



Brandenburg
University of Technology
Cottbus - Senftenberg

LOCATION OF INNOVATION FOR (HYBRID-)ELECTRIC SYSTEMS

COTTBUS



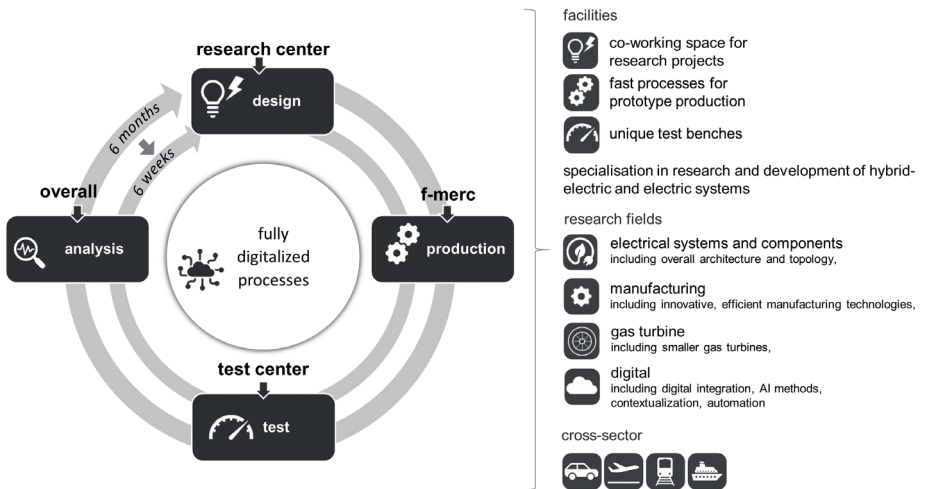
**ENERGY EFFICIENCY
AND SUSTAINABILITY**

www.b-tu.de/chesco

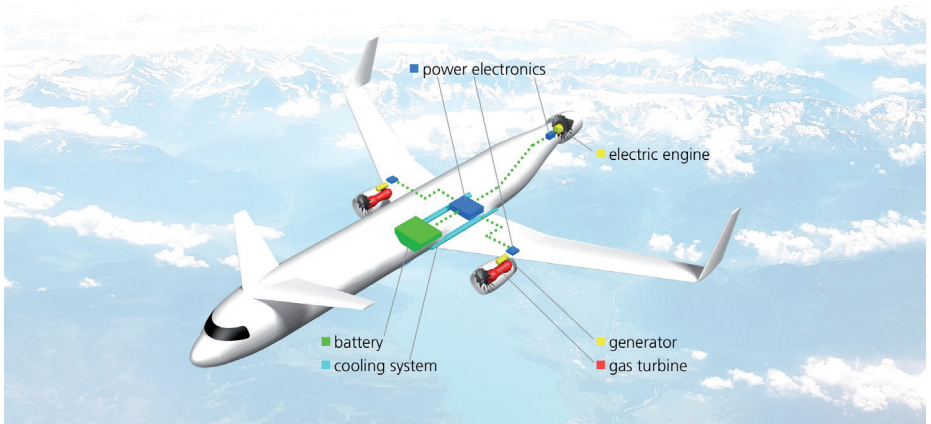
CHESCO consists of three areas:

- **research center** – The research center offers, among other things, co-working opportunities for joint project implementation.
- **f-merc** – The fast make electrification research center offers modern manufacturing methods for rapid prototyping.
- **test center** – The test center offers unique test benches for system and component testing under flight conditions and/or at sea level.

The center is being developed into a model factory with a 5G network and end-to-end digitization of all processes. In this way, the principle of the digital twin can be studied and applied.



At the site in Cottbus, DLR is expanding its expertise in aeronautics research with the Institute of Electrified Aero Engines. The institute's research focuses on lower-emission, generally more electrified future aviation engines for civil transport aircraft. The scientific questions are oriented towards alternative aircraft engines, such as those based on hydrogen, which have high technical requirements due to their significantly increased system complexity. At the same time, however, these also hold the potential to be more climate-friendly and quieter. For example, the classic aviation propulsion system can be supplemented or completely replaced by novel concepts. Such concepts go hand in hand with increased demands on intelligent control systems to ensure efficient and safe operation at all times. In addition, certification rules for these rapidly changing propulsion concepts must be developed in collaboration with partners and the responsible authorities in order to meet the relevant international aviation requirements.

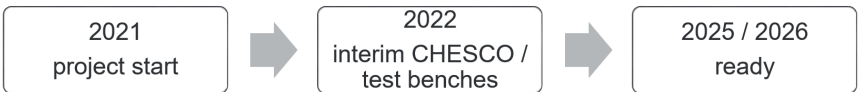
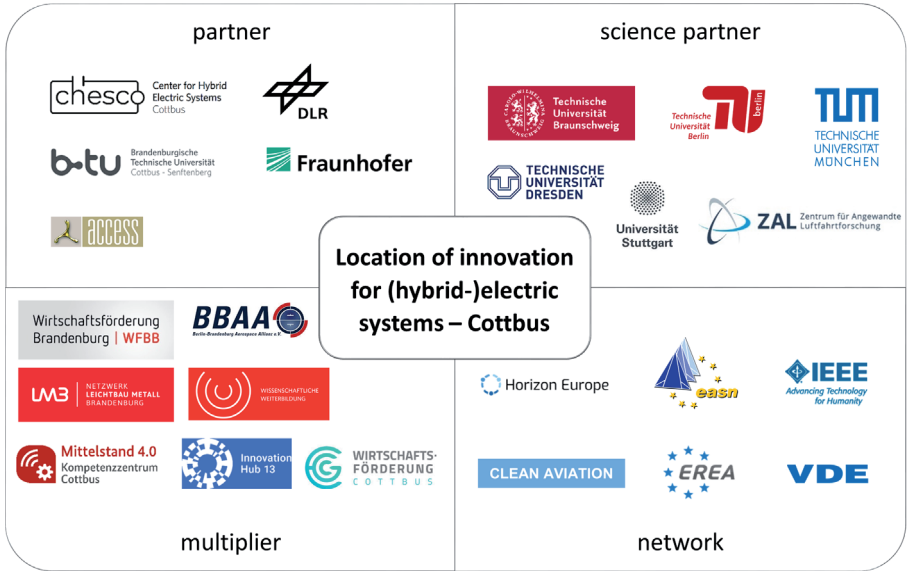


MISSION

- Concentration of research on lower-emission, generally more electrified future aircraft engines for civil transport aircraft
- Exploiting the diverse potentials for making aircraft more climate-friendly and quieter through novel propulsion systems, such as those based on hydrogen
- Orientation of scientific research on alternative aircraft engines, which have high requirements in terms of intelligent control due to their significantly increased system complexity
- Closing the remaining gaps in the German engineering research portfolio

POWERFUL NETWORK

CHESCO and the Institute of Electrified Aero Engines have a network of partners from many different fields. Partners include universities, research institutions, research centers and industrial partners.



COOPERATION

Cooperations are possible in the form of contracting and/or research project cooperation.

ADVANTAGES OF COOPERATION

- large research and business network
- an open lab and a structure that offers a testing ground
- verification/testing of modern production methods with low risks
- training and recruitment of employees
- opening new business fields
- research funding
- agile development of (hybrid-)electric systems

COOPERATION INFORMATION

via e-mail

- » chesco@b-tu.de
- » institut-el@dlr.de

online

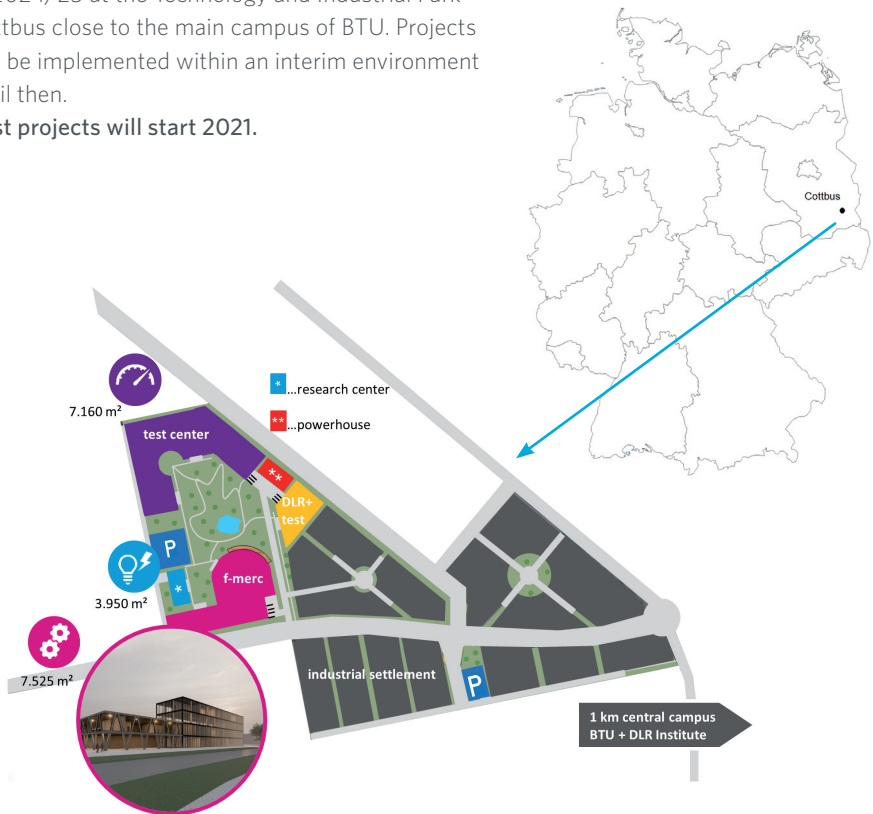
- » www.b-tu.de/chesco
- » www.dlr.de/el

LOCATION

Technology and Industrial Park Cottbus, Germany

The plan is to build CHESCO (with DLR participation) in 2024/25 at the Technology and Industrial Park Cottbus close to the main campus of BTU. Projects will be implemented within an interim environment until then.

First projects will start 2021.



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