

COMET Module

Polymers 4 Hydrogen	
Designed Polymers and their Composites for High Pressure Environments	
Main location	Polymer Competence Center Leoben GmbH, Roseggerstrasse 12, 8700 Leoben, Styria
Other locations	-
Research programme	(i) Designing of new materials to increase the barrier properties against small gas molecules (e.g. hydrogen) (ii) New winding concepts for liner-less high-pressure storage systems (iii) Measurement of permeation properties with a permeation cell (iv) Implementation of simulation strategies in the field of Computational Fluid Dynamics (v) Determination of the properties of polymers under extreme conditions
Planned realisation and outcomes	
Materials and concepts developed in Polymers 4 Hydrogen will be utilized in future applications covering: (i) passenger cars (ranging up to 700 km in a 3-5-minute tank cycle), (ii) public transport (no emissions and noise pollution), (iii) heavy-duty commercial vehicles (significant reduction in downtime compared to battery powered vehicles), (iv) railed vehicles (replacement of diesel-powered trains), (v) power and heat production out of renewable energy sources, and (vi) industrial applications.	
Selected company partners (max. 10)	Selected scientific partners (max. 5)
1. Arlanxeo Deutschland GmbH 2. Contitech Rubber Industrial Kft. 3. Evonik Resource Efficiency GmbH 4. Peak Technology GmbH 5. SKF Sealing Solutions Austria GmbH	1. HyCentA Research GmbH 2. Montanuniversität Leoben 3. Technical University Munich 4. Politecnico di Milano 5. Tampere University of Technology
	Selected international partners ¹ (max. 5)
	1. Arlanxeo Deutschland GmbH 2. Evonik Resource Efficiency GmbH 3. Technical University Munich 4. Politecnico di Milano 5. Tampere University of Technology
Start of the COMET Module	01.01.2020 (4 years)
Number of personnel	9.4 (FTE) are involved (9.4 FTE are scientists)
Project management	Bernd Schrittester, Division Manager
Contact/ COMET Centre	Polymer Competence Center Leoben GmbH Roseggerstrasse 12, 8700 Leoben office@pccl.at www.pccl.at

¹ Partners with headquarters outside Austria