THE EUROPEAN X-RAY LASER PROJECT XFEL: scientific and industrial impacts and perspectives
(Harald Sinn, European XFEL)

Below the city of Hamburg, a new large scale science facility is currently being built: The European XFEL.
A two kilometres long super-conducting linear collider will accelerate electrons close to the speed of light, which then produce in a non-linear interaction with magnetic fields extremely intense X-ray pulses.
Starting to operate in 2017, the European XFEL will be the most intense and brilliant X-ray source on this planet.
This so-called X-ray laser radiation will be used for a variety of research activity ranging from molecular biology to plasma physics.
I will give in the presentation a short overview of the project, highlight some technical challenges, and discuss perspectives for fundamental science and industry.