



At the LEC we research for a sustainable tomorrow!

The Large Engines Competence Center, LEC for short, is one of the world's leading research institutions for sustainable large engine technologies and develops innovative solutions for green energy and transportation systems.

Since 2015, the LEC is a funded COMET K1-Center. As a pioneer in climate-friendly innovation and virtual development, the center serves as a global innovation hub for sustainable, environmentally sound transportation and power generation systems for a rapid and economically feasible transition from today's conventional systems to systems with a zero carbon footprint. With its research, a globally unique infrastructure and a large international partner network, it contributes significantly to global decarbonization and massive emission reductions. The research focus is on the use of renewable energies (green e-fuels such as hydrogen, ammonia, methanol, etc.), digital technologies and overall system optimization.

LEC GmbH

S Inffeldgasse 19
A 8010 Graz, Austria

T +43 (316) 873-30101
F +43 (316) 873-30102

M office@lec.tugraz.at
W www.lec.at

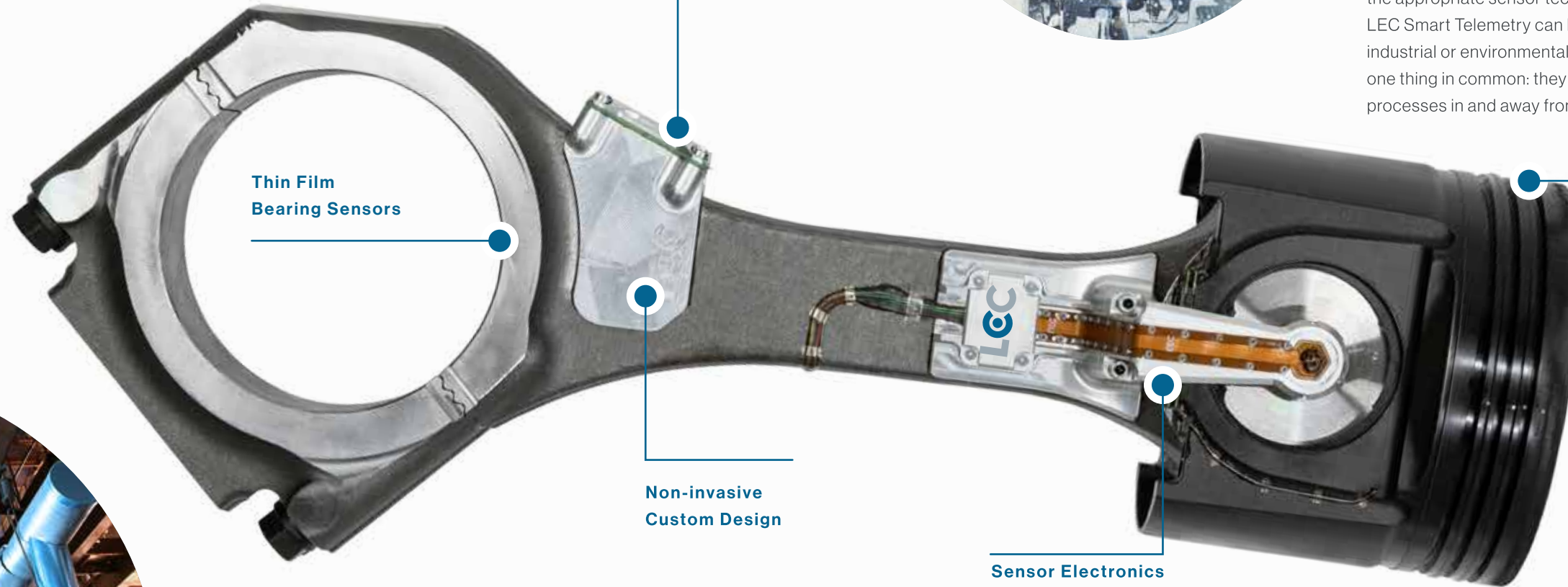


SENSOR TELEMETRY FOR HARSH ENVIRONMENTS



Smart Telemetry - the innovative sensor technology of the LEC makes it possible to record measurement variables that are difficult to access and to transmit the measurement data wirelessly.

Our telemetry system is developed specifically for each customer and the appropriate sensor technology is used in a non-invasive design. LEC Smart Telemetry can be used in harsh environments of engines, industrial or environmental processes. Our tailor-made solutions have one thing in common: they demonstrate how smart solutions make processes in and away from engines more efficient and sustainable.



- Telemetry unit housing**
- CPU, BLE (Bluetooth Low Energy) transceiver
 - Battery / energy harvesting / inductive charging

Thin Film Bearing Sensors

Non-invasive Custom Design

Sensor Electronics

Wireless Data transfer:

- 📶 Temperature
- 📶 Pressure
- 📶 Bending and torsional moments
- 📶 Acceleration
- 📶 Component Deformation
- 📶 Piston ring dynamics (axial, radial)

Capabilities

- ☁️ Dust
- 💧 Water
- 🔥 Hot oil
- ⚡ High G-forces
- ⚡ powered by battery, energy harvesting or inductive charging

Applications

- Energy & transportation systems:**
- Shipping
 - Rail
 - Off-road
 - Power generation

