



**Session « Plastiques » dans Horizon 2020
Lyon, le 23 septembre 2019**

**FRENCH OPEN INNOVATION PLATFORM
CHEMISTRY & ENVIRONMENT**



The french open innovation
Chemistry & Environment
platform



THE FRENCH OPEN INNOVATION PLATFORM FOR CHEMISTRY AND ENVIRONMENT

AXEL'ONE

FOR STARTUPS, SMES, INDUSTRY AND ACADEMIC LABORATORIES
pooling tools, expertise and services for innovation projects

INFRASTRUCTURES



TOOLS



SKILLS



> 200
researchers

16
SMEs

40
collaborative
projects

9000 m²
3 sites

4,7 M€
turnover



3 KEY TECHNOLOGIES DEDICATED TO CLEAN PROCESSES AND INNOVATIVE MATERIALS



SMART PROCESS



CATALYSIS



ADVANCED MATERIALS



DIGITAL & DATA SCIENCE

- Tools and expertise for collaborative projects
- TRL from 2 to 7 - Fundamental Research and Scale-up
- Several pilot lines referenced at EPPN
- Already involved in 3 NMBP projects for process up scaling



Domaine d'expertise

=> Appel H2020 visés

CE-SC5-24-2020

Improving the sorting, separation and recycling of composite and multi-layer materials

CE-SC5-28-2020

Develop and pilot circular systems in plastics, textiles and furniture sectors

CE-BIOTEC-09-2020

Upcycling Bio Plastics for packing food and drinks

CE-SC5-07-2020

Raw materials innovation for the circular economy: sustainable processing, reuse, recycling and recovery schemes

Technology offering by Axel'One

*Polymer-based materials :
Process intensification,
reactive extrusion, 3D
printing, characterization*

*On line Analysis for R&D
and industrial production :
Gases, liquids, solids*

⇒ Thematics

Matériaux et procédés avancés de fabrication (pilier 2)
Economie circulaire (défi 5)



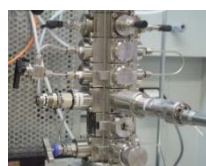
La plateforme
d'innovation collaborative
Chimie-Environnement



OUR EXPERTISE TROUGHOUT SOME OF OUR PROJECTS

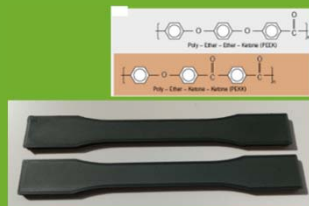
Catalysts up-scaling thanks to Axel'One tools

- MOF production (17 kg) by ATEX spray drying – PRODIA (NMBP)
- Hybrid silica production (1 kg) – HCCAT (NMBP)



Collaborative work on industrial analysis

- Hydrogenation study on Axel'One's analytic pilot and development of online spectroscopy analysis
- On-line analysis (viscosity, Raman, SRS...) for polycondensation monitoring



Access to a 3D printing prototype tool

- Open Source 3D printer (Soft, hardware, Materials) with a room heated up to 250°C.
- Project of new printing head for pellets.

Advanced materials processing & shaping tools

- Process intensification : formulation and dispersion of active molecules
- Continuous process development : extraction of active ingredients from biomass giving access to new products



AN INDEPENDENT ASSOCIATION WITH 10 FOUNDING MEMBERS (PRIVATE & PUBLIC)

ADISSEO
A BUNSEN COMPANY



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