

# CMS at IIHE - intro

Steven Lowette

Vrije Universiteit Brussel – IIHE

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1992: CMS  
Letter of Intent

Université Libre, Bruxelles, BELGIUM  
J. Sacton, C. Vander Velde, P. Vilain, G. Wilquet  
Vrije Univ., Brussels, BELGIUM  
J. Lemonne, S. Tavernier, W. Van Doninck, J. Wulleman

1993: SSC canceled  
1995: LHC approved



# LHC TIMELINE

The Large Hadron Collider (LHC) will be further upgraded from 2026 to 2029 to conduct even more particle collisions, at higher energies. It is then scheduled to run for another decade.



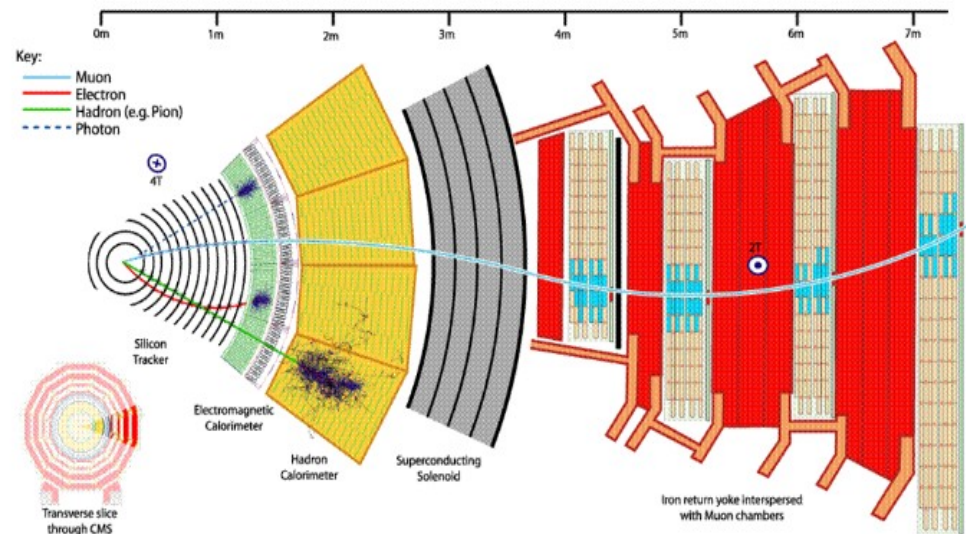
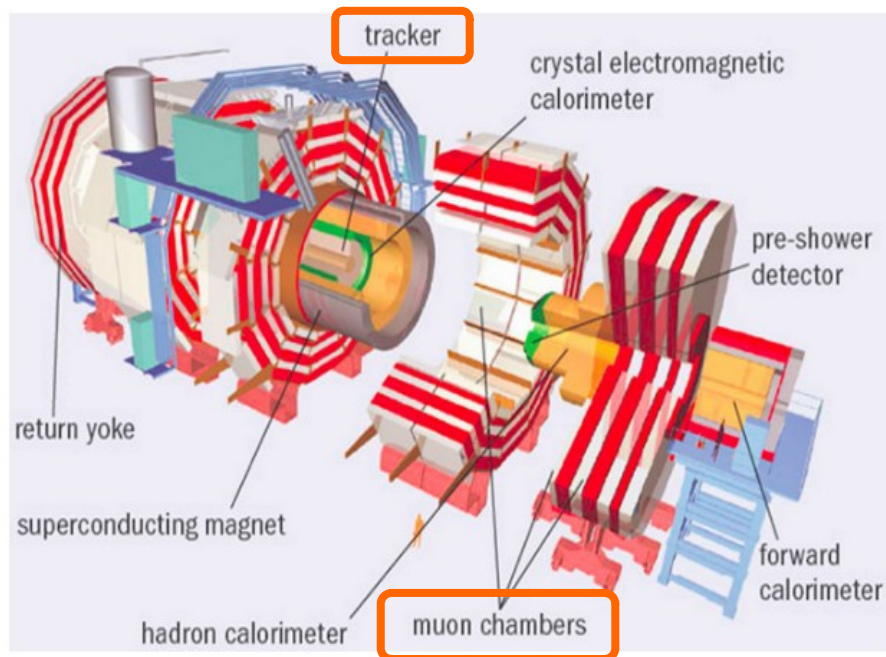
\*TeV, trillion electronvolts.  
†Calculated from LHC's integrated luminosity (one inverse femtobarn ~100 trillion proton-proton collisions).  
2023 onwards: design expectations.

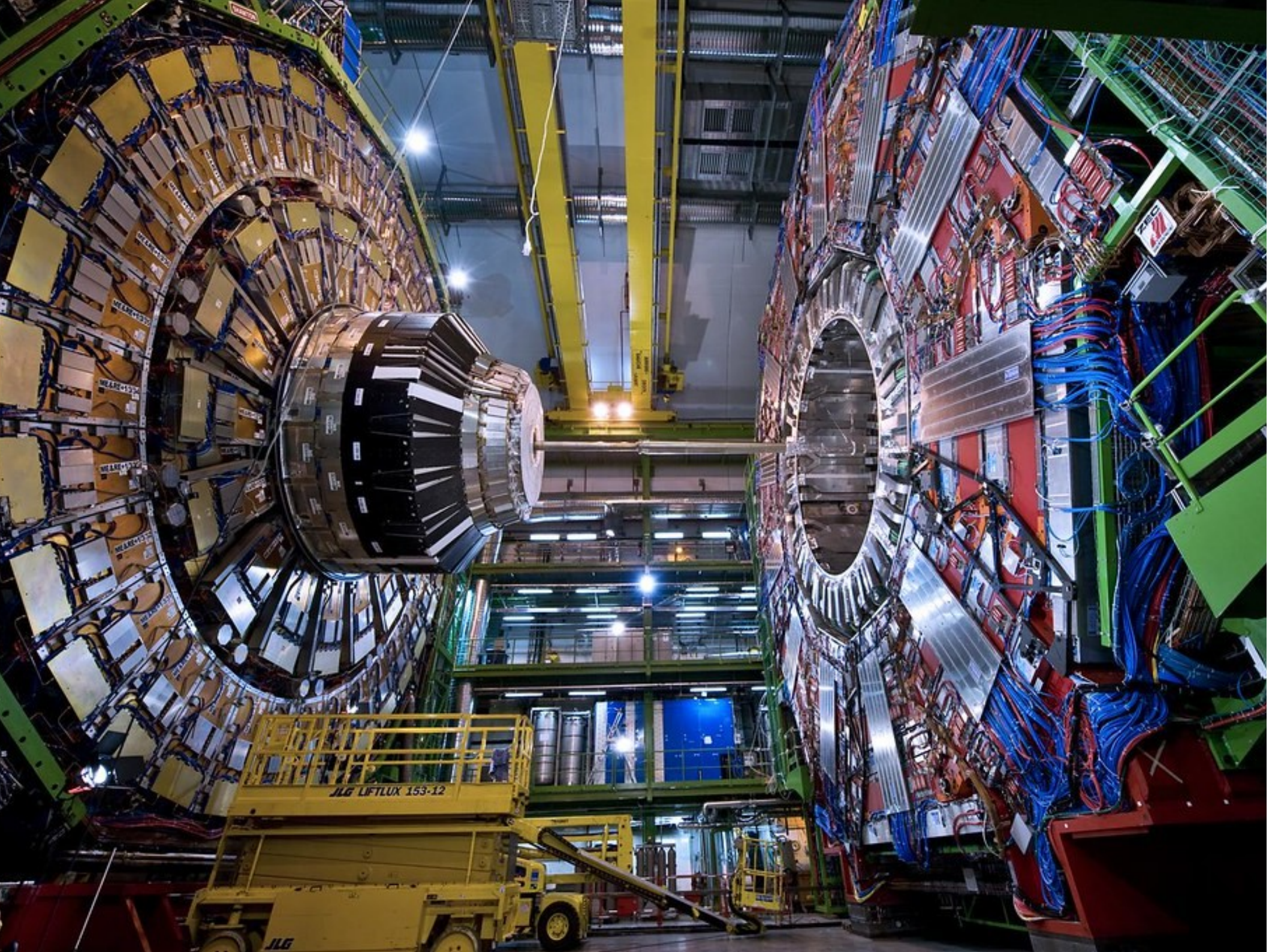
Nature 605, 604-607 (2022)

# The Compact Muon Solenoid detector

Layers of sensitive material for charged-particle tracking, calorimetry, and muon detection

Powerful 3.8 T magnet to bend charged particles





JLG LIFTLUX 153-12

JLG

## Who are we?

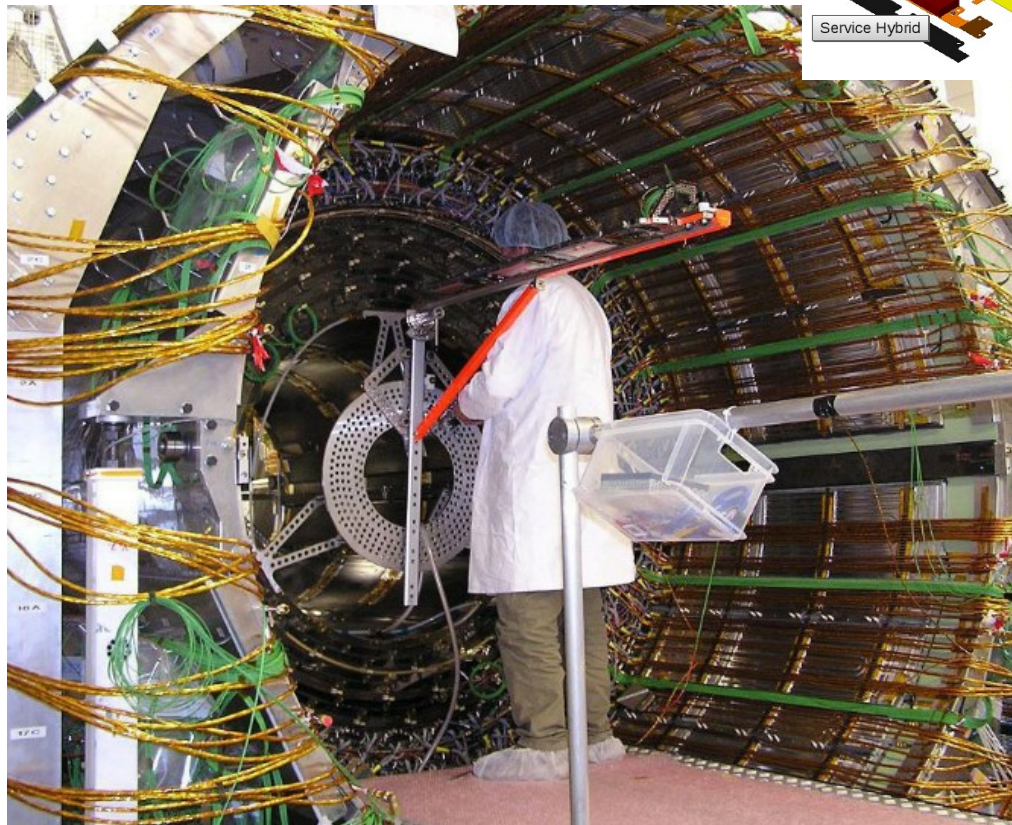
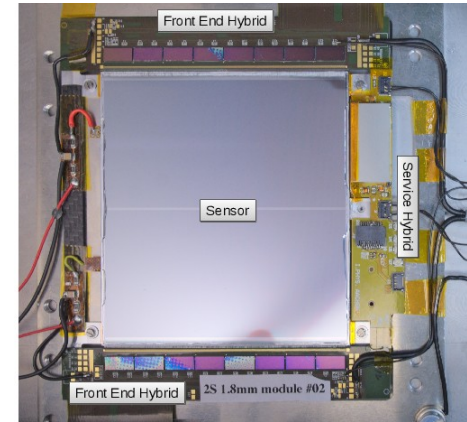
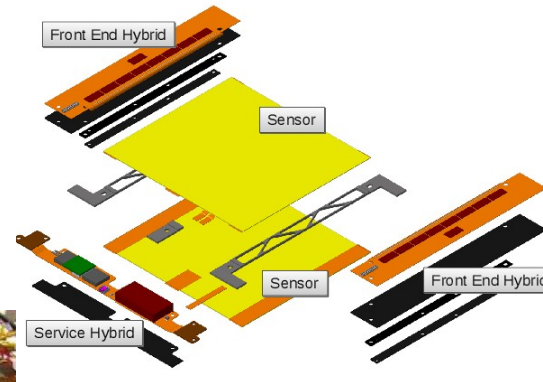
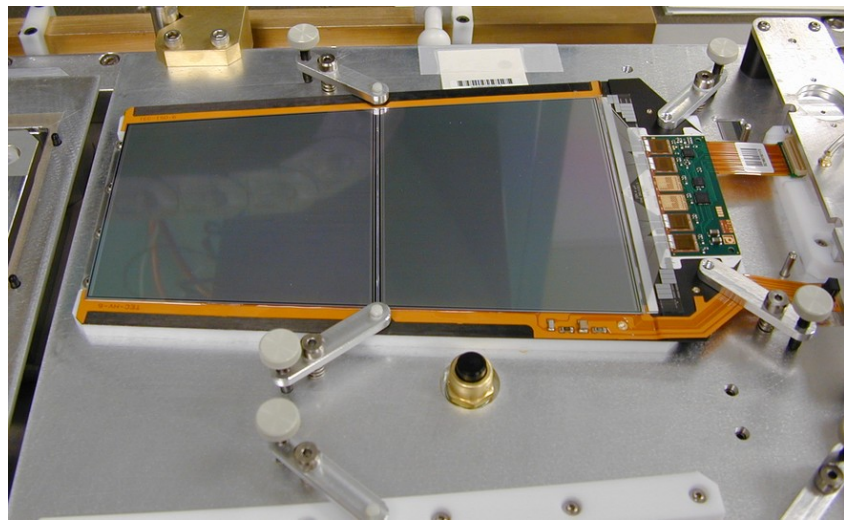
- VUB staff: Jorgen, Michael, SL
  - + 5 ULB staff physicists
- numerous postdocs and students
- technicians ← tracker upgrade!

## Supported by

- FWO IRI, FWO iBOF, HEP@VUB, regular projects and fellowships,...
  - in the recent past Hercules, Odysseus, EOS

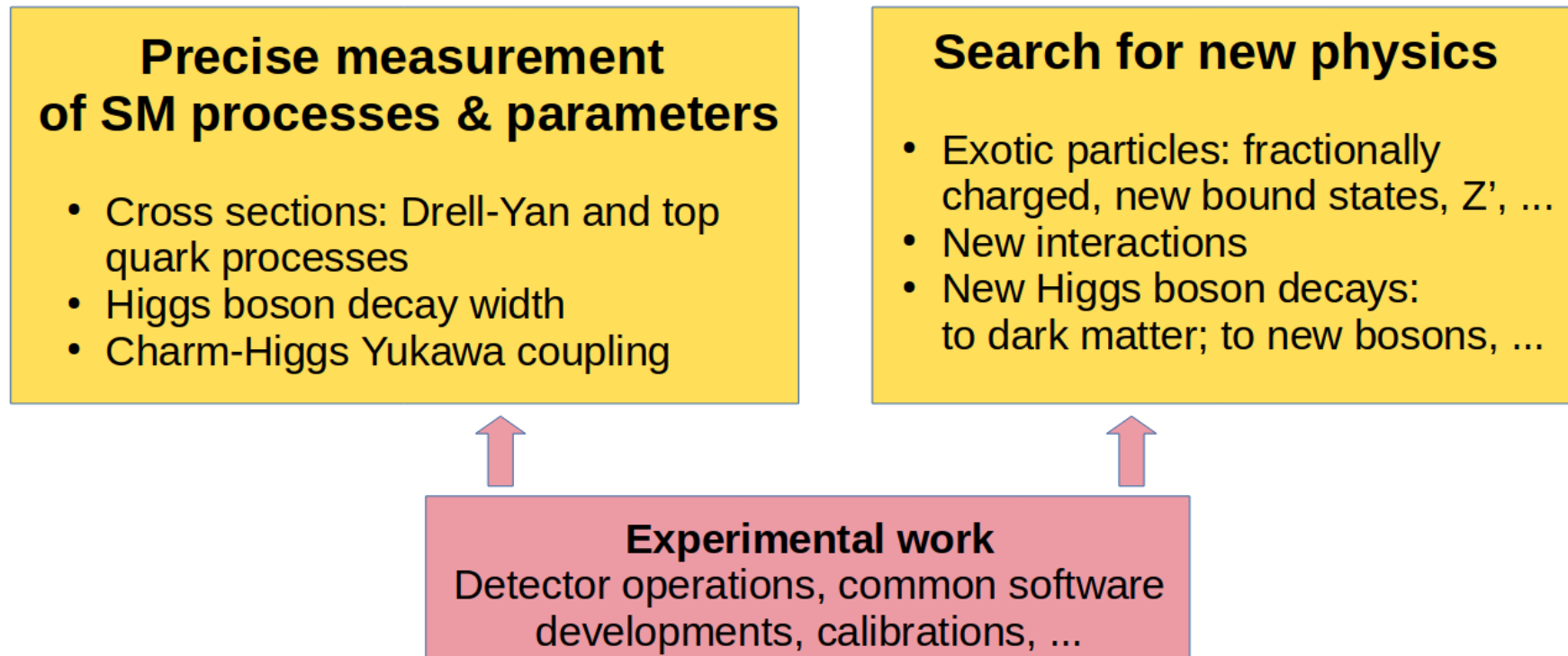
## Major current focus

- CMS “Phase-2” upgrades: several years of detector construction and commissioning
- LHC Run-3 data analysis: data taking until 2025



# Quest for the understanding of the universe

Main (connected) categories **of research** at IIHE in the CMS experiment:



# Backup



