

International  
UON Collider  
Collaboration



# MuCol Introduction

D. Schulte

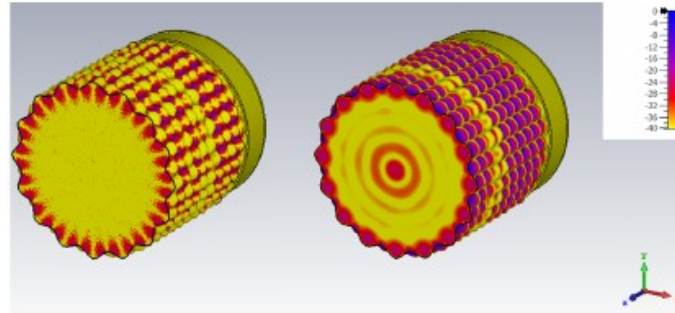
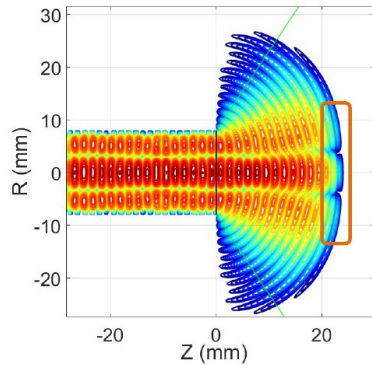
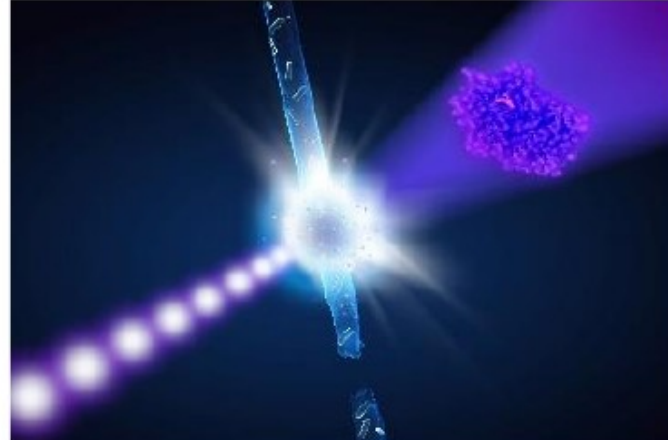


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Grant Agreement n. 101094300



CERN  
March 2023

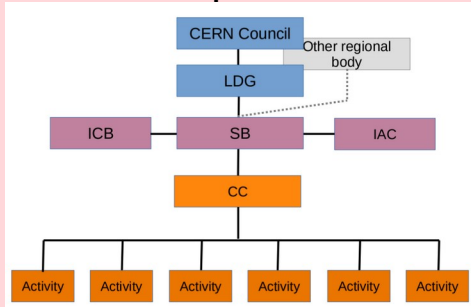
# Prof. Adrian Cross



# Muon Collider Community



Formed **collaboration** to implement and R&D Roadmap for CERN Council

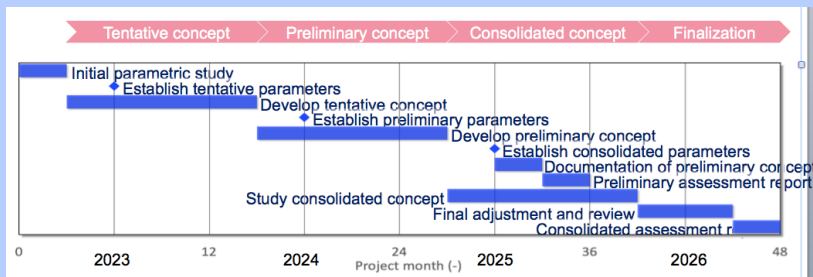


50+ partner institutions  
30+ already signed formal agreement

Plan to apply in 2024 for **HORIZON-INFRA-2024-TECH**

Goal: prepare experimental programme, e.g. **demonstrator, prototypes, ...**

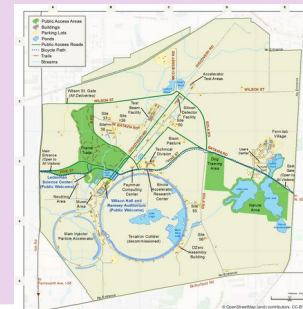
**EU Design Study just started, 32 partners,**  
O(3+4 MEUR, +1.5 MCHF increase at CERN)  
(EU+Switzerland+UK and partners)



**US Snowmass has strong support**

- to contribute to R&D
- as a collider in the US

Now P5 and EPP2024 are ongoing  
Planning potential contributions



# MuCol Partners



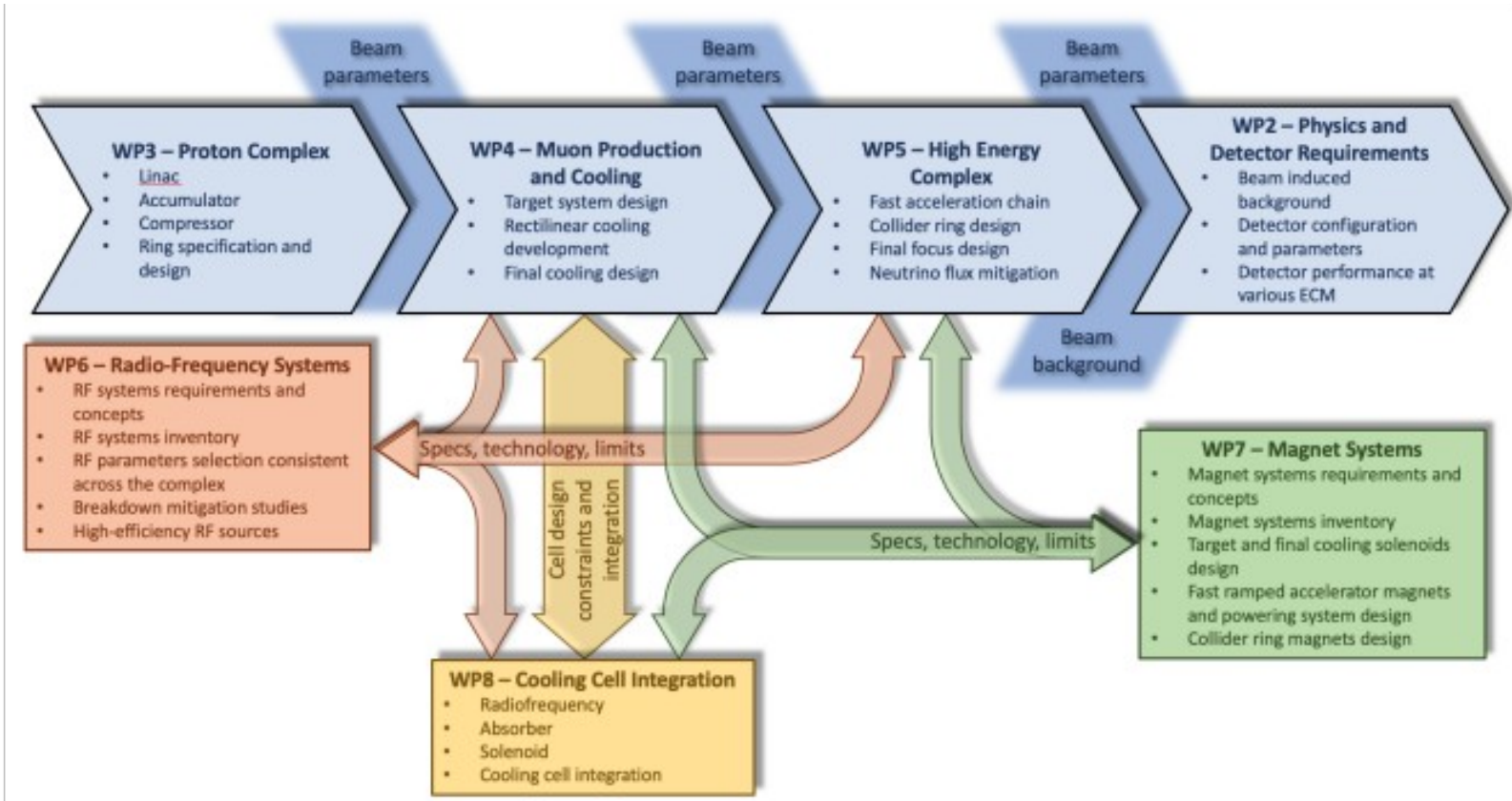
IEIO	CERN*
FR	CEA-IRFU*
	CNRS-LNCMI
DE	DESY*
	Technical University of Darmstadt*
	University of Rostock*
	KIT
IT	INFN*
	INFN, Univ. Milano*
	INFN, Univ. Padova*
	INFN, Univ. Pavia
	INFN, Univ. Bologna
	ENEA
PT	LIP*
SE	ESS*
	University of Uppsala*

UK	UKRI (*)
	University of Lancaster (*)
	University of Southampton (*)
	University of Strathclyde
	University of Sussex (*)
	Imperial College
	Royal Holloway
	University of Huddersfield
	University of Oxford
	University of Warwick (*)
NL	University of Twente*
CH	PSI
	University of Geneva
US	Iowa State University
	BNL
China	Sun Yat-sen University

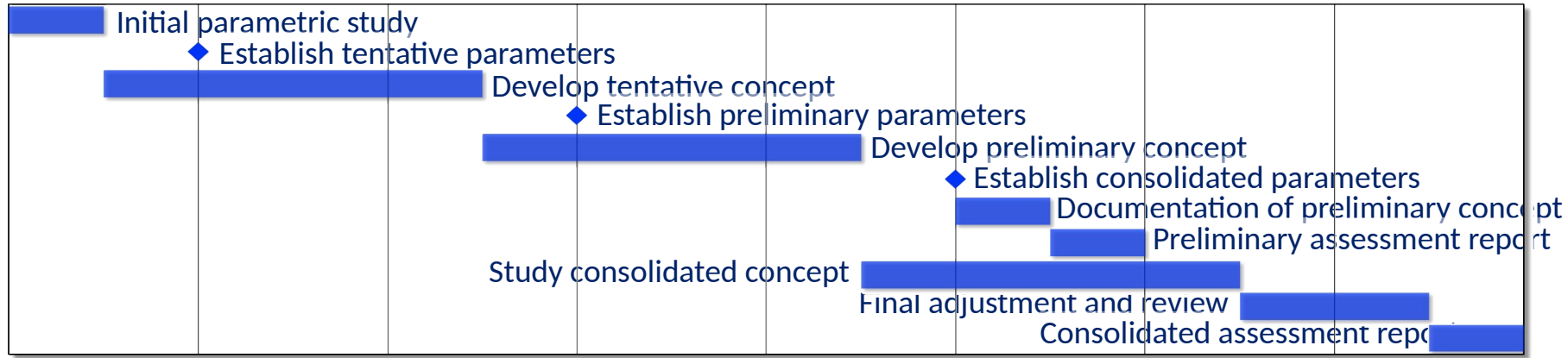
# MuCol



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# MuCol Timeline



0 12 24 36 48  
Project month (-)

2023

2024

2025

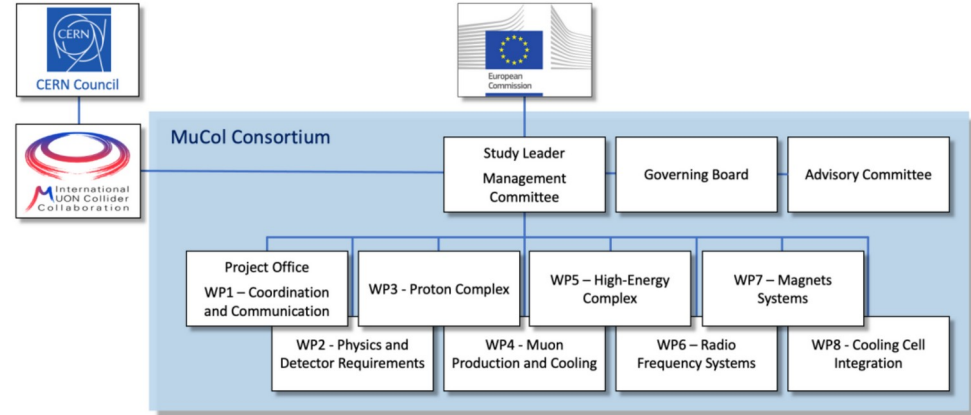
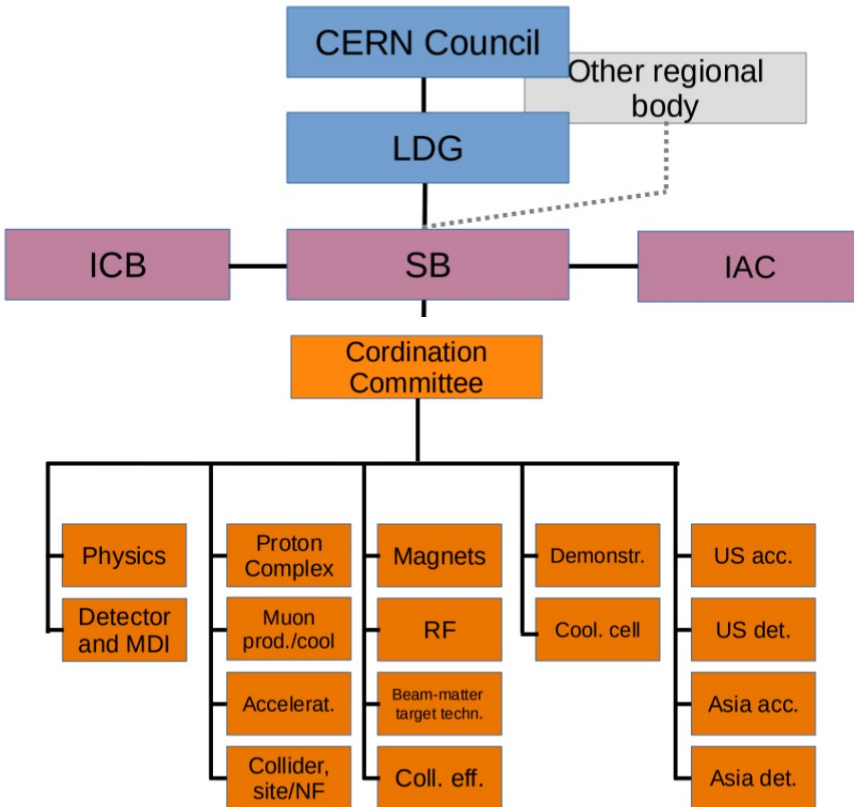
2026

Next ESPPU ?

Representative of overall workplan, now shifted by 2 months



# IMCC and MuCol Organisation



**Collaboration Board (ICB) and Governing Board (GB)**

**Steering Board (SB) is unique**

**Coordination Committee (CC) and Management Committee (MC)**

**International Advisory Committee and Advisory Committee**

# MuCol and Collaboration Integration



Main executive body of MuCol is Management Committee (MC)

- a subset of the Coordination Committee of the collaboration (CC)

Foresee to have all meetings combined

- e.g. annual meeting, CC+MC, ICB+GB
- may need some specific effort to document meetings for MuCol

Dissemination and publication of reports should be synchronised

- Task in MuCol to ensure quality and publication of reports
- Can in part rely on existing Conference Preparation Team
- Need to define clear procedures

Propose that MuCol Governing Board agrees to rely on International Advisory Committee of IMCC

- Steering Board will propose a composition



# Coordination Committee Members



Physics	Andrea Wulzer
Detector and MDI	<b>Donatella Lucchesi</b>
Protons	<b>Natalia Milas</b>
Muon production and cooling	<b>Chris Rogers</b>
Muon acceleration	<b>Antoine Chance</b>
Collider	Christian Carli
Magnets	<b>Luca Bottura</b>
RF	Alexej Grudiev, <b>Claude Marchand</b>
Beam-matter int. target systems	Anton Lechner
Collective effects	Elias Metral
Cooling cell design	<b>Lucio Rossi</b>
Demonstrator	<b>Roberto Losito</b>

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

The proposed MuCol WP coordinators are CC members

essentially all activities are integrated in MuCol



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IEIO	<b>CERN*</b>
FR	<b>CEA-IRFU*</b>
	CNRS-LNCMI
DE	<b>DESY*</b>
	<b>Technical University of Darmstadt*</b>
	<b>University of Rostock*</b>
	KIT
IT	<b>INFN*</b>
	INFN, Univ., Polit. Torino
	<b>INFN, Univ. Milano*</b>
	<b>INFN, Univ. Padova*</b>
	<b>INFN, Univ. Pavia</b>
	<b>INFN, Univ. Bologna</b>
	INFN Trieste
	INFN, Univ. Bari
	INFN, Univ. Roma 1
	ENEA
PT	<b>LIP*</b>

UK	<b>RAL+</b>
	University of Lancaster
	<b>University of Southampton</b>
	<b>University of Strathclyde</b>
	<b>University of Sussex</b>
	<b>Imperial College London+</b>
	Royal Holloway
	<b>University of Huddersfield</b>
	<b>University of Oxford</b>
	<b>University of Warwick</b>
	<b>University of Durham+</b>
SE	<b>ESS*</b>
	<b>University of Uppsala*</b>
NL	<b>University of Twente*+</b>
EST	<b>Tartu University</b>
LAT	<b>Riga Technical Univers.</b>
AU	<b>HEPHY</b>
	<b>TU Wien</b>

FI	<b>Tampere University</b>
ES	<b>I3M+</b>
	<b>ICMAB</b>
CH	<b>PSI</b>
	<b>University of Geneva+</b>
	EPFL
BE	<b>Louvain</b>
IT	<b>INFN Frascati</b>
	INFN, Univ. Ferrara
	INFN, Univ. Roma 3
	INFN Legnaro
	INFN, Univ. Milano Bicocca
	INFN Genova
	INFN Laboratori del Sud
	INFN Napoli
	INFN Catania

Blue: MuCol Participant  
\* MuCol beneficiary  
+ new MoC signatory

US	<b>Iowa State University</b>
	<b>Wisconsin-Madison</b>
	<b>Pittsburg University</b>
	<b>Florida State U.</b>
	<b>U. of Tennessee</b>
	<b>Old Dominion U.+</b>
	<b>BNL</b>
China	<b>Sun Yat-sen University</b>
	<b>IHEP</b>
	<b>Peking University</b>
India	<b>CHEP</b>
Korea	<b>KNU+</b>
US	<b>FNAL</b>
	<b>LBL</b>
	<b>JLAB</b>
	<b>Chicago</b>
Japan	<b>Akira Yamamoto, Akira Sato, T. Ogitsu</b>

# MuCol Thanks



## The conveners

Antoine Chance (CEA), Anton Lechner (CERN), Christian Carli (CERN), Claude Marchand (CEA), Daniel Schulte (CERN), Donatella Lucchesi (Padua, INFN), Elias Metral (CERN), Lionel Quettier (CEA), Luca Bottura (CERN), Lucio Rossi (Milano, INFN), Marco Calviani (CERN), Nadia Pastrone (Torino, INFN), Natalia Milas (ESS), Roberto Losito (CERN), Simone Gilardoni (CERN), Tord Johan Carl Ekelof (UU)

EU office: Svetlomir Stavrev, Cloe Levointourier-Vajda, Sabrina El-Yacoubi, Pablo Federico Lopez

Legal Service: Mandy Stewart, Julia Heliemann

Finance: Florence Pesce, Laura Gina Dalla Palma

Library: Alex Kohls, Sunje Dallmeier-Tiessen

## All the contributors

Roberto Losito

The European Commission, the UK and Switzerland

# Decisions



- Verify membership in GB
  - Can we move on today with the current representation?
- Endorsement of workpackage leaders
- Endorsement of Deputy Study Leader
- Election of Gender Advisor
- Election of Dissemination Officer
- Agreement to rely on the IMCC IAC as the MuCol AC

Reminder: Please remember that we have to keep track of resources, also for matching funds