DTU Electrical Engineering at the Technical University of Denmark (DTU):

Power Electronics Engineering is an exciting area covering multi-disciplinary studies from energy conversion and power supplies to IC-design. DTU Electrical Engineering at the Technical University of Denmark is a world research leader in: High Efficiency Fuel Cell power Converters, Switch-Mode (class-D) Audio Amplifiers, Magnetic-less (piezoelectric transformer based) Switch-Mode Power Supplies, and Very High Frequency SMPS.

DTU Electrical Engineering:

We put special pride into linking theory and modelling to the experimental test & validation of results.

We are open for collaboration and new partnerships with companies and institutes. Our graduates are employed world-wide by companies, research centers, and authorities. We do collaboration projects with numerous domestic and international companies.

Power Electronics Research Areas:

The Power Electronics research focuses on physics, component and system level ranging from mega-Watt to milli-Watt. We also perform research within signal conditioning and electronics, as well as analogue and mixed-mode IC-design.

Ultra compact DC-DC converter design by DTU.

We have key competences in:

- Ultra-high efficiency power converters for fuel cells
- Switch-mode power supplies (SMPS)
- SMPS based on piezoelectric transformers
- Ultra-fast tracking power converter for RF amplifiers
- VHF SMPS
- Silicon carbide (SiC) and gallium nitride (GaN)
- Digital control of DC/DC converters
- Switch-mode audio power amplifiers - Class D
- Class-D and ultra low power radio receivers for hearing-aid applications
- IC design

LED driver comparison.
Left: DTU design. Right: Commercial product.

We provide Unique and Innovative Solutions:

- 5 Start-up companies
- 30 Inventions and patent applications

Dual bidirectional input, single output fuel cell converter by DTU.

Laboratories:

Our laboratories are equipped with state-of-the-art instrumentation and facilities enabling us to perform our research activities.