Federal Ministry
Republic of Austria
Digital and
Economic Affairs

Federal Ministry
Republic of Austria
Transport, Innovation
and Technology

FFG
Promoting Innovation.

COMET Module

LEC HybTec

Hybrid Technologies for Enhanced Reliability of Ultra High-performance Engines

Main location	Inffeldgasse 19, A-8010 Graz, Steiermark, Austria
Other locations	--
Research programme	Hybrid simulation by combination of physics-based and data-driven model approaches for the significant extension of the virtual development process of combustion engines and propulsion systems as well as innovative material combinations and design approaches for highly stressed engine components.

Planned realisation and outcomes

Robust and reliable simulation tools for predicting the combustion process with special consideration of stochastic processes (cycle-to-cycle variations and knocking) by combining complementary modeling technologies (physics-based and data-driven approaches) and deriving suitable engine control strategies; approaches for minimizing wear for engine components (spark plugs, pistons, etc.) under highest loads on the basis of novel material combinations.

Selected company partners (max. 10)	**Selected scientific partners** (max. 5)
1. AVL List GmbH 2. INNIO Jenbacher GmbH & Co OG 3. HOERBIGER Wien GmbH	1. Graz University of Technology 2. Know-Center GmbH 3. Montanuniversität Leoben
	Selected international partners [1] (max. 5) --

Start of the COMET Module	01.01.2020 (4 years)
Number of personnel	8.5 (FTE) are involved (8 FTE are scientists)
Project management	Dr. Gerhard Pirker, LEC GmbH, Area Manager
Contact/ COMET Centre	LEC EvoLET Ao.Univ.-Prof. Dr. Andreas Wimmer Inffeldgasse 19/II, A-8010 Graz, Austria Tel.: +43 (316) 873-30100 andreas.wimmer@lec.tugraz.at; https://www.lec.at

[1] Partners with headquarters outside Austria