursuing training outside their direct line of work.
4. More interaction between existing future collider/R+D collaborations and ECRs providing practical information and technical support with getting involved would be beneficial.

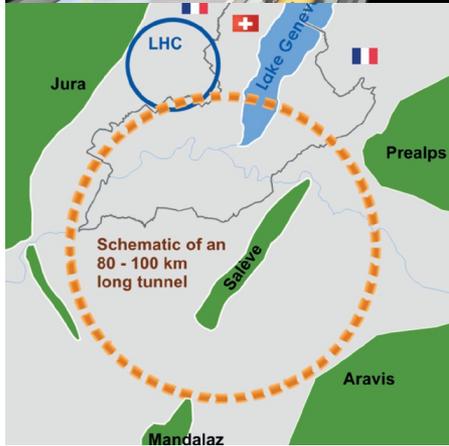
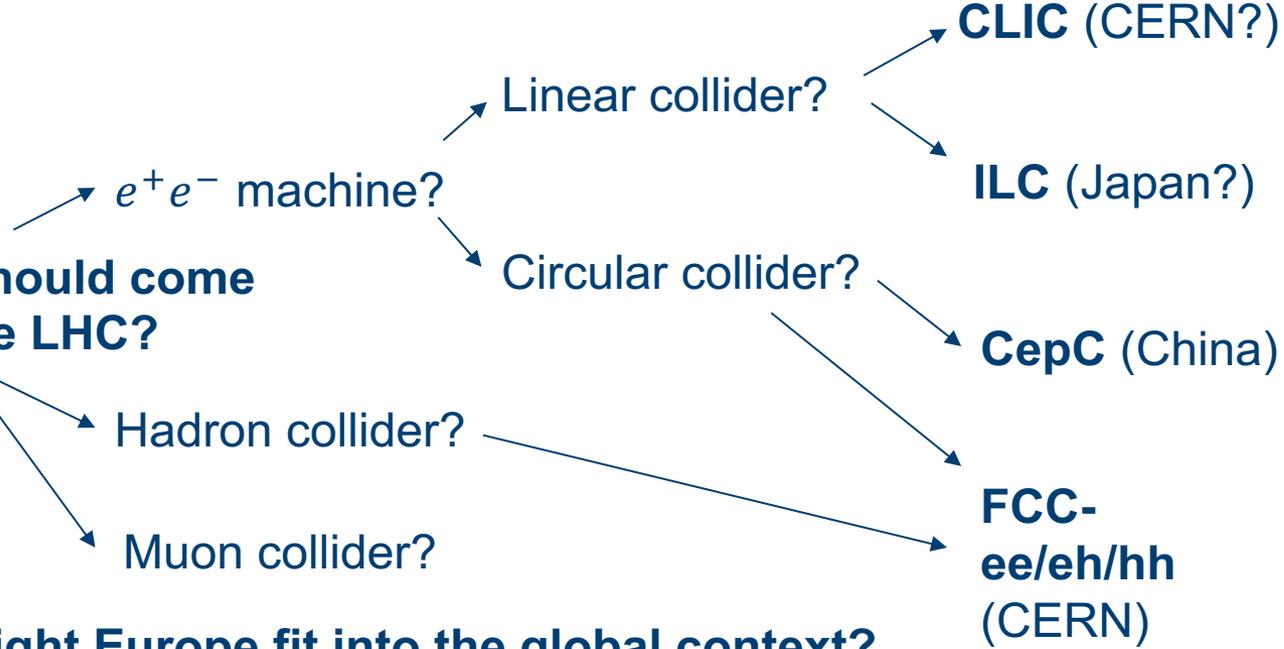
This meeting aims to address this recommendation!

# What should come after the HL-LHC?

In the aftermath of the Higgs discovery, lots of discussion on what machine should follow the LHC...



What should come after the LHC?



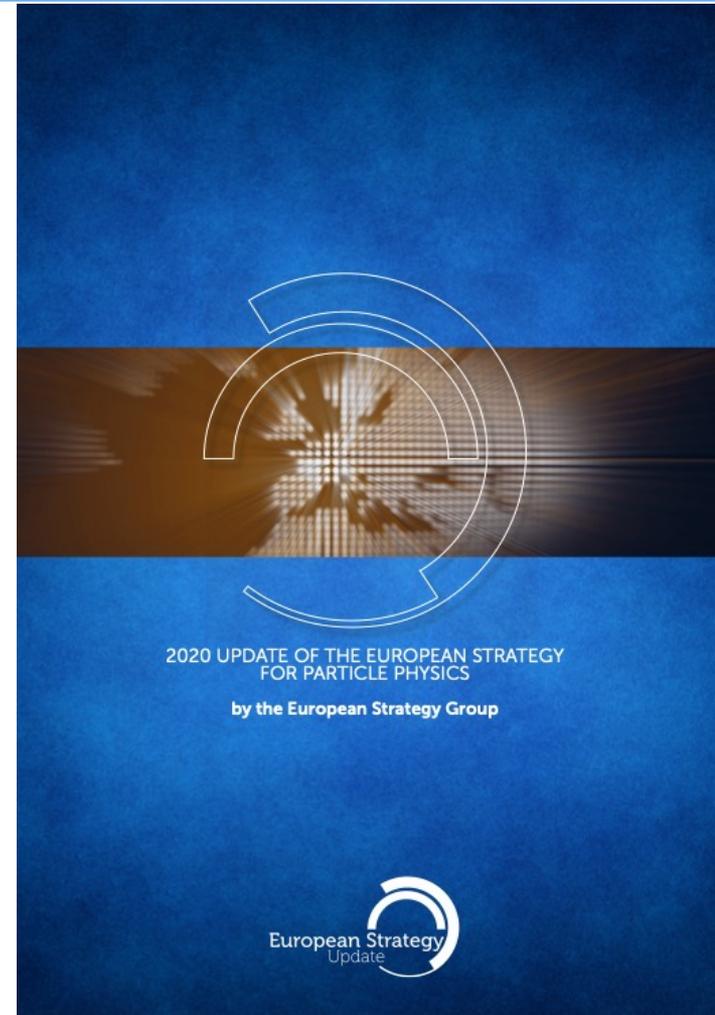
How might Europe fit into the global context?

# 2020 European strategy update

Note: the UK has 4 representatives on the [ECFA ECR panel](#).

1. Full exploitation of the LHC and HL-LHC upgrade remains the top priority.
2. An electron-positron Higgs factory is the highest priority next collider
3. Investigate the technical and financial feasibility of a 100 TeV hadron collider at CERN

**Consensus gathering for this update, and its implementation, was/ will be overseen by the European Committee for Future Accelerators (ECFA)**



# Today's meeting

09:00 → 10:15 **Setting the scene: Introductory flash talks**

- 09:00 **Introduction**  
Speaker: Dr Sarah Williams (University of Cambridge)
- 09:05 **Physics landscape**  
Speaker: Eleni Vryonidou (University of Manchester)
- 09:15 **Opportunities/challenges in theory**  
Speaker: Ken Mimasu (KCL)
- 09:25 **Accelerator technologies**  
Speaker: Ozgur Apsimon (Cockcroft Institute)
- 09:35 **Detector technologies**  
Speaker: Eva Vilella (University of Liverpool)
- 09:45 **Software and computing**  
Speaker: Luke Kreczko (University of Bristol)  
[Slides](#)
- 09:55 **Sustainability**  
Speaker: Hannah Wakeling (University of Oxford)  
[Sustainability\\_H\\_Wa...](#)
- 10:05 **Public engagement and outreach**  
Speaker: Harry Cliff (University of Cambridge)

10:15 → 10:45 **Coffee**

10:45 → 12:00 **Town hall: Open discussion**

[Google doc for ques...](#)

- Series of flash talks to set the scene.
- Time for short questions/comments, but please save detailed discussion to the second half.
- Open discussion in second part about the future collider landscape + hopes/fears/concerns about the route forwards.
- Feel free to add notes/comments to the google doc: <https://docs.google.com/document/d/1gXInIZBU-O8GM2xSNsJRHZsk8BI8QEihyhHMHxlXAO0/edit?pli=1#heading=h.j2wyyh933oz2>
- Please fill out the participant survey <https://forms.gle/JA5pWTYzWrSDiY7A7>

...thanks...

**IOP**

**Institute of Physics  
High Energy Particle  
Physics Group**

- ... to the IOP HEPP committee for sponsoring this event.
- ... to the University of Birmingham for hosting, and PPAP for letting us combine with their event.
- ... to our speakers in today's sessions: Eleni, Ken, Ozgur, Eva, Luke, Hannah and Harry.
- ... to all of you for coming/participating!

**We hope you all have an enjoyable and interesting meeting and look forward to lots of fruitful discussion!**