

3 different scenarios
for future circular colliders

FCC-hh
hadron-hadron collider

Reaching 100 TeV in a 100 km long
tunnel defines the overall infrastructure
for the FCC study requirements

FCC-ee
lepton-lepton collider

With centre-of-mass energies from
90 to 350 GeV is also foreseen as a
potential intermediate step

FCC-he
hadron-lepton collider

This option is also considered
under the study

74
Institutes

26
Countries

2014
FCC Kick Off meeting

2018
Delivery of a
Conceptual
Design Report

Construction
Development
of an interactive
tool for tunnel
engineering

FCCWEEK 2016
FUTURE CIRCULAR COLLIDER STUDY
fcc.web.cern.ch

Truly international
collaboration
Involving a worldwide
community of experts
from the beginning
in this endeavour

Bringing together
academia with
research industries
and industrial partners

Key Enabling Technologies
An extensive R&D programme

Developing 16Tesla Magnets
(LHC uses 8T magnets)
for the hadron collider option

100MW
Superconducting RF cavities
for a future lepton collider

**Superconducting
Materials**

Global Computing

**Efficient Cryogenics
& Vacuum System**

Considering the
Economic and Societal Impact
of future large-scale
research infrastructures

Overview

The aim of the Future Circular Collider (FCC) study is to develop a conceptual design for a post-LHC particle accelerator infrastructure in a global context.

Expanding our understanding of the fundamental laws of nature requires the energy frontier to be pushed further. Reaching this goal within the 21st century in an economic and energy efficient way calls for a large circular collider.

The international FCC collaboration, hosted by CERN, brings together, as of today, more than 70 institute from around the globe. It is open to universities, laboratories and research centres of academic excellence, as well as to high-tech companies. This set-up forms the core of a globally coordinated strategy of actions designed to converge towards a single vision.

By the end of 2018, the FCC collaboration will deliver a conceptual design report, together with preliminary cost estimates and feasibility assessments.

The conceptual design report and an active R&D portfolio of new technologies developed in collaboration with leading research institutes and industries will lay the foundations for the implementation of a future collider.