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With the HL-LHC, new physics will be fully probed up to an energy scale of at least ~ 1 TeV in the near future. The next step has to include decisive studies of the properties of the Higgs and the top quark. This should then be followed by the exploration of an energy scale that is an order of magnitude higher than what can be reached with the LHC in the years to come.

For this reason, the Swiss community considers the FCC to be the most promising project for the next high-energy frontier machine at CERN. The FCC would start as an e^+e^- collider. It is a challenging project that requires R&D, but does not need the

Swiss roadmap for particle and astroparticle physics, 2020

- Host country
 - Strong support bottom-up
 - Strategic effort for funding agency
- **CHART:**
Accelerator R&D stimulus program
(HTS, HFM, beam, injector, geology)
- FCC workshops in 2021, 2022,
6/2023 sustainability in HEP and future colliders
1/2024 (Zürich Phenomenology Workshop on FCC),
and strategic meetings (overall particle physics, latest 1/2024)
- Current efforts in MAPS, LGAD, strange tagging, vertex detector sim,
HNL (incl. theory), luminosity monitoring, EFT



Swiss Accelerator
Research and
Technology

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- MoUs signed by most institutions
- Dedicated personnel for FCC only on competitive grants and Institute funds – ~3-4 FTE. Also competing within particle physics with HL-LHC.
- **CHEF**: dedicated effort 2025– (ramp-up 2024)
Swiss experimental and theoretical research for the FCC
Funds for personnel (several PostDoc, PhD)
- Planning a further national strategic effort for building / consolidating FCC groups at Universities

Austria

- Generic detector development focusing on DMAPS, with Belle II upgrade as a first step for FCC-ee (high granularity). R&D on LGADs and wide-bandgap semiconductors for FCC-hh (pileup mitigation and radiation hardness). The development of fast calorimeter simulations using generative AI algorithms and possible applications for FCC-ee are currently being investigated.
- No significant increase in person power until the end of the feasibility study in 2025
- No official position from the funding agency (yet).
- No involvement in any other future collider

Slovenia

- Slovenia is fully busy with current engagement in ATLAS and Belle2, no resources beyond generic R&D are allocated to FCC so far. Looking for a student to (part time ?) participate in physics studies.
- Generic detector R&D:
major involvement in DRD3 and DRD4 formation, DMAPS, LGAD, diamond, photon detectors, Čerenkov
- Funding agency is sympathetic but there is no firm commitment
Counting more on less on reallocation of current resources.
- No commitments to alternative projects.

Croatia

- Right now about 20 people active on CERN experiments
- Number will not increase in the coming years.
 - We can not hire postdocs on FCC.
- Funding agency is funding only active groups at CERN active experiments.
- No alternative efforts.