## **Membrane services**



EN0000

## Tailor-made services, for each stage of your project

|   | PROCESS Services   | MATERIALS Services   |
|---|--|--|
| Objectives of the project:  | Development, fabrication and<br>operation of an efficient membrane<br>process (OPEX, CAPEX, Risks)   | Development and production of a<br>membrane material<br>(ceramic, polymeric)   |
| Project stages:   |  |  |
| 1. Analysis of the separation<br>problem and evaluation of<br>membrane technologies | <ul> <li>Feasibility study</li> <li>Pilot testing and industrial trials</li> <li>Pilot system sale or rental</li> </ul>  |  |
| 2. System fabrication and membrane production                                       | <ul> <li>Fabrication and assembly of the<br/>system</li> </ul>   | Ceramic and polymeric membranes manufacturing  |
| 3. System engineering and<br>membrane development                                   | <ul> <li>Process design and engineering of the system (skid)</li> <li>Equipment development (module and seal)</li> </ul>   | Development of ceramic and     polymeric materials   |
| 4. Operation of membrane filtration systems   | <ul> <li>Commissioning and start-up technical assistance</li> <li>Audit, on-site technical assistance and staff training</li> <li>Upgrade of existing systems (revamping, optimization)</li> </ul> | <ul> <li>Membrane replacement and after-<br/>sales services</li> <li>Analysis and autopsy of used<br/>membranes</li> </ul> |
| Alsys, your experien  | ced partner  |  |

## Alsys, your experienced partner

- 400 membrane systems installed during more than 30 years, and in 20 countries, including the USA, France, Germany, Spain, China, Canada and Australia
- More than 100 different membrane products are offered, based on oxide materials (Kleansep<sup>™</sup>), silicon carbide (CeraMem<sup>®</sup>), or polymer (Pleiade®)
- Annual membrane production capacity: > 100,000 m<sup>2</sup> (all materials combined)
- 2 test centers, equipped with 20 pilots. Design and project management offices located in the USA (Boston, MA), France (Ales), and Canada (Calgary)
- Technologies available for evaluation include: cross-flow or dead-end, ceramic materials based on oxide or silicon carbide. tubular or flat sheet, hollow fiber or spiral or polymeric tube, reverse osmosis, nanofiltration, ultrafiltration, microfiltration, pervaporation, gas separation, membrane contactor, combination of coagulation / adsorption (bentonite, powder activated carbon) / oxidation (chemical, ozone)
- A team of engineers and project technicians (process engineer, mechanical engineer, electrical / automatic engineer, industrial designer, chemical technician)
- 200 references of studies and industrial trials for projects valued from € 100,000 to € 20,000,000
- Dozens of after-sales service visits per year mainly in the USA, Canada, France, Italy, Switzerland, and Belgium •
- Alsys companies typically perform 30 or more membrane autopsies per year

