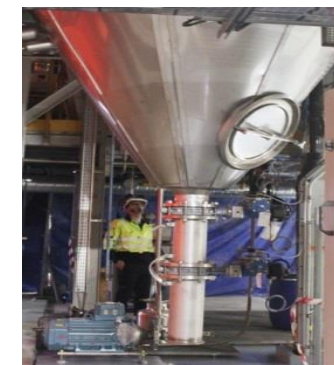
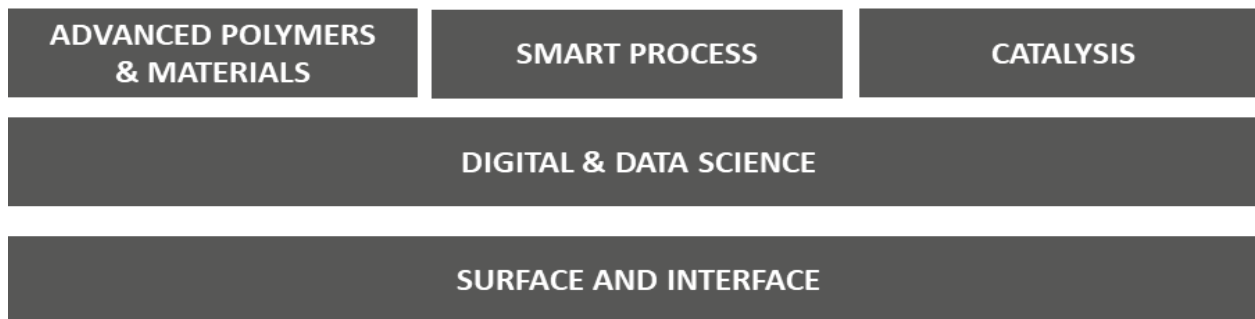




A COLLABORATIVE INNOVATION & TECHNOLOGY PLATFORM

- Collaborative Technology platform for innovation dedicated to clean processes and innovative materials, based in Lyon area (France)
- Tools and expertise for collaborative projects involving industries, academic laboratories, start-ups & SMEs, in the field of :



- Fundamental Research and Scale-up projects for new processes / materials development (TRL 2 -> TRL 7)
- Several pilot lines referenced at EPPN
- Involved in 3 NMBP projects for process up scaling





The platform can fulfill the gap between fundamental research and industrialization in partnership with academic and industrial partners in the technical domains here below :

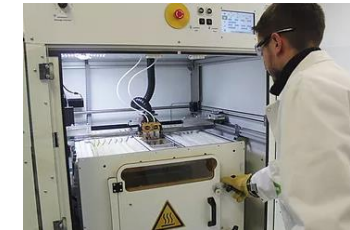
Advanced Polymer based Materials Processing & Characterization

- Compounding & reactive extrusion from 100 g up 100 kg (400°C) :
- Injection molding, Thermo-compression, C-RTM (400°C)
- **Mechanical Characterization** : Quasi-static, Dynamic, Fatigue...
- **Surface Characterization at nm scales** : Partnership with “Science et Surface”



Process On-line control & Analysis

- Online Rheology ; Online Spectroscopy
- MSPC and other digital solutions



*Topics and
thematics of
interest*

- Circular Economy -> Chemical recycling
- Advanced materials : Process intensification, reactive extrusion.
- Structure & properties of surfaces & interfaces
- New Instrumented Test bed /platform for material characterization and modeling
- New solutions in Non-metallic 3D Printing (Medical, Aero, Energy...)



- THE WHOLE AXEL'ONE TECHNICAL OFFER : AT A GLANCE



The academic hub



Reaction and catalysis

High throughput catalysis tests
Catalysts synthesis line
Process intensification

Polymer synthesis

Polycondensation reactors

Material processing

Extrusion
Coating
Electro-spinning
3D printing for biomedical applications

Enabling technologies

Material characterization
Analysis

Materials Up-scaling



Polymer material processing

Polymer material processing shaping
Coating on flexible substrate
Polymer spinning
Additive manufacturing
Polymer recycling

Materials characterization

Mechanical characterization
Measurement of material characteristics
Material analysis
Surface analysis

Material modeling

Multiscale modeling technologies for material and composite

Industrial analysis

Physical and physical-chemical sensors
Online rheology

Process Up-scaling



Industrial catalysis

Catalysts synthesis lines
Catalysts impregnation line
Shaping lines (up to kg scale)
Thermal treatment line

Chemical engineering

Chemical engineering
Corrosion
Separative technologies

Industrial analysis

Test benches for liquid/gas experimentation
Separation techniques
Spectral techniques and chemometrics
Physical and physical-chemical sensors

Process modeling

Computational Fluid Dynamic simulation - CFD
High Performance Computer ENER110



AxelOne can lead a Work Package in your project on :

- Advanced Polymer based Materials Processing & Characterization
- Process On-line control & Analysis development

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