

# Partner search/offer

Date (28-12-22)

## (\*) – Mandatory

- (\*) **Relevant topic(s) in work programme (code & name of the topic(s) line(s))**

- HORIZON-CL4-2023-TWIN-TRANSITION-01-40: Sustainable and efficient industrial water consumption: through energy and solute recovery (Processes4Planet partnership) (RIA)

- **Quick description of the project concept**

- (\*) **Description of the expertise requested/proposed (up to 1000 characters)**

Axel'One offers expertise in formulation, synthesis, shaping and scale-up of the synthesis of **porous materials** for selective adsorption and solute recovery (e.g. metals or other compounds in water).

Axel'One possesses **solids pilot lines (from 10 g to 50 kg)**:

- **Synthesis Line** (ligands synthesis, mineral synthesis, grafting)
- **Shaping Line** (spray dryer, single screw extrusion, reactive extrusion, pelleting)
- **Thermal Treatment Line** (activation, calcination)

Axel'One also offers expertise in the **development of smart process and process digitalization**:

- Development of tailor-made solutions for real-time online industrial analysis and process monitoring
- Expertise in sampling, online analysis system design and validation
- Digital solutions and modelling / simulation. Data treatment at every scale (chemometrics, data processing / fusion, process control, mechanical numerical simulation CFD)

As we are part of a large industrial ecosystem, we can also bring companies when entering a project.

- (\*) **Keywords describing the expertise requested/proposed (up to 10 words)**

Scale-up, porous materials, metal-organic framework (MOF), solute recovery, smart process, online analysis, digitalisation

## Organisation information

(\*) **Organisation and country:** Axel'One - France

(\*) **Type of organisation:**

Enterprise  SME  Academic  Research institute  Public Body  Other: Association

**Former participation in FP European projects?**

Yes  No

**Web address:** <https://axel-one.com>

**Description of the organisation:**

Axel'One is the French collaborative innovation platform in the Chemistry and Environment sector created in 2011 and dedicated to smart processes and innovative materials. Located in Lyon, Auvergne-Rhône-Alpes Region, Axel'One is an independent association (French law 1901, private and public partnership) whose main missions are to provide shared facilities, tools and services for collaborative research and development projects. In 2022, Axel'One hosts around 20 SMEs and provides its services to 30 collaborative projects representing more than 250 people located on the platform (around 6 M€ turn over).

The platform offers access to 35 M€ shared tools from basic research to pre-industrial stage (from TRL 3 to 7) in the field of advanced materials and polymers, smart processes, on-line analysis, digital solutions and catalysis. Its activities support industrial companies from the chemical, pharmaceutical sectors, but also with other industrial sectors such as textile & composite, recycling, water treatment, and energy. Axel'One has an experience on three H2020 projects on catalysts up-scaling using its specific pilot line unit and, for one of them, as a work package leader.

### (\*) Contact details

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