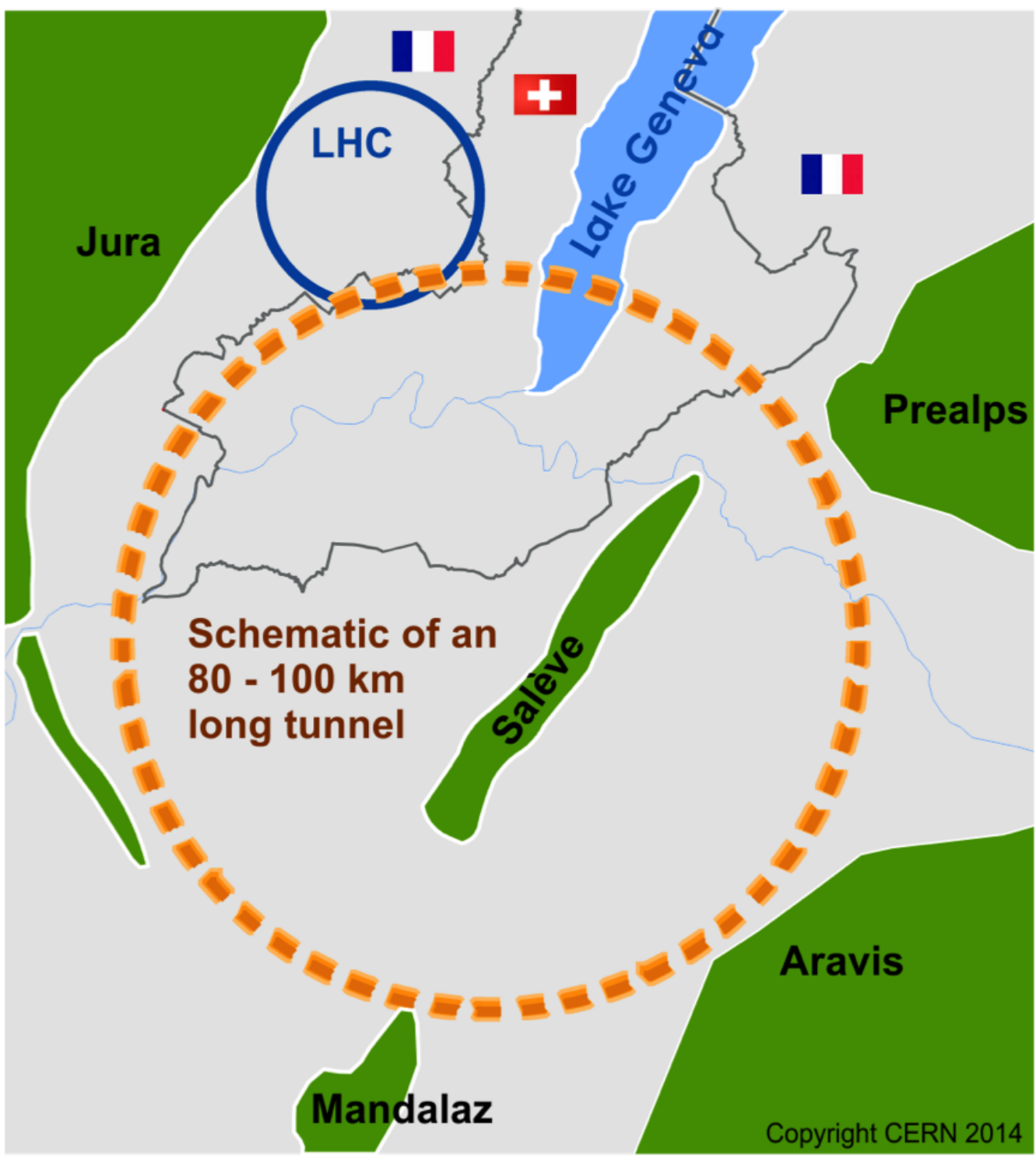


The Future Circular Collider Experiment (FCC)

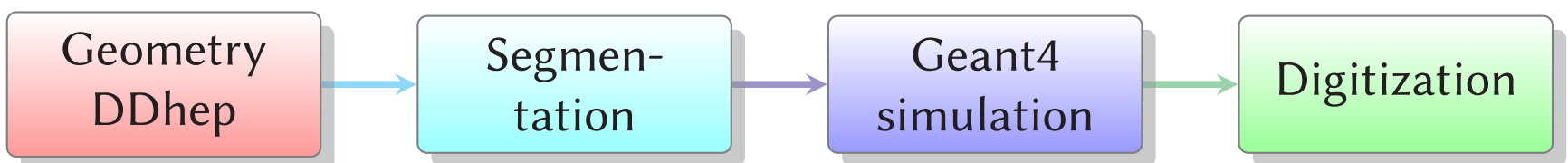
- A future possibility for the post-LHC era
- 3 options of circular colliders
 - FCC-ee: electron - positron collisions
 - FCC-hh: proton - proton collisions
 - FCC-eh: electron - proton collisions
- ~100 km tunnel in Geneva area
- FCC-ee collider parameters:

Stages	Z	WW	H (ZH)	t \bar{t}
Beam energy [GeV]	45.6	80	120	182.5
Average bunch spacing [ns]	19.6	163	994	3396



FCCSW: Physics and Detector simulations with FCCSW

- Common software for all FCC experiments (ee, hh & eh)
- Detector and physics studies
 - Fast & full simulations
 - One software stack from event generation to physics analysis
- Collaborative approach with other CERN experiments
 - Gaudi from LHC
 - DD4hep from CLIC & LHCb
 - New solutions where needed



The IDEA detector concept for FCC-ee

- Two detector concepts for the FCC-ee collider
 - The IDEA detector concept (focus of this poster)
 - A CLIC-based (silicon-based) detector
- Ultimate goal for the IDEA detector concept
 - Vertex detector: MAPS
 - Ultra-light drift chamber with particle identification
 - Double readout calorimetry
 - Additional silicon disk layers placed in the space between the drift chamber and the dual readout calorimeter to increase the forward coverage
 - 2 T solenoidal magnetic field
 - Instrumented return yoke
 - Large tracking volume ($R \sim 8$ m) for very weakly coupled (long-lived) particles

