THE EUROPEAN CHEMICAL INDUSTRY
A VITAL PART OF EUROPE’S FUTURE

FACTS & FIGURES 2021
A full version of the 2021 Cefic Facts & Figures of the European chemical industry is available online on the Cefic website.

Enquiries

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The Chemical industry is a vital part of Europe’s economy and its innovative solutions are essential to deliver a low carbon and circular economy both within Europe and beyond its borders.

The European Commission has recognised the chemical industry for its “indispensable” role to help society achieve the new European Green Deal objectives. Cefic has clearly expressed our industry’s support for the Green Deal and Europe’s ambition to go climate neutral by 2050.

This transition will bring huge challenges, but it also brings a set of opportunities for industry. Europe must show its leadership in innovating and deploying competitive new technologies for delivering a climate neutral, circular and digital transition. Whether it is chemistry for solar panels, wind turbines, batteries, building insulation, medicines, chemical recycling technologies or the huge variety of other solutions we provide, our European chemical industry can excel and thrive in delivering its innovation-led contributions to the Green Deal. This is also the way to ensure sustainable economic growth and new jobs thrive and remain in Europe.

Supported by the major new, multi-billion European Recovery Plan package, Europe can move forward fast. If Europe’s many industries and companies are truly enabled to deliver to their strengths – such as coming up with world-class innovations – and are enabled to bring these to the market, we will jointly convert opportunity into success.

But we will need to work with European policymakers and governments to have the right framework conditions in place that keep competitiveness during this transition in clear focus.

With a supportive, enabling and forward-looking policy framework, starting with an EU Industrial Strategy that enables industry to deliver on the EU Green Deal, our industry can play a large role in building a better sustainable future for Europe and its people.

We stand ready to cooperate closely with the Institutions to ensure this vision is brought to reality.
Europe is the second largest chemicals producer in the world

World chemical sales (2019, €3,669 billion)

Source: Cefic Chemdata International 2020
* Rest of Europe covers UK, Switzerland, Norway, Turkey, Russia and Ukraine
** North American Free Trade Agreement
*** Asia excluding China, India, Japan and South Korea

Unless specified, chemical industry excludes pharmaceuticals
China dominates chemical sales world ranking

World chemical sales by country: top 10

Source: Cefic Chemdata International 2020
World market share of European chemical sales drops by half

EU27 share of global chemicals market

Source: Cefic Chemdata International 2020

Unless specified, chemical industry excludes pharmaceuticals.
A smaller share for Europe of a bigger chemicals cake

Growth in world chemical sales 2019-2030

Source: Cefic Chemdata International 2020
* Rest of Europe covers UK, Switzerland, Norway, Turkey, Russia and Ukraine
** North American Free Trade Agreement
*** Asia excluding China, India, Japan and South Korea
Europe strong on chemicals trade

Extra-EU27 chemicals trade balance

Source: Cefic Chemdata International 2020
Europe holds trade surplus with top competing markets

EU27 chemicals trade flows with major geographic blocs

Extra-EU27 exports 2019 (€177.5 billion)
Extra-EU27 imports 2019 (€132.4 billion)

Source: Cefic Chemdata International 2020

* Rest of Europe covers UK, Switzerland, Norway, Turkey, Russia and Ukraine
** North American Free Trade Agreement
*** Asia excluding China, India, Japan and South Korea
Europe generates more chemicals trade* with USA

EU27 chemicals trade* flows with top partners (2019)

Source: Cefic Chemdata International 2020
* Trade = exports + imports

Unless specified, chemical industry excludes pharmaceuticals
Europe is the largest destination market for US chemicals exports

World network of major chemicals exports flows (2018, top 5, %)

<table>
<thead>
<tr>
<th>EU27 + UK</th>
<th>Rest of Asia*</th>
<th>United States</th>
<th>Rest of Europe**</th>
<th>China</th>
<th>Africa</th>
<th>Top 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rest of Asia*</td>
<td>China</td>
<td>EU27 + UK</td>
<td>United States</td>
<td>Japan</td>
<td>Middle East</td>
<td>81.8%</td>
</tr>
<tr>
<td>United States</td>
<td>EU27 + UK</td>
<td>Rest of Asia*</td>
<td>Latin America</td>
<td>China</td>
<td>Japan</td>
<td>61.7%</td>
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<tr>
<td>China</td>
<td>Rest of Asia*</td>
<td>EU27 + UK</td>
<td>United States</td>
<td>Latin America</td>
<td>Japan</td>
<td>83.8%</td>
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<tr>
<td>Japan</td>
<td>Rest of Asia*</td>
<td>China</td>
<td>United States</td>
<td>EU27 + UK</td>
<td>Latin America</td>
<td>96.7%</td>
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<tr>
<td>Middle East</td>
<td>Rest of Asia*</td>
<td>China</td>
<td>EU27 + UK</td>
<td>Africa</td>
<td>United States</td>
<td>93.3%</td>
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<td>Rest of Europe**</td>
<td>EU27 + UK</td>
<td>Rest of Asia*</td>
<td>Latin America</td>
<td>United States</td>
<td>China</td>
<td>93.6%</td>
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<td>Africa</td>
<td>EU27 + UK</td>
<td>Rest of Asia*</td>
<td>Latin America</td>
<td>United States</td>
<td>Middle East</td>
<td>94.0%</td>
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<td>Latin America</td>
<td>EU27 + UK</td>
<td>United States</td>
<td>Rest of Asia*</td>
<td>China</td>
<td>Japan</td>
<td>85.7%</td>
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<td>Oceania</td>
<td>Rest of Asia*</td>
<td>China</td>
<td>United States</td>
<td>EU27 + UK</td>
<td>Japan</td>
<td>89.6%</td>
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<tr>
<td>World</td>
<td>Rest of Asia*</td>
<td>China</td>
<td>EU27 + UK</td>
<td>United States</td>
<td>Latin America</td>
<td>73.5%</td>
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</table>

Source: Cefic Chemdata International 2020
* Asia excluding China, Japan and Middle East
** Europe excluding EU27+UK; it covers Russia, Norway, Turkey, Switzerland and Ukraine
Europe has the largest chemicals surplus in the world

World matrix: chemicals trade balance (2018)

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<tr>
<th></th>
<th>EU27 + UK</th>
<th>Rest of Asia*</th>
<th>United States</th>
<th>China</th>
<th>Japan</th>
<th>Middle East</th>
<th>Rest of Europe**</th>
<th>Africa</th>
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Source: Cefic Chemdata International 2020
* Asia excluding China, Japan and Middle East
** Europe excluding EU27+UK; it covers Russia, Norway, Turkey, Switzerland and Ukraine
Europe losing exports competitiveness in chemicals

Chemical exports by country of origin (2008 vs 2018)

Source: Cefic Chemdata International 2020
* Rest of the World, intra-EU27+UK trade excluded
Energy costs are the Achilles’ heel of European industry

Average ethylene cash costs in Europe vs North America

Source: ICIS and Cefic analysis 2020
Emerging economies outpace industrial countries in chemicals production

Average chemicals production growth per annum (2009-2019)

Source: Cefic Chemdata International 2020
Europe facing an increasing uncertainty, and below its pre-crisis level

EU27 chemical industry production

Source: Cefic Chemdata International 2020
Europe reaches the highest level in chemicals investment

Capital spending in the EU27 chemical industry

Average growth rate p.a. 2001 - 2019
- EU27 added value (€ billion): +2.3%
- EU27 capital spending (€ billion): +1.2%

Source: Cefic Chemdata International 2020
China dominates world chemicals investment

Capital spending by region

Source: Cefic Chemdata International 2020

* Rest of Europe covers UK, Switzerland, Norway, Turkey, Russia and Ukraine
** North American Free Trade Agreement
*** Asia excluding China, India, Japan and South Korea

Unless specified, chemical industry excludes pharmaceuticals
Europe reaches the highest level in R&I chemicals investment

R&I spending in the EU27 chemical industry

Average growth rate p.a. 2001 - 2019
- EU27 added value (€ billion): +2.3%
- EU27 R&I spending (€ billion): +1.7%

Source: Cefic Chemdata International 2020
Europe is the second largest R&I investor in the world

R&I spending by region

Source: Cefic Chemdata International 2020

Unless specified, chemical industry excludes pharmaceuticals.
Europe falls significantly its fuel and power consumption*

Fuel and power consumption in the EU27 chemical* industry

Source: Eurostat Energy Database and Cefic analysis 2020
* Chemicals including pharmaceuticals
Chemicals energy intensity halved in Europe

Energy intensity in the EU27 chemical industry*

Average growth rate p.a. 1991-2018
- EU27 chemicals production index (2.5%)
- EU27 energy consumption index (-0.5%)
- EU27 energy intensity (-3.0%)

Source: Eurostat Energy Database and Cefic analysis 2020
* Chemicals including pharmaceuticals
European chemical production, greenhouse gas emissions, decouple

EU27 GHG emissions* and production**

Source: European Environment Agency (EEA)
* Energy (Fuel and Power CO₂) is included
** Including pharmaceuticals
Europe enhancing environmental performance

EU27 GHG emissions* per unit of energy consumption and per unit of production**

Source: European Environment Agency (EEA)
* Energy (Fuel and Power CO₂) is included
** Including pharmaceuticals
Europe falls significantly its total number of accidents

Number of accidents at work in EU27+UK chemicals

Source: Eurostat database (hsw_n2_01 and hsw_n2_02) and Cefic analysis 2020
Cefic, the European Chemical Industry Council, founded in 1972, is the voice of large, medium and small chemical companies across Europe, which provide 1.1 million jobs and account for about 15% of world chemicals production.

Cefic members form one of the most active networks of the business community, complemented by partnerships with industry associations representing various sectors in the value chain. A full list of our members is available on the Cefic website: www.cefic.org/about-us

Cefic is an active member of the International Council of Chemical Associations (ICCA), which represents chemical manufacturers and producers all over the world and seeks to strengthen existing cooperation with global organisations such as UNEP and the OECD to improve chemicals management worldwide.