
# HSF and the Future Circular Collider

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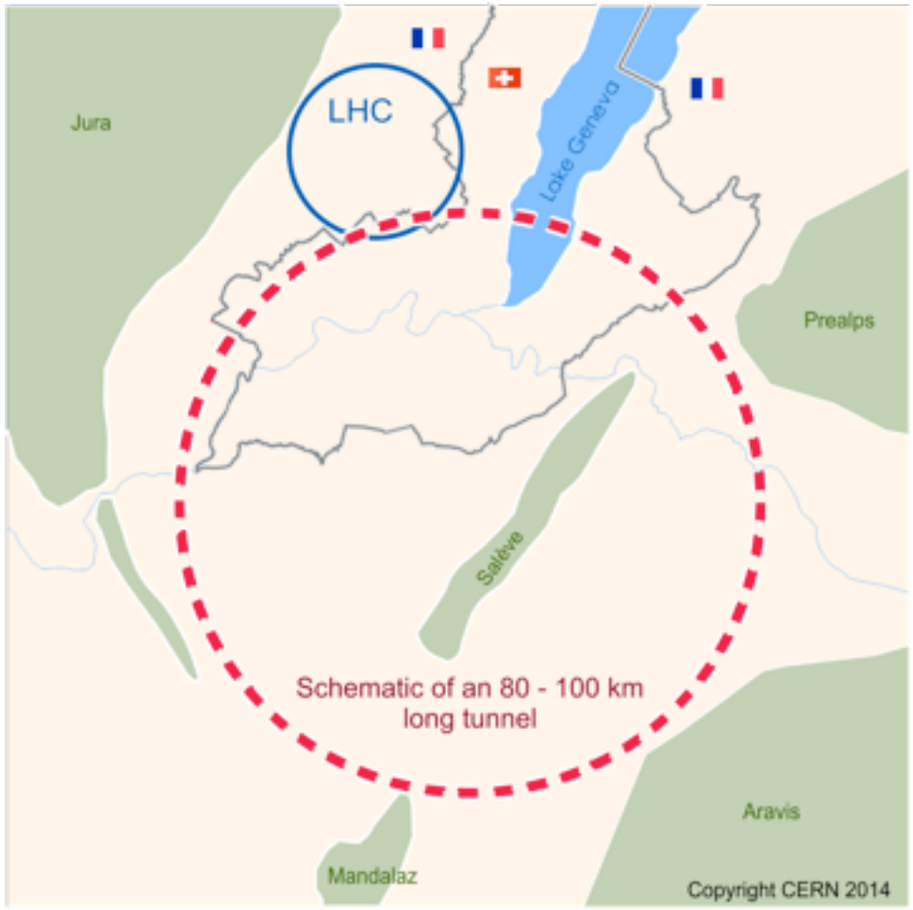
# FCC - Future Circular Collider Software

- Newly started software effort to support the design study on multiple detector concepts for both the FCC-hh and FCC-ee collider project
  - Conceptual Design reports targeted for 2018



# Software Environment for FCC

- The FCC experiments are starting SW efforts from scratch, right?
  - Well, yes and no…
  - All FCC needs to solve has been solved elsewhere already
  - One needs to pick and choose wisely
  - Develop new things only when it is worth it

- Areas to find solutions for
  - Development environment
  - Core Framework
  - I/O
  - Simulation
  - Detector Description
  - Reconstruction
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  - Analysis - ROOT and Python solutions from CMS physicists

# Problems

- The open-source culture and the openness of developers allowed rapid progress so far!
  - Parameterized simulation working
  - Detector definition for full simulation ongoing
- However, this is based on non-sustainable single person efforts and good-will
  - Think of the timescales involved !
  - Who guarantees that used software doesn't disappear?
- A lot of low-level plumbing as there is ***no central HEP SW distribution***
  - LCG external releases were very helpful there, but that's only the start
- Would have liked to see a more complete inventory of existing software with *validated interoperability to choose from*
- The development environment is very ad-hoc
  - There is no single place offering all what is needed

# Chances

- FCC software is a new player in the field
  - Not much to offer to the community yet
  - But no legacy either
- We are a natural *guinea pig to test the generalization* of existing tools and have a **strong interest** in playing this role for the HSF
- *A review* of our approaches is something we would be asking the HSF soon
  - Are there any community “standards” we missed?
  - What should we do in new software so that it can be useful for others?