

DOING BUSINESS WITH THE CHEMICAL INDUSTRY IN EUROPE LEVERAGE ON SKYMINDER SOLUTIONS

MARCH 2023 SKYMINDER NEWSLETTER



Chemical Industry Overview

The chemical industry is a vast industry that incorporates all different types of product-producing industries whose generation is based on the heavy use of chemicals. Usually, industries that are involved with industrial chemical generation are broadly known as the chemical industry. The end products, processes or raw materials associated with chemical industries that can be classified into several classes. Understanding the huge diversity of chemical-producing industries, such chemical industries are usually categorized under broad categories such as inorganic and organic chemical-producing industries, fertilizer industries, refining and petroleum industries, electroplating and heat treatment industries, pesticide industries, hydro-generated oil/soap industries, so on. There is an extreme variety of covered industries that are focused on producing chemicals for different purposes.

The variety and extent of such chemical industries are more diverse, especially in developing countries where there are adequate opportunities for industrial growth (Arora et al., 2001). The developing countries are not much focused on the growth of their chemical industries since they are already struggling to meet the basic demands of their citizen and to maintain a sustainable economic condition.

All these different types of industrial inclusions make the chemical industry a vast industry incorporating investment and supply chain management of multiple different types of industries.

Being one of the largest clusters of different types of product-producing industries, chemical industries cause the generation of different types of waste, most of which are highly hazardous chemical wastes and such wastes are responsible for causing environmental unsustainability. It is because most of such chemical wastes are not biodegradable and contain highly toxic chemicals. Besides, since such chemical industry-produced wastes are generated under certain extreme physical or chemical conditions (i.e., high pressure, high temperature, concentrated acidic, or alkaline conditions, etc.), handling such waste sustainably is a huge concern. This is why the chemical industry is strongly working on identifying processes and resources for a greener approach.

While chemistry, as well as physics, is inextricably intertwined with life on this planet, little was known about its processes and secrets up to a few centuries ago. But even before then, several chemical processes and reactions had been known for centuries. Indeed, it was in the IV century BC when Democritus formulated for the first time an atomic theory of the universe. But, it wasn't until 1615 that Jean Beguin published the first-ever chemical equation. These diagrams showed the result of reactions in with two or more reagents, the substance or compound added to a system to cause a chemical reaction.

Both as a fundamental science and as an applied science, chemistry holds the key to improving lives, sometimes in unexpected ways and innovation in chemistry has always been a major driving force of technological progress.

Today's chemistry is facing some important challenges:

- **Climate neutrality**

By 2050, while developing solutions to help other sectors reduce their emissions and improve their energy efficiency. Indeed, the chemical industry is indispensable for a strong and sustainable European economy of the future. Chemicals are present in almost every strategic value chain.

- By developing technologies to produce (green) hydrogen
- By producing innovative materials for wind turbines;
- By improving EV batteries and making them more recyclable;
- By producing materials that make our buildings more energy efficient

- **Being circular**

Chemistry is central to the ideal of the circular economy. Whether talking about paper, battery or plastics recycling, the process is fundamentally chemical. Scientists and engineers are working to perfect the way in which we can turn waste into a valuable resource and lower our environmental footprint.

- Enhance the quality of life

Overview of Chemical Industry (2021) in Europe

- Supplying: 90% of the key value chain
- Providing: 1.2 million direct jobs
- Supporting: 19 million jobs across value chains
- 4th largest manufacturer in Europe
- €594 billion of chemical sales for EU27
- €9.9 billion in investments

Sources:

Chaudhery Mustansar Hussain, Mosae Selvakumar Paulraj and Samiha Nuzhat, Source Reduction and Waste Minimization, 2021

Cefic

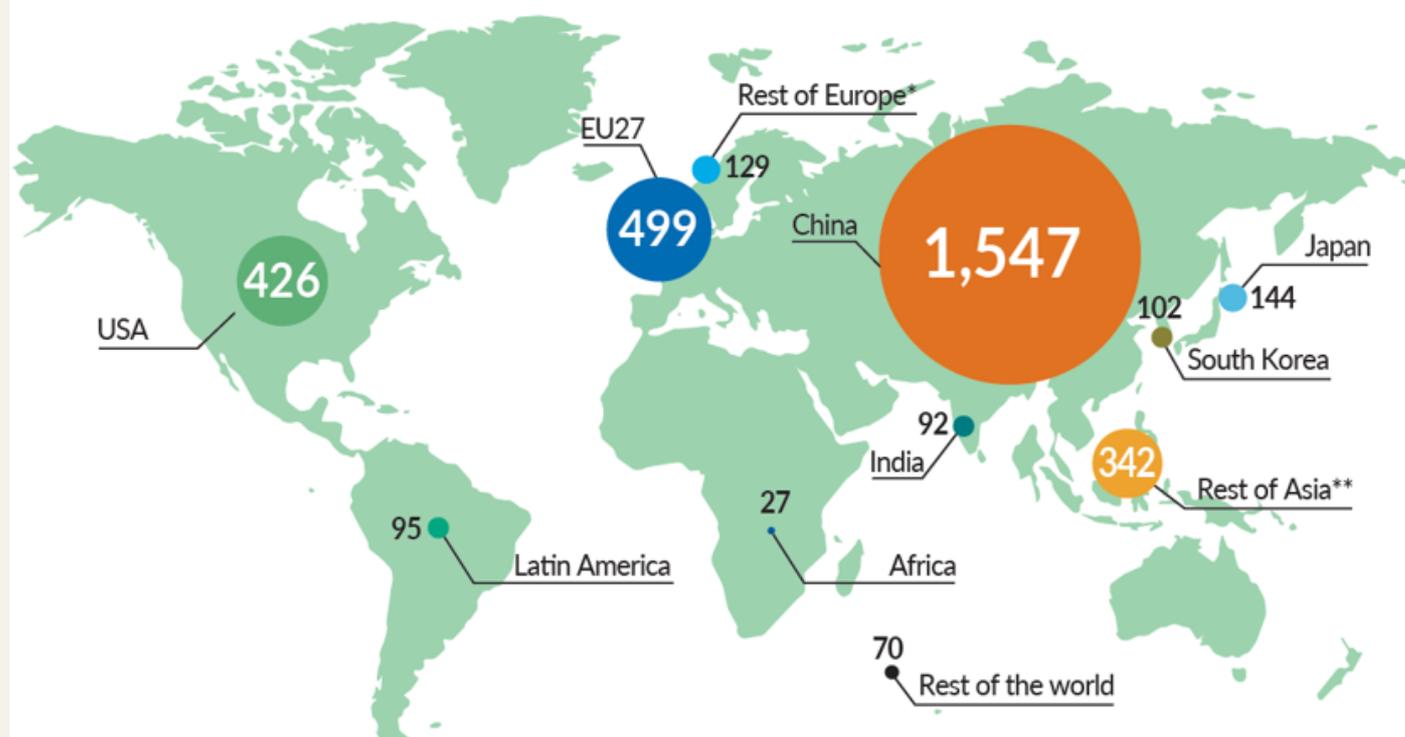
Facts and Figures

The European chemical industry is of major importance for economic development and wealth, providing modern products and materials and enabling solutions in virtually all sectors. A wealth-generating sector of the economy, and a valuable part of Europe's economic infrastructure, it aims to provide solutions for the achievement of a competitive, low carbon and circular economy in Europe and beyond.

During the last two years marked by the pandemic and the subsequent economic crisis, the chemical sector proved in practice its strategic role for Europe producing the necessary healthcare materials and equipment.

Europe is the second-largest chemicals producer in the world

World chemical sales (2020, €3,471 billion)



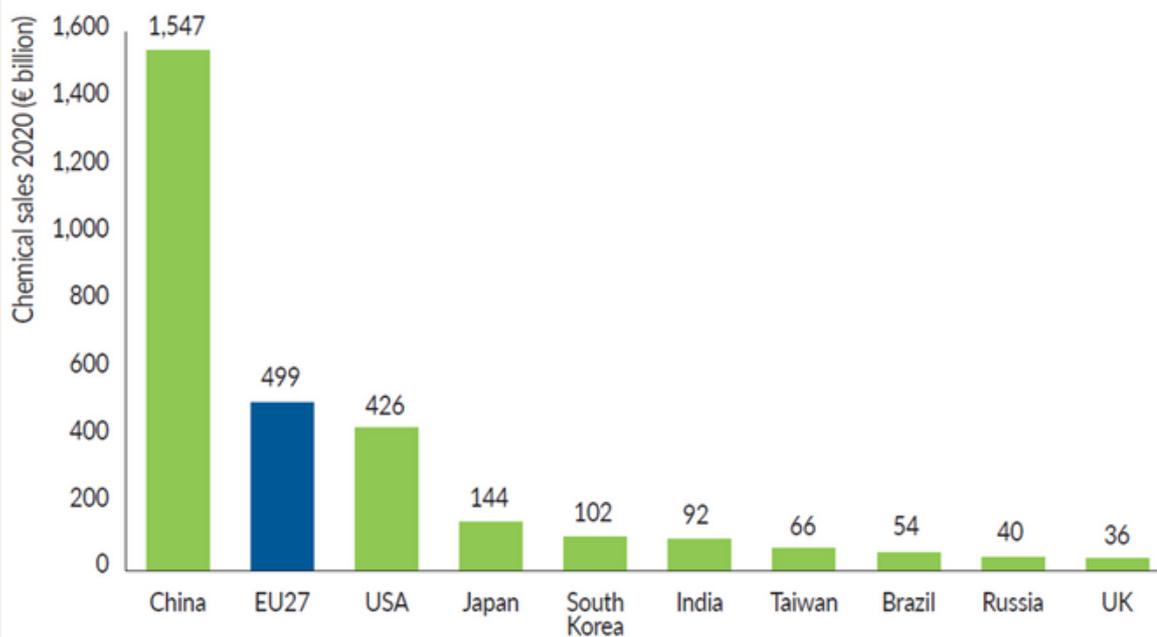
Source: Cefic Chemdata International

* Rest of Europe covers UK, Switzerland, Norway, Turkey, Russia and Ukraine

** Asia excluding China, India, Japan and South Korea

China dominates chemical sales globally

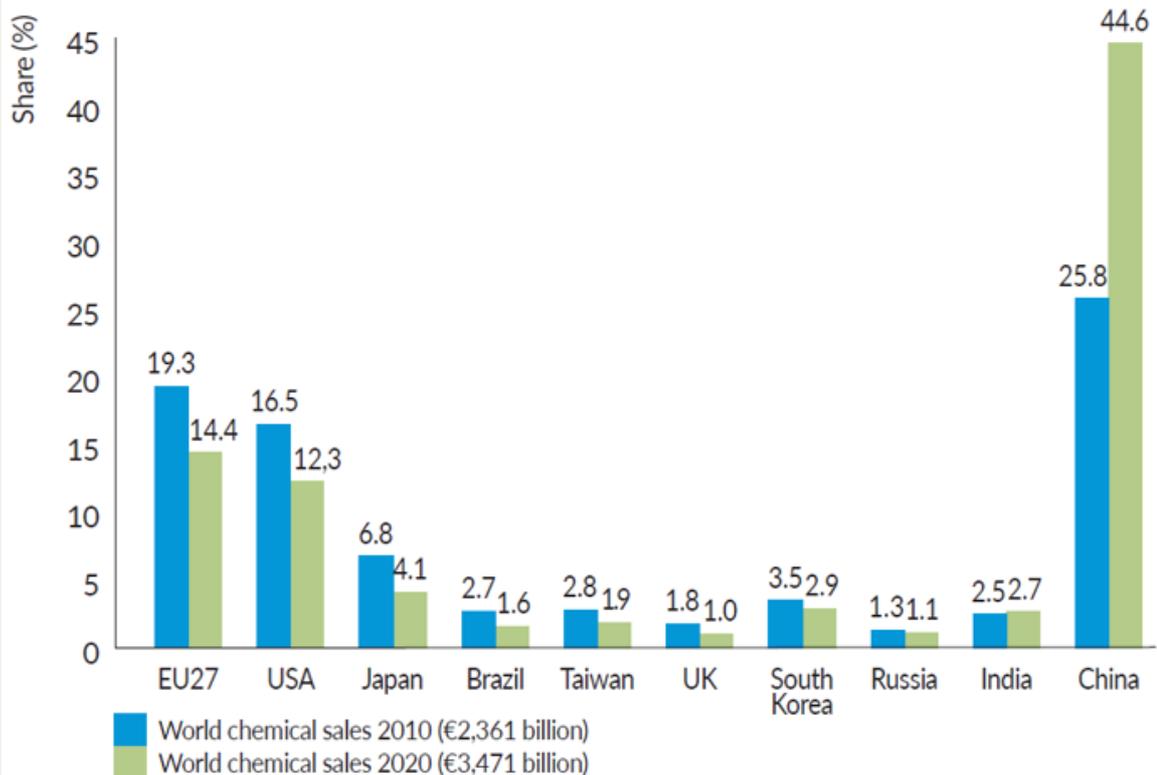
Chemical sales by country: top 10



Source: Cefic Chemdata International

EU27 market share dropped significantly

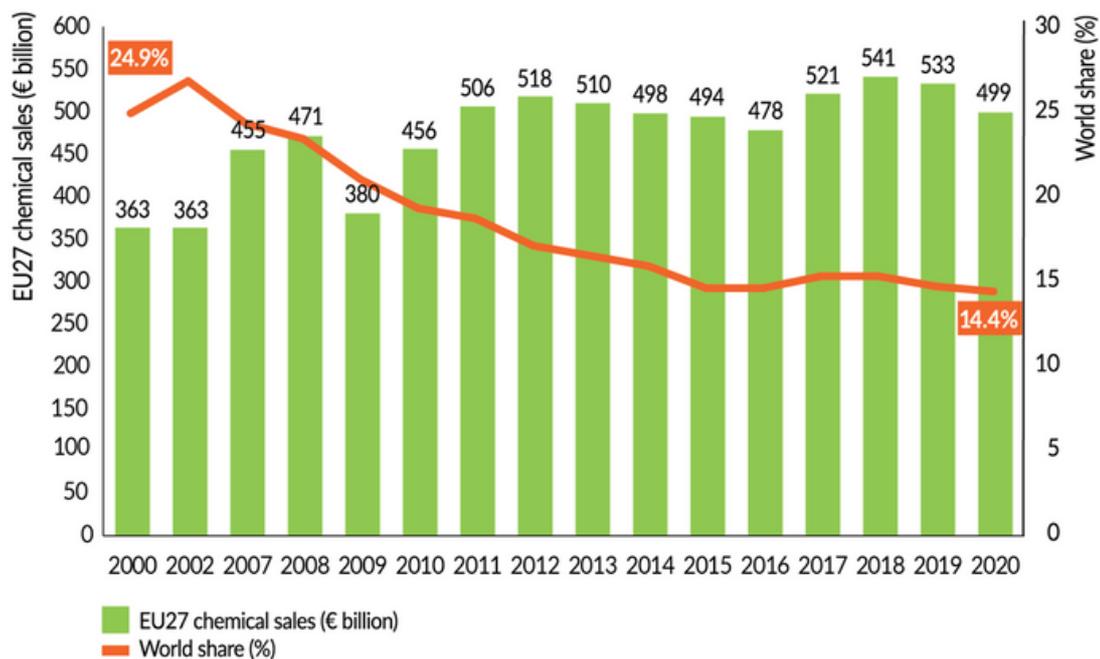
World chemical sales by country: top 10



Source: Cefic Chemdata International

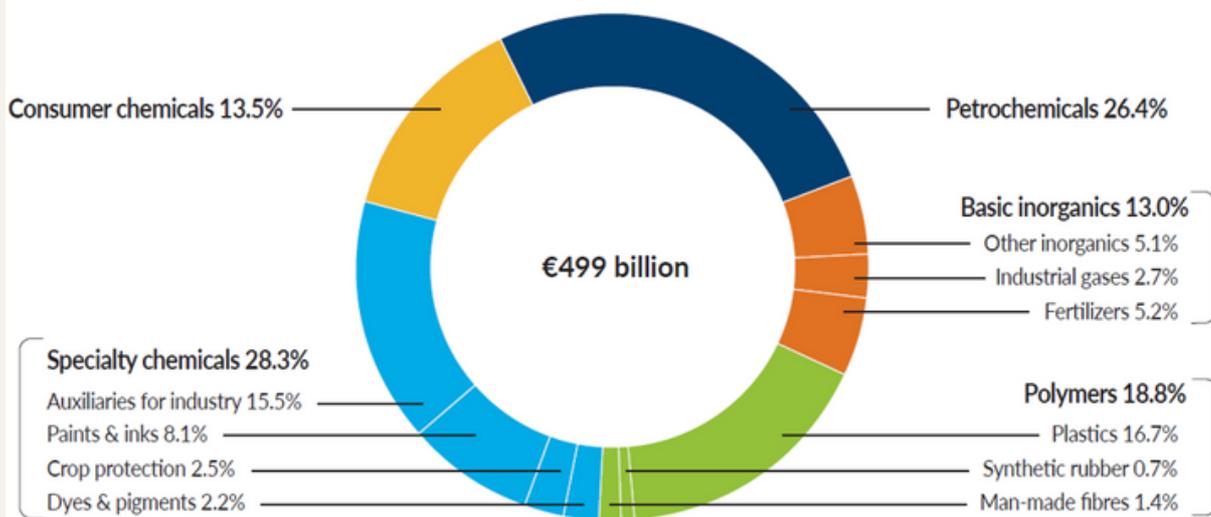
World market share of EU27 chemical sales drops substantially

EU27 share of global chemicals market



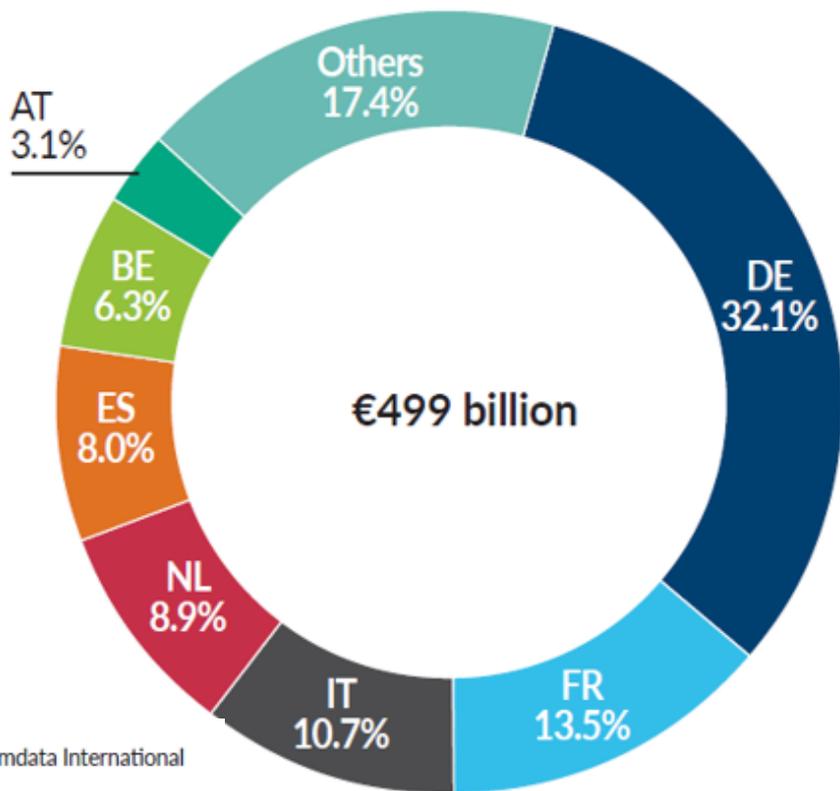
Base chemicals account for about 58% of EU27 chemicals sales

EU27 chemical sales 2020



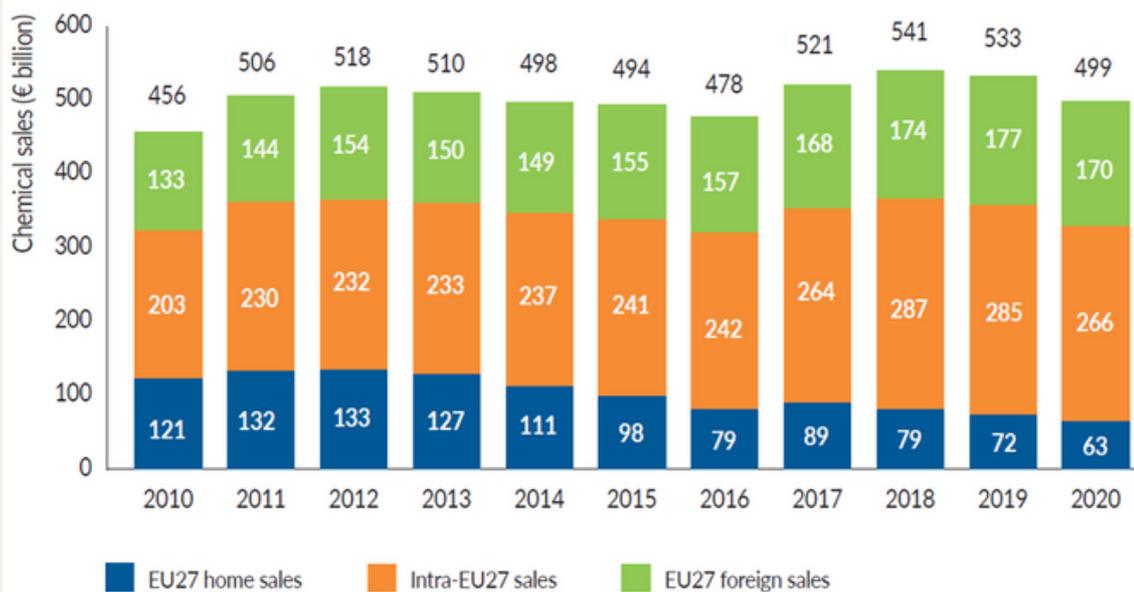
About 2/3 of EU27 chemical sales generated in four Member States

EU27 chemicals sales 2020



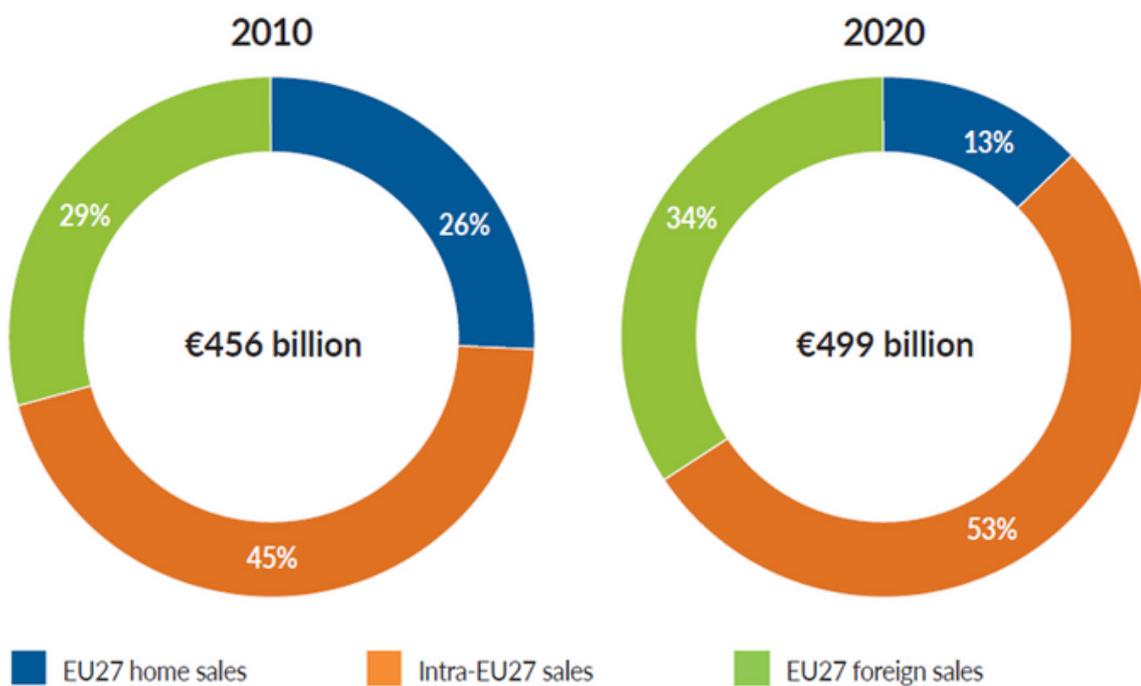
EU27 chemicals sales decreased for the second time in row since 2018

EU27 chemical sales structure (€ billion)



About €170 billion is generated from selling chemicals outside the EU27 area

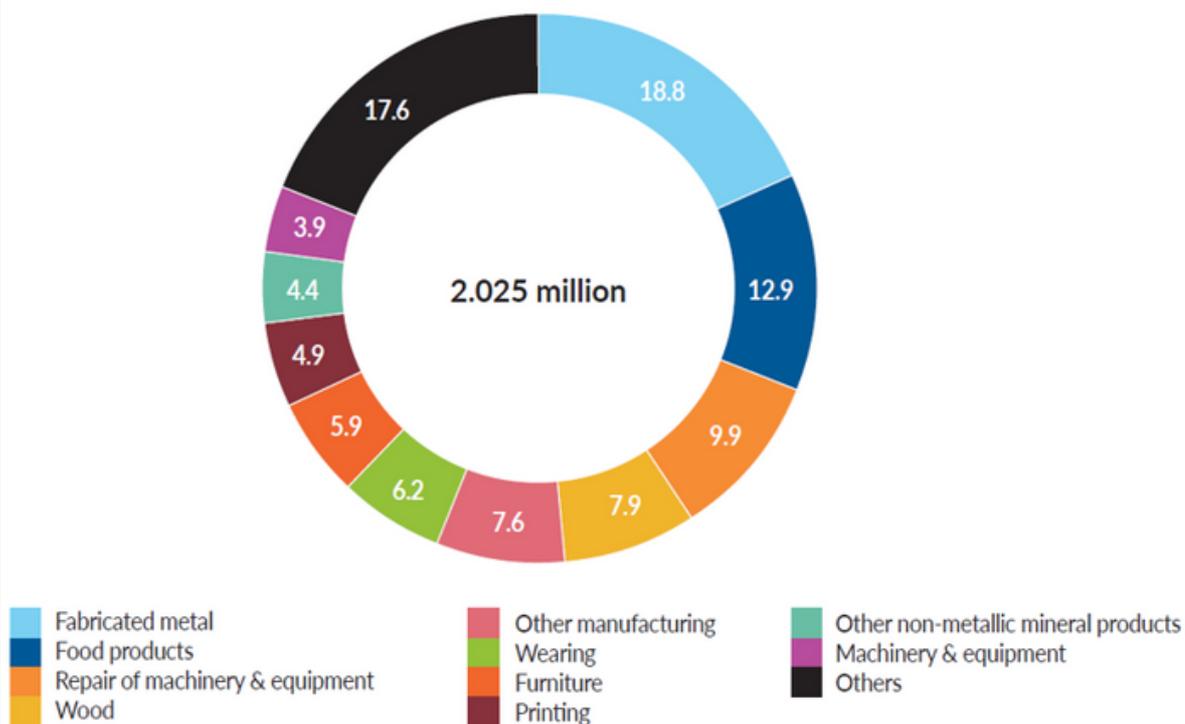
EU27 chemical sales structure (%)



Source: Cefic Chemdata International

Top 10 sectors account for 82% of total EU27 manufacturing enterprises

Top 10 sectors: number of enterprises (% , 2018)



Source: Eurostat



SUSTAINABILITY AND INNOVATION

Despite significant global disruptions faced in 2020, including COVID, sustainability still drives initiatives from governments, businesses and citizens around the world. With the adoption of the UN 2030 agenda for Sustainable Development, the signing of the Paris Agreement, and the set out of a European Green Deal, countries have taken a pathway in action on climate change and protecting the environment. Across industries – from health, hygiene, construction and mobility to agriculture and energy supply, the chemical industry has a crucial role to play in this transition as it enables the transformation required.

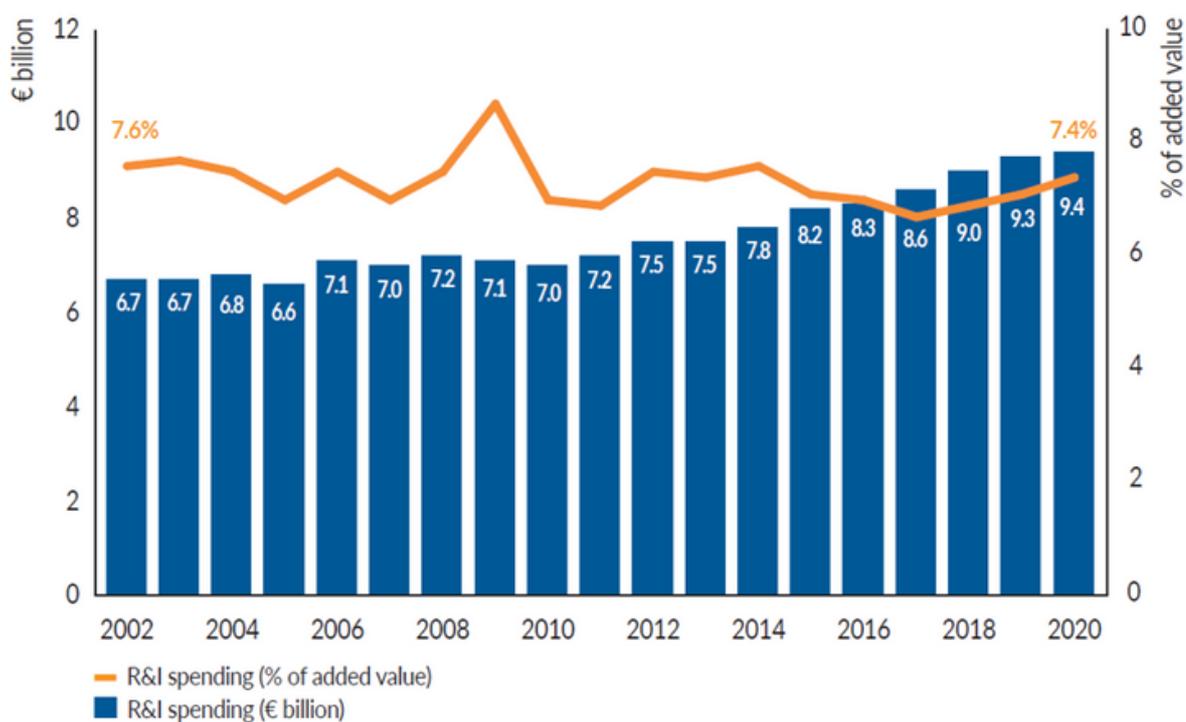
Cefic and its members focus resources in the four critical areas to progress sustainable development:

- Enabling the transition to a low-carbon economy,
- Driving resource efficiency across global value chains and our operations,
- Promoting the adoption of circular economy principles to prevent waste, achieve a low-carbon economy and enhance resource efficiency,
- Preventing harm to humans and the environment throughout the entire life cycle

Source: Cefic

EU27 R&I spending reaches the highest level in 2020

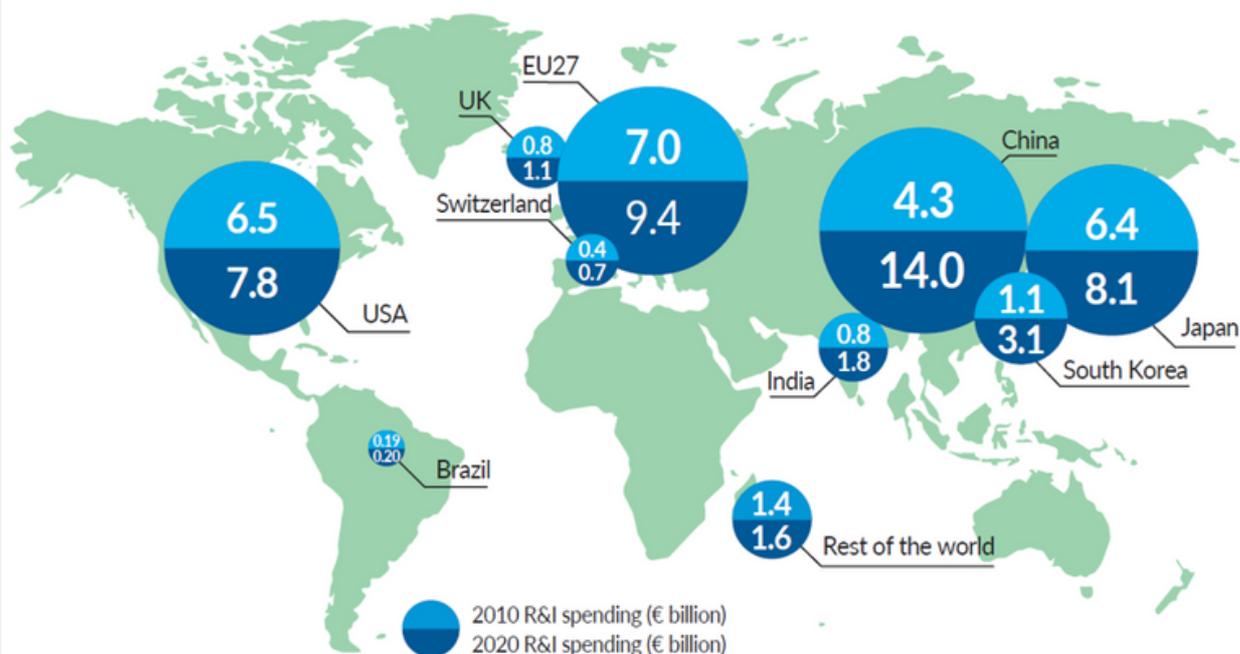
R&I spending by the EU27 chemical industry



Source: OECD and Cefic Chemdata International

EU27 is the second-largest R&I investor in the world

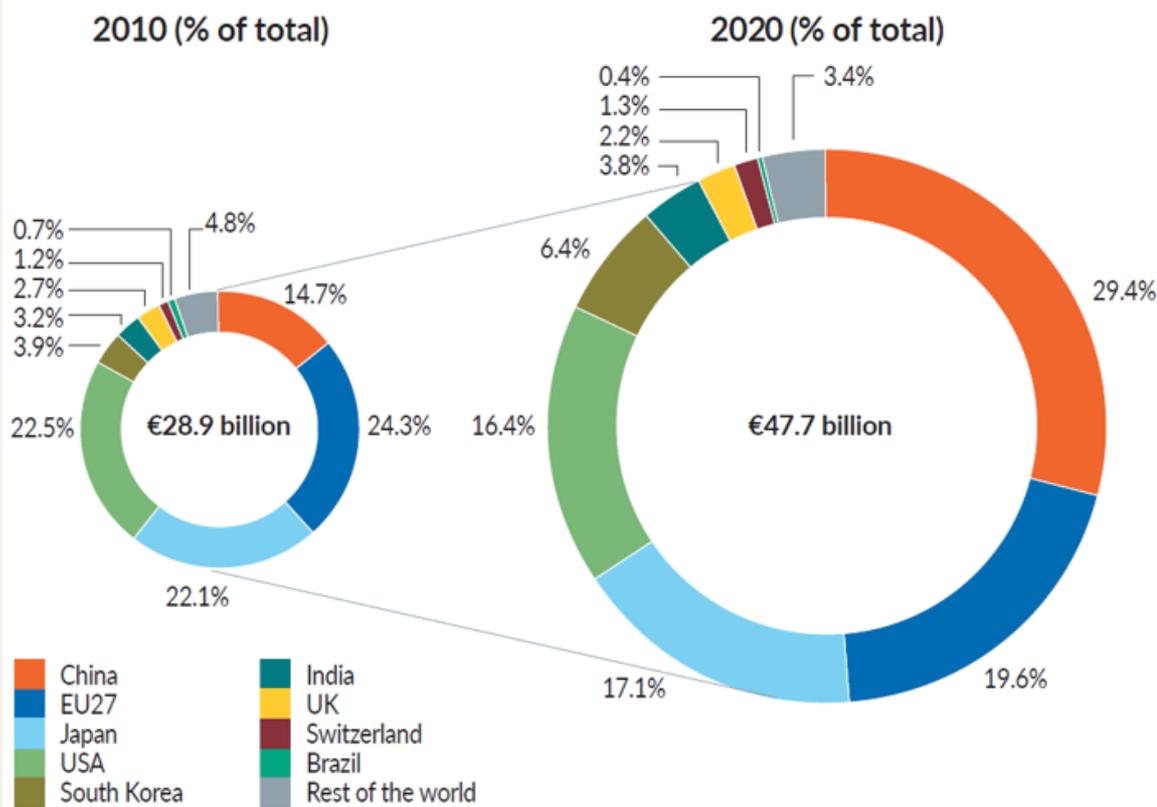
R&I spending in the chemicals industry by region: 2020 vs 2010



Source: OECD and Cefic Chemdata International

Decreasing share of chemicals R&I spending for the EU27, USA and Japan

Chemicals R&I spending by country, 2020 vs 2010



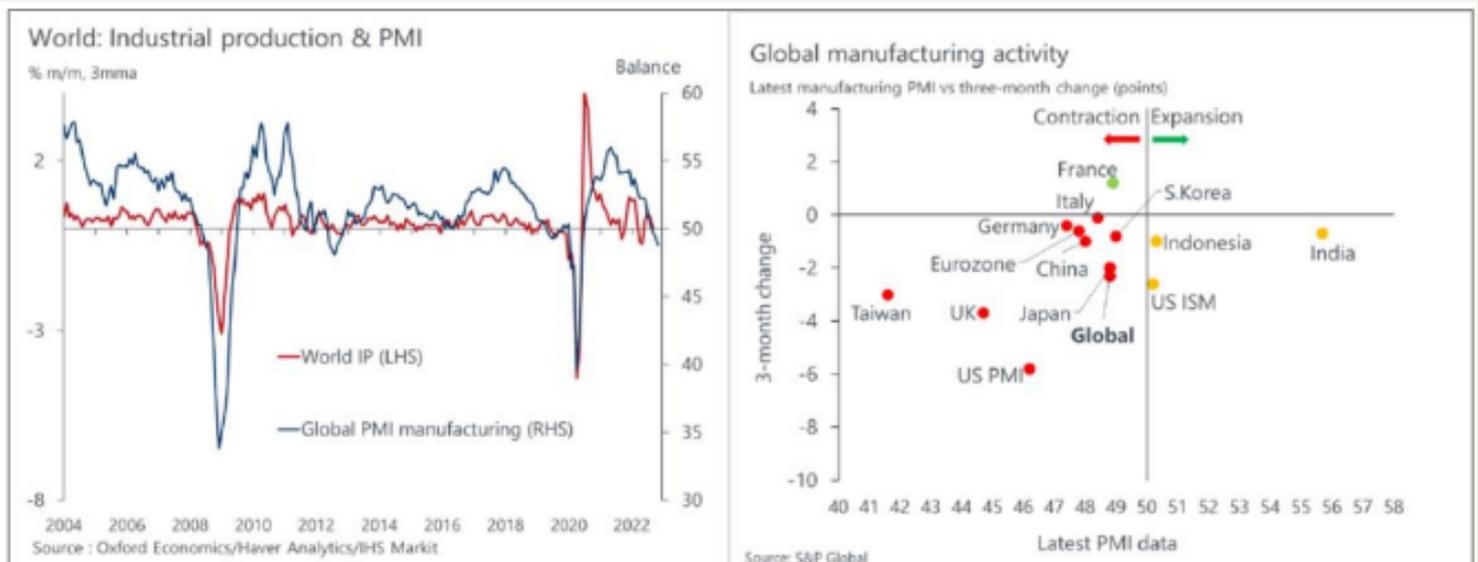
Source: OECD and Cefic Chemdata International

Facts and Figures

(January 2023)

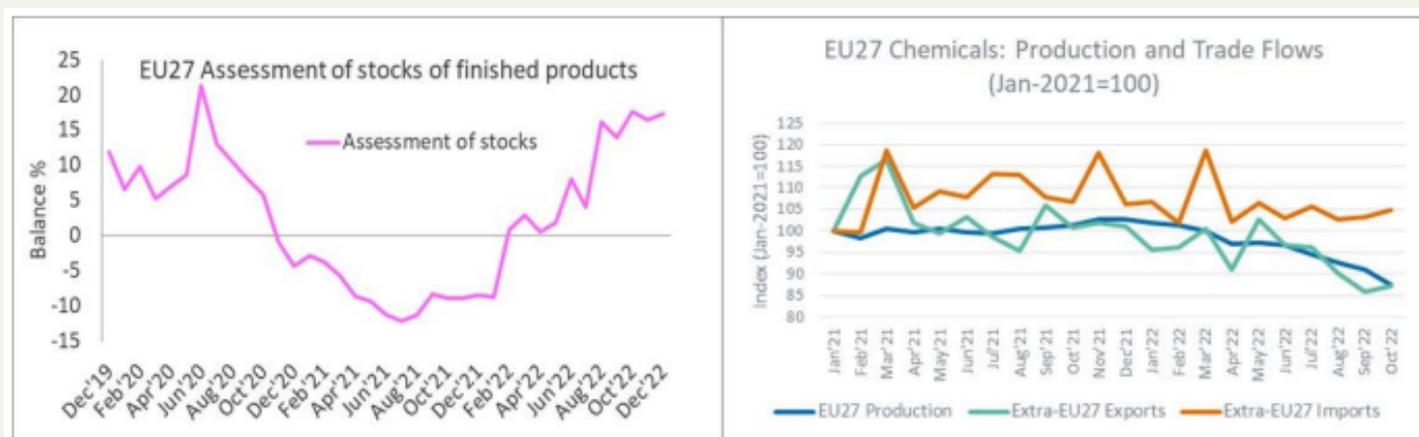
Industrial production contracted in major economies across the world

As high inflation and interest rates put downward pressure on economic growth, the latest data readings show a contraction in industrial production in the major economies across the world. In November 2022, the global manufacturing PMI deteriorated further, decreasing from 49.4 to 48.8. Industrial production in Asia continues to be weak. As softening global goods demand is weighing on exports; India, Japan, Malaysia South Korea, Taiwan, and Thailand are posting declines in the latest reported data. European recession and weak China are expected to drive Q4 contraction. (Source: Oxford Economics Monthly Industry Briefing/Global Industry-Dec 2022). However, the latest data on the purchasing managers index for the euro area showed a third straight month of improvement in manufacturing, with the January reading rising a full point to 48.8. While that's still under 50 – the dividing line between expansion and contraction – the index has crept higher for three straight months. Europe's factories are kicking off the year, seeming to operate on the outlook that the slowdown in activity will not last long. (Source Bloomberg, Jan2023).



The level of chemicals stock is close to the level recorded during the Covid crisis

The level of stocks in the EU27 chemicals sector is perceived by chemicals managers as too high compared to the normal levels. Data on managers' assessments of stocks of finished chemicals products indicate a second wave of increasing stockpiles during the last 10 months of 2022. The chemicals output in Nov-2022 was 12% below March's level. The chemicals output in Nov-2022 was 12% below March's level. A similar trend is observed on the trade side. The EU27 external trade environment for chemicals witnessed a rapid loss of momentum between March and September 2022. The European recession and the weak development of China were the two key drivers behind the negative trend of exports and imports (in volume terms). When looking at the value terms, the EU27 trade flows show that after import value exceeded export value in March, since August 2022 export values exceeded import values again. The latest data available on trade (Jan-Oct) still highlight a trade deficit of about €1.7 billion in 2022 compared to the same period in 2021. The energy crisis impacted chemical production and trade activities in 2022. The latest significant reduction in the cost of energy and the positive development of production expectations of managers should keep ensuring a solid recovery of our business during the coming months. So far, the mood of the business climate has not yet been reflected in increases on the demand side.



Chemicals are most impacted but the latest decrease of energy prices will help

Over the first 11 months of 2022, chemical output declined, and the level of production was 5.1% below 2021 levels (Jan-Nov). The chart below (on the right side) shows a decoupling of the chemicals sector from the whole manufacturing sector. This is mostly due to high energy costs, which continue to impact the chemical sector. Four key sectors drove up the EU27 manufacturing production growth throughout the first eleven months of 2022: electrical equipment grew by 4% in 2022 compared to 2021 (Jan-Nov); automotive did slightly better growing 4.4% during the same period. Machinery and equipment grew by 4.9% in 2022 in comparison to 2021. Finally, pharmaceuticals outperformed all other manufacturing sectors, recording an output that was 13.6% above 2021's levels. Generally, the EU27 manufacturing output grew by 2.3%.



Focus on Cefic

Conseil Européen des Fédérations de l'Industrie Chimique

European Chemical Industry Council

Cefic, the European Chemical Industry Council, founded in 1972, is the voice of large, medium and small chemical companies across Europe, which provide 1.2 million jobs and account for approximately about 15% of world chemicals production.

Vision

Cefic is devoted to promoting a thriving chemical industry that is broadly recognized to:

- provide sustainable, safe and resource-efficient solutions,
- foster prosperity, growth and investments in Europe,
- provide safe and resource-efficient solutions to meet the challenges for future generations.
-

Mission

The Association's mission is to:

- serve its members by generating and aggregating scientific knowledge that fosters the purpose of the Association in critical areas,
- offer services and expertise to its members in regulatory, scientific and technical matters,
- engage, advocate and represent the industry in order to create the right support and policy frameworks in Europe and beyond,
- add value as a collective compared to individual companies' activities.

Source: Cefic



SKYMINDER AT A GLANCE CHEMICAL INDUSTRY

Solutions available for more than **240**
countries and jurisdictions

Best in class information thanks to more
than **40** providers, both local and global

13 available products and solutions

Web and **API** integration

SKYMINDER SOLUTIONS

SkyMinder is the worldwide CRIF platform helping you to take decisions based on high-quality information. If you are required to evaluate a business partner playing in Chemical Industry, a customer or a supplier, in a risk evaluation process or for compliance requirements or a cyber risk assessment, SkyMinder is the right solution.

Requirement	SkyMinder Solution	Description
Know business partners and risk level <ul style="list-style-type: none"> - have on board new suppliers - understand in depth customers creditworthiness 	Full Report and Slim Report	Information, with different level of details, related to all companies in the world, including firmographics, credit limit, risk indicator, management, shareholders, negative events etc.
Receive immediate notification with related details if a change affects a company	Full Monitoring	Detailed information about changes affecting a company as soon as happened. Combined possibility to request for free updated report.
Be alerted if there is change in company's information	Alert	Information related to the area involved by a change as soon as an event happened.
Periodically checks if there are changes involving companies	Planned Revision	Scheduled revision with updated report including company's changes if applicable
Obtain documents from Official Registry and LEI repository	Official Registry and LEI	Product range including documents coming from public sources or from LEI Registry
Company ownership overview	Verification Report	List of shareholders to understand company's structure
Compliance requirements and fraud checks	Compliance Report and Extended Check Report	Anti Bribery and Money Laundering lists checks related to financial crimes.
Risk of Cyber attack	Cyber Risk Report	Assess the level of risk related to a business partner in being involved in a cyber attack
Understand overall value of intangible assets of a company	Patent Due Diligence Report	Patent Asset Overview with geographical coverage, remaining life of active patent assets, high-value patent assets, technology and patent deployment, technology timeline, peer comparison, key inventors.