France
France Chimie

<table>
<thead>
<tr>
<th>Number of companies</th>
<th>Turnover</th>
<th>National contact</th>
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<tr>
<td>3,300</td>
<td>€75 billion</td>
<td>Magali Smets</td>
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<td></td>
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<td>Director General</td>
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<td><a href="mailto:msmets@francechimie.fr">msmets@francechimie.fr</a></td>
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<table>
<thead>
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<th>Direct employees</th>
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<td>166,650</td>
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CHEMICAL INDUSTRY SNAPSHOT

A key contributor to the French economy

The chemical industry is a key component of the French economy. Industry added value was estimated at €18.75 billion in 2018, more than 8% of the country’s manufacturing added value, ranking chemicals third behind the food and beverages and metallurgy.

The chemical industry is a leading industrial exporter, first in front of aeronautics. It accounts for more than 13% of total manufacturing exports and it stands in its second position as a contributor to the industry’s trade balance after aeronautics with a €10.2 billion trade surplus.

A leading employer

The chemical industry in France has 3,300 companies, 94% are SMEs and nearly 6,000 production sites. Its companies employ 166,650 people, 6.7% of French manufacturing workers, and generate 830,000 indirect and induced jobs.

Serving consumers too
French output ranges from basic chemicals to specialty and fine chemicals. The industry is strong in consumer chemicals, including soaps, detergents, cosmetics and perfumes.

The strategic role of the chemical industry in the development of a sustainable economy is clearly recognized by the French government and the Ministry of Industry.

**Chemical industry - key figures**

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<tr>
<td>3,300</td>
<td>€75 billion</td>
<td>8.4% of added value</td>
<td>€60.6 billion</td>
<td>75% of total</td>
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<tr>
<td>166,650</td>
<td>830,000</td>
<td>€1.9 billion</td>
<td>13,351</td>
<td>6% of total chemical investments</td>
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**A major exporter**

When fine chemicals for pharmaceuticals are included, the chemical industry generated turnover of €75 billion in 2018, nearly 75% were exported (including the exports of the chemical distribution). Around 61% of exports go elsewhere within the European Union.

**Investing in the future**

Capital investment was €3.1 billion in 2018, equal to 16.3% of added value. Modernization, safety and environmental improvements accounted for 72% of the total.

Another €1.9 billion, more than 10% of added value, was invested in research and development, which represents more than 8% of all French industrial research spending.

**Organised into competitive clusters**

In France, about thirty competitiveness clusters have links with chemicals and materials. Six are totally or partially dedicated to chemicals:

- AXELERA in Auvergne-Rhône-Alpes (Lyon)
- ELASTOPOLE in Centre-Val de Loire (Orléans)
- EURAMATERIALS in Hauts de France (Villeneuve d’Ascq)
- IAR in Hauts de France (Laon)
- PLASTIPOLIS in Auvergne-Rhône-Alpes (Oyonnax)
France Chimie has signed a partnership with Axelera and IAR to speed up innovation sharing with companies, especially SMEs.

**Key chemical innovation clusters**

- XYLOFUTUR in Nouvelle Aquitaine (Bordeaux)
ILE DE FRANCE

- 4,200 establishments of which 2/3 are small, medium and very small companies (SME/VSE)
- An increase of 15% of establishments between 2010 and 2016
- 54,000 employees of which 1/4 are from specialty chemistry
- More than 50% of women in managerial skills
- Dominant activities: cosmetics, chemical trade, treatment of special wastes

With Paris as its center, Ile-de-France benefits from the holding of the headquarters, production sites and research centers. Arkema, Air Liquide, Solvay, SEQENS, L’Oréal, BASF, DowDuPont, Henkel, Bayer and Total Petrochemicals are active in the region.
Strengths

- High commitment to innovation
- Particularly active in Sustainable Development and Circular Economy
- Mainly focused on International
- Strong synergy between world-class universities and other laboratories fosters innovation, speeding development of green and environmental chemistry, notably CEA, CNRS and the Institut Pierre et Marie Curie
- World-class top education institutions, including Ecole Polytechnique, Chimie Paris Tech and Centrale

AUVERGNE-RHONE-ALPES

- The 1\textsuperscript{st} region for the production of chemicals in France
- 2\textsuperscript{nd} in terms of employment
- Nearly 700 establishments with more than 32,000 direct employees and more than 100,000 associated employees
- More than 90\% of companies are SMEs
- Total turnover valued at more than €12 billion
- More than €500 million of investments, about 20\% of which for the Health-Security-Environment
- Leading sector for exports with more than 80\% of turnover abroad, including around 66\% to Europe. Auvergnne-Rhône-Alpes chemical industry accounts for 17.5\% of the French chemical exports.
- 25\% of the French chemical research

Strengths

- Strategic location between Northern and Southern Europe and good local transport links and connections to the Swiss, Italian and German markets
- Main olefin provider with refinery and steam-cracker plants
- Concentration of major and international groups (Arkema, BASF, Bayer, Solvay,... ) with their production sites and research centers and many mid-cap, small and start-up companies
- Major chemical platforms as Les Roches-Roussillon, French leader in mineral and organic products and Grenoble expertise in Chlorine, phosgene and hydrogen, ...
- Top competitiveness boosters and world-class clusters for chemistry and incidental activities as Axelera, Lyonbiopôle, Plastipolis, Tenerdds, Techtera... : Science & Engineering, public/private research organization studying. Collaborative platforms for innovative R&D projects as Axel’one
- Universities and engineering schools in Lyon, Grenoble, St-Etienne and Clermont-Ferrand

HAUTS DE FRANCE (formerly Nord-Pas-de-Calais and Picardie regions)

- The leading industrial employer and the 3\textsuperscript{rd} chemical region in France
- 29,640 workers in 470 enterprises
- International producers including Arkema, DowDuPont, Procter & Gamble, BASF, L’Oréal, Roquette and SMEs
- Development of two industrial and chemical platforms (one operated by Weylchem Lamotte, another one operated by Arkema)
- A strong development around the bio-based chemical and the bioeconomy
66% of the companies are involved in R&D programs

The chemical industry in Hauts de France is a key sector of the regional economy. Competitive and innovative, focused on high added value products, it contributes to the economic and industrial development and sustainable growth.

**Strengths**

- Thanks to the strategic position of the region at the crossroads of Northern Europe, also to the presence of major ports and logistics platforms combining rail, road and fluvial, regional chemistry has retained a wide variety of activities and exports 60% of its production.
- Sound infrastructure, logistics and multi-modal transport
- All chemical sectors are represented in the region from the formulation of molecules for pharmaceuticals and solvent regeneration to biotechnology or bio-based chemistry
- Sustained innovation with research centers (green chemistry) and four world-class competitiveness clusters focused on chemicals and materials: the European bioeconomy cluster Industries & Agro-Resources (IAR), Bio refining Cluster I-Trans (Transports), EuraMaterials (merger of UP-TEX and MATIKEM), Materalia
- A large bio-mass potential of plant materials
- Innovation fostered by the development of a green chemical industry with notably bio-chemistry institute PIVERT, the Oilseed Bio-refinery of the Future, and the BRI and IMPROVE platforms
- A French institute for the storage of energy, RS2E (French research network on electrochemical energy storage)
- A young population and universities, engineering schools, technical centers that partner with the chemical industry encouraging prospects for development, in terms of jobs (new jobs emerging), foreign trade and therefore strengthening the competitiveness of the region’s chemical activities

**MEDITERRANEE**

- 3.3% of regional GDP and 30% of regional exports
- 19,000 workers
- About 550 private companies, 94% are SMEs
- Port of Marseille, a gateway to Mediterranean markets

Marseille/Etang de Berre is a major cluster for liquid bulk hydrocarbons and chemicals. Demand benefits from the growth of aerospace, energy and and micro-electronics.

Further east Grasse is a long-standing centre for fragrances, whose rapid growth is driven by luxury sector and demand for bio-sourced raw materials.

**Strengths**

- 3 chemicals parks with international scale chemical plants (PIICTO, Berre, Lavera)
- 5% of European olefins production
- Major chemical companies: Ineos, LyondellBasell, Kem’one, Total Petrochemicals and Arkema
- 40% of the French capacity for chlorine and its derivatives
• Strong universities and research center support focused on green chemistry under a collaborative policy
• Strengthening support among regional public authorities for chemicals to play a significant role in the regional post-carbon economy. A number of projects are being developed involving industrial symbiosis (e.g. Power to gas, VASCO 2: CO2 to oil by microalgae)
• Regional policy encourages the development of SMEs and supports clusters like NOVACHIM to develop the chemical industry and foster innovation

NORMANDY

• The Normandy region concentrates 4% of the companies and 3.8% of the establishments of the branch (8th place)
• 13,000 direct and 40,000 indirect jobs in the chemical industry, 5.7% of the employees of the branch
• more than 220 chemical sites, 65% of which are SMEs
• Main activities of chemicals in the Normandy region : basic chemicals, specialty chemicals and soaps, perfumes and detergents
• 25% of olefins and 50% of the polymers and elastomers productions in France
• 80% of oils and additives production in France (40% of European production)
• Europe’s leading fertilizer producer
• 2nd largest region of medicinal chemistry products in France
• €2 billion invested over the last nine years to improve production and meet new environmental standards
• 1st industry exporter in the region: chemicals represent more than 20% of regional exports

Strengths

• Involved in every sector of the value chain
• Highly specialised companies in petrochemicals, additives & lubricants and crop-protection
• Highly efficient port at Le Havre - Europe’s fifth largest
• Global companies including Total, Exxon Mobil, Arkema and BASF, backed by SMEs
• Development of two industrial and chemical platforms
• Sustained innovation via Nov&atech (plant chemistry) and Nov@log (logistics competitive cluster)
• The Cosmetic Valley extends also in the Normandy region gathering numerous chemical companies in the region
• Public and private stakeholders support further industrialization

HOW ARE WE DOING?

Strengths

• Large industrial market with global leaders in energy, transport, aeronautics, perfumes, cosmetics and water treatment
• Renowned environmental and process expertise
• High-capacity for innovation (R&D, financing system for innovation) and worldwide oriented exports
• A leader in bio-based chemistry
• Fiscal incentives, notably the research tax credit
• Highly educated young people and an effective training system
• A great location and transport infrastructure
• Nuclear energy and low GHG emissions
• Many SMEs, an innovative ecosystem and strong marketing and production

Weaknesses

• Dependence on imported raw materials
• Low acceptance of chemical industry and products by the French public
• Too many national regulatory initiatives regarding chemicals and production sites

OUR CONTRIBUTION TO A COMPETITIVE EUROPE

The French chemical industry’s Strategy Committee for Chemicals and Materials, has drawn up a plan for:

• Competitiveness based on:
  - More innovation
  - Favourable economic, fiscal and regulatory conditions
  - Long-term access to energy and raw materials at competitive prices
  - A supportive business environment for chemical, industry investment
  - Strong regional clusters
  - Integration of chemicals and materials into promising downstream industries, such as materials, composites and healthcare

• Sustainability: developing a sustainable economy focusing on renewable energy, resources, recycling and circular economy

• Attractiveness: offering more innovative products, digitalization and new production process (bioeconomy) and technologies to customers and aligning jobs and skills with industry prospects

Smartening up

France Chimie promotes regional smart specialization and international collaboration, and is closely involved on dedicated topics between different countries (example of Bioeconomy in Hauts de France).

Landscape of the European Chemical Industry Website:
http://www.chemlandscape.cefic.org/country/france/