Life Sciences

From design to delivery
Technip profile

A world leader in engineering, project management and technologies, serving the energy industry for more than 50 years

A regular workforce of 36,500

Confirmed leadership and proprietary technologies in 3 business segments:

**Subsea**

Within the domain of subsea hydrocarbon field development, Technip’s activities cover the design, manufacture and installation of rigid and flexible subsea pipelines and umbilicals. Technip is a key integrated player on this market thanks to its portfolio of state-of-the-art subsea pipe technologies and industrial and operational assets. The Group has three flexible pipe manufacturing plants (and a fourth in the planning stage), four umbilical production units, four reeled rigid pipe spoolbases and a constantly evolving fleet of vessels that is strategically deployed to serve the world’s major offshore markets.

**Offshore**

In the Offshore business segment Technip performs engineering, procurement, construction, installation, commissioning and the refurbishment/upgrading of offshore facilities for the oil & gas industry. Technip provides these services for fixed platforms in shallow water with conventional sub-structures and self installing platforms such as the TPG 500 and for deepwater facilities including Spar, semi-submersible, TLP, FPSO and FLNG units. Technip is a world leader in floatover installation of topsides and its R&D effort is focused on technology transfer for local content and new frontier areas such as ultra-deepwater and the Arctic.

**Onshore**

Technip covers the full range of onshore facilities for the oil and gas chain, petrochemicals and other energy industries (nuclear, renewables including biofuels and offshore wind turbines). The Group is also present in non-energy activities (mining and metals, life sciences, buildings and infrastructures). Technip holds many proprietary technologies and is the leader in the design and construction of LNG and gas treatment plants as well as ethylene, hydrogen and syngas units. It is one of the leading players worldwide in refining and petrochemical units.
Life Sciences Business Unit

Why Technip in Biotech and Pharma?
A leading provider in design and construction of pharma and biotech facilities, Technip brings together its expertise in process engineering, construction management, commissioning and qualification.

Our expertise and experience
250 people in pharma and biotech core teams reinforced by the capacity of the Group, worldwide leader in engineering, project management and technologies for more than 50 years.

Our mission is to deliver safe and successful life sciences projects across the world for the benefit of our clients. Technip maintains the focus whether faced with the biggest challenges or the smallest details. Technip Life Sciences engineering and consulting have a leader position in France.
Technologies and expertise

With engineering expertise and project management, Technip safely delivers the best solutions for our clients. Our recognised expertise is a strategic asset that drives our competitiveness. Our experts have developed knowledge and skills that are industry benchmarks (disposable, micro and nanotechnology, modular approach, etc.).

Biotechnologies

Technip has successfully designed and built Biotechnological facilities, from pilots plants to industrial production units for:

- Blood/plasma derivatives
- Vaccines
- Therapeutics proteins

Pharmaceutical

Technip has developed full capacities and experience in executing upgrading and revamping projects, as well as in constructing grassroots for:

- Sterile plants
- Oral solid dosage plants
- Liquid plants
- Animal facilities
- R&D and QC labs

Fine Chemicals

Technip has acquired a qualified international experience in providing a full range of services for Fine Chemicals plants implementation, from conceptual design to validation for:

- Active Pharmaceutical Ingredients (API)
- Crop Sciences
Making a difference
“The Technip way”

Customer Focused

Adapting to evolving markets
Our customers rely on Technip to deliver projects of all types and sizes. We are well positioned to design and execute increasingly ambitious and complex projects.

Acting locally
With global presence in the world, we know our markets inside out and provide services wherever our clients’ projects are located with local knowledge.

Know-how: when talent meet experience
Technip has designed and built pharmaceutical and biotechnological facilities over the last 20 years. As reference, Technip demonstrates the know-how, the commitment and the inspiration to help all of our clients push further to achieve their goals.

Team spirit
Exceptional projects call for exceptional talent: our international teams of engineers are continually trained to deliver unmatched technical and project management skills. Technip values diversity, and have passion and true belief in each person’s contribution. It is the trust and confidence between team members and between teams that take us further.

Project management expertise
Offering project management expertise, Technip is committed to meeting today’s engineering challenges.

Integrated capabilities
Thanks to the experience and the know-how of our multidisciplinary teams, we ensure to deliver cost-efficient solutions.

Quality, health, safety & the environment
Our HSE strategy and philosophy are an integrated part of everything we do, everywhere. Our Group-wide HSE policy aims at establishing behavior that promotes proactive HSE management.

Our corporate culture is based on the highest quality standards and continuous improvement. Our “hands-on” quality management is focused on operational performance.
With a team of professionals dedicated to the pharmaceutical, biotechnology and fine chemicals industry, Technip is a leading global provider of technical and regulatory solutions from design to validation around the world.

Our references

Our projects

Technip has designed and built more than 300 pharmaceutical & biotechnological facilities over the last 20 years.

<table>
<thead>
<tr>
<th>Client (Country)</th>
<th>Project description</th>
<th>Typology</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanofi Pasteur (China)</td>
<td>Greenfield vaccine production plant and expansion (EPCM)</td>
<td>Biotechnology</td>
<td>2013</td>
</tr>
<tr>
<td>Merck Animal Health (France)</td>
<td>New veterinary production building</td>
<td>Sterile Liquid Product</td>
<td>2013</td>
</tr>
<tr>
<td>Sanofi (Algeria)</td>
<td>New production site grass root</td>
<td>Solid &amp; liquid dosage</td>
<td>2013</td>
</tr>
<tr>
<td>Guerbet (France)</td>
<td>New filling plant unit (EPCMV)</td>
<td>Sterile liquid product</td>
<td>2012</td>
</tr>
<tr>
<td>Sanofi Pasteur (France)</td>
<td>New vaccines production plant (EPCM)</td>
<td>Biotechnology</td>
<td>2010</td>
</tr>
<tr>
<td>Expanscience (France)</td>
<td>New building for active ingredient extraction (EPCM)</td>
<td>Synthesis</td>
<td>2010</td>
</tr>
<tr>
<td>Sandoz (Spain)</td>
<td>Revamping of antibiotics production plant/filling area with RABS (EPCMV)</td>
<td>Active Pharmaceutical Ingredient</td>
<td>2009</td>
</tr>
<tr>
<td>Chengdu Institute of Biological Products, Sinopharm group (China)</td>
<td>New vaccines production and vials filling/packaging units (EPCMV)</td>
<td>Biotechnology</td>
<td>2009</td>
</tr>
<tr>
<td>Merial (France)</td>
<td>New bulk veterinarian vaccine plant (EPCMV)</td>
<td>Biotechnology</td>
<td>2009</td>
</tr>
<tr>
<td>LFB (France)</td>
<td>Remodeling and expansion of a blood fractionation aseptic filling and lyophilisation plant (EPCM)</td>
<td>Sterile</td>
<td>2009</td>
</tr>
<tr>
<td>LFB (Saudi Arabia)</td>
<td>New fractionation plant (Basic Design)</td>
<td>Biotechnology</td>
<td>2008</td>
</tr>
<tr>
<td>LEO Pharma (France)</td>
<td>Bulk high speed syringe filling line unit under isolator technology (EPCM)</td>
<td>Sterile Liquid Product</td>
<td>2007</td>
</tr>
<tr>
<td>Servier (Hungary)</td>
<td>Building revamping to accommodate for the new R&amp;D center dedicated to Chemical Pharmacology (EPCM)</td>
<td>R&amp;D Centers and Labs</td>
<td>2007</td>
</tr>
<tr>
<td>GSK (Belgium)</td>
<td>New bulk vaccine production (EPCM)</td>
<td>Biotechnology</td>
<td>2005</td>
</tr>
<tr>
<td>Novo Nordisk (France)</td>
<td>Remodeling and expansion of existing aseptic cartridge packing unit and creation of a new injection pen assembly and storage unit (EPCM)</td>
<td>Sterile Liquid Product</td>
<td>2005</td>
</tr>
<tr>
<td>Servier (Brazil)</td>
<td>New oral solid dosage forms production unit (EPCM)</td>
<td>Finished product</td>
<td>2005</td>
</tr>
<tr>
<td>Janssen (Italy)</td>
<td>New Oral solid dosage manufacturing building (EPCM)</td>
<td>Finished Products</td>
<td>2005</td>
</tr>
</tbody>
</table>
# Conceptual studies to turnkey implementation

## Project Evolution

### MASTER PLAN & FEASIBILITY
- Economic evaluation
- Technical and Feasibility studies
- Strategy and organization
- Project Management

### PROJECT MANAGEMENT
- Cost estimate
- Cost control
- Planning

### ENGINEERING
- Conceptual design
- Basic design
- Detailed engineering

### PROCUREMENT
- Purchasing
- Expediting
- Inspection

### CONSTRUCTION
- Construction management
- Supervision
- Subcontracting
- Pre-commissioning

### COMMISSIONING & QUALIFICATION
- Commissioning
- Validation Master Plan
- Science and risk-based approach
- Design Qualification
- IQ&OQ
- Performance & Process
- Qualification / Cleaning Validation

### CONSULTING & TECHNICAL ASSISTANCE
- Expertise
- Regulatory compliance
- Personnel training
- Operating assistance

### FLEXIBLE SCHEMES
- Reimbursable
- Alliance
- Guaranteed maximum price
- Lump sum of services
- Lump sum turnkey
- Project cost %
www.technip.com

Contact: Cécile Jolibois
VP, Business Development
Email: contact-lifesciences@technip.com