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## A Large Hadron Electron Collider at CERN

This document provides a brief overview on the recently published report on the design of the Large Hadron Electron Collider (LHeC), which comprises its physics programme, accelerator physics, technology and main detector concepts. The LHeC exploits and develops challenging, though principally existing, accelerator and detector technologies. This summary is complemented by brief illustrations of some of the highlights of the physics programme, which relies on a vastly extended kinematic range, luminosity and unprecedented precision in deep inelastic scattering. Illustrations are provided regarding high precision QCD, new physics (Higgs, SUSY) and electron-ion physics. The LHeC is designed to run synchronously with the LHC in the twenties and to achieve an integrated luminosity of  $O(100)\text{fb}^{-1}$ . It will become the cleanest high resolution microscope of mankind and will substantially extend as well as complement the investigation of the physics of the TeV energy scale, which has been enabled by the LHC.

**Primary authors:** KLEIN, Max (University of Liverpool (GB)); BRUNING, Oliver (CERN)