

Response from the German Committee for Particle Physics (KET) to the ESG request for further input on collider scenarios

The German particle physics community has provided input to the ESPPU process in its document "Statement by the German Particle Physics Community as Input to the Update of the European Strategy for Particle Physics" submitted in December 2018. This statement is the consensus result of a two-year long series of community workshops.

After the discussion at the Granada workshop and the community discussions throughout the last year, KET, the elected representation of particle physicists in Germany, considers the original community statement still valid.

The key statements related to future large colliders formulated in the German input document are:

An electron-positron collider, upgradeable to a centre-of-mass energy of at least 500 GeV, should be realised, with the highest priority, as the next international high- energy project.

We strongly support the Japanese initiative to realise, as an international project in Japan, the ILC as a "Higgs-Factory" with an initial centre-of-mass energy of about 250 GeV.

Continuation of the development of accelerator and detector technologies and studies for a next-generation hadron collider, at the highest possible centre-of-mass energies beyond the LHC, should be pursued with high priority.

In response to the ESG request to provide input on the scenarios for CERN-based large colliders KET expands on these consensus statements:

We consider an electron-positron collider, upgradeable to at least 500 GeV centre-of-mass energy, as the highest priority of our field. Currently, two different design options for a collider allowing an operation at 500 GeV are being discussed: the ILC in Japan and CLIC at CERN; one of these machines should be built as the next large international collider project in particle physics.

The decision for one of these projects and its realisation should happen in a globally coordinated context and as an international effort. Europe with CERN as the European laboratory for particle physics should play a leading role in both the decision making process and the realisation of the next electron-positron collider project.

CERN should pursue the development of accelerator and detector technologies in order to prepare the next energy-frontier collider.