2020 FACTS & FIGURES

of the European chemical industry

cefic

A full version of the 2020 Cefic Facts & Figures of the European chemical industry is available online at:
www.cefic.org/Facts-and-Figures

Unless specified, chemical industry excludes pharmaceuticals
Unless specified, EU refers to EU28

Disclaimer:
For the sake of data integrity, figures within Cefic's Facts & Figures publications are compiled and updated on a regular basis from public statistical sources (Eurostat, EU Commission, EEA, …). These sources regularly review their previous years' data and at times retroactively amend it. As a result of these updates, the comparison of annual Cefic Facts & Figures editions is not necessarily consistent over time.

Foreword

The chemical industry is a valuable part of Europe's economy. We provide innovative solutions to delivering a low carbon and circular economy, both within Europe and beyond its borders.

A favourable European industrial policy is needed to stimulate innovation and investment and deliver these objectives. One that safeguards European industrial competitiveness globally.

Ambitious trade policies are vital in this regard. In an increasingly uncertain trade environment, free trade agreements, such as CETA and the EU-Japan Economic Partnership Agreement, contribute to increased trade activity and foster economic growth.

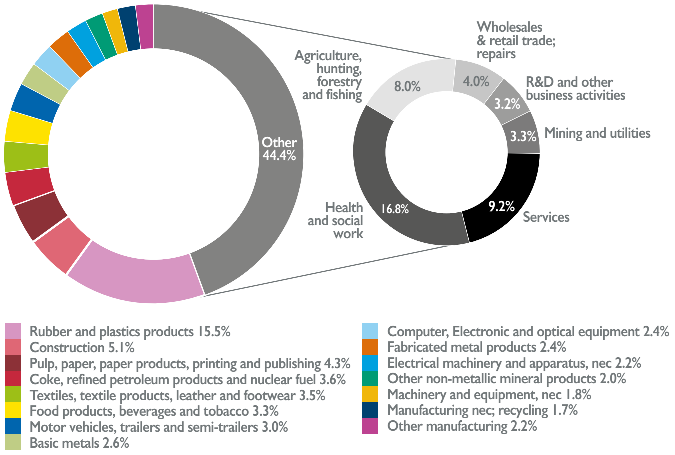
Horizon Europe has the potential to revolutionise Europe into a global innovation hub. The European chemical industry continues to innovate, with an annual investment of €10 billion on R&I in 2018 – the highest value since 2000.

Safety remains our top priority when doing business and operating our facilities. The European chemical industry is committed to ensuring compliance with REACH – the most protective chemical legislation in the world. We must continue to strengthen and better enforce REACH and, together with the Institutions and the Member States, ensure this legislation is properly implemented.

With the right framework conditions in the EU, 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.

More than half of EU chemicals are supplied to the industrial sector

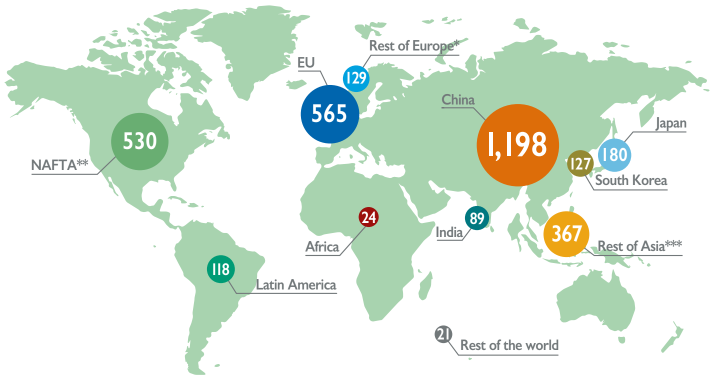
Customer sectors of the EU chemical industry (2017)



Sources: ICCA report 2019, Catalyzing Growth and Addressing Our World's Sustainability Challenges (Oxford Economics)

Europe is the second largest chemicals producer in the world

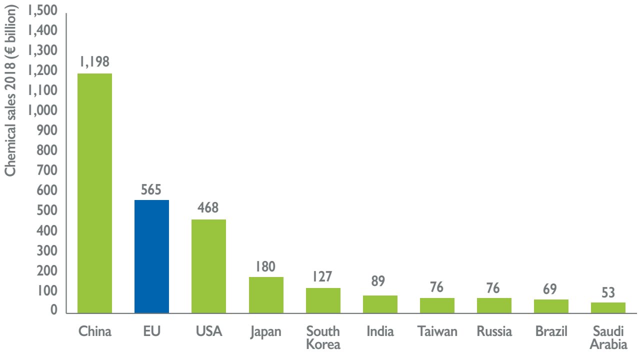
World chemical sales (2018, €3,347 billion)



Source: Cefic Chemdata International 2019
* Rest of Europe covers Switzerland, Norway, Turkey, Russia and Ukraine
** North American Free Trade Agreement
*** Asia excluding China, India, Japan and South Korea

China dominates chemical sales world ranking

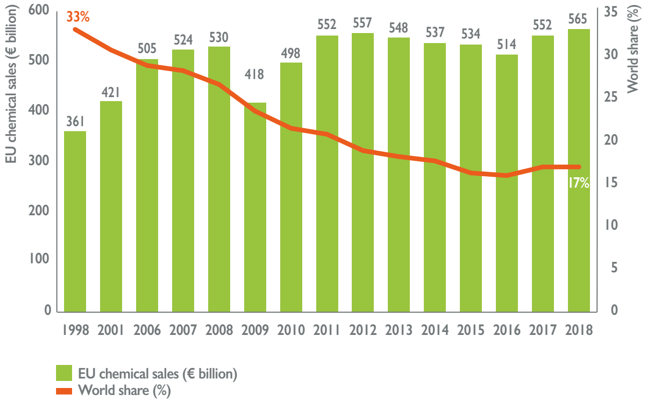
Chemical sales by country: top 10



Source: Cefic Chemdata International 2019

World market share of EU chemical sales halved since 1998, with stabilization from 2015

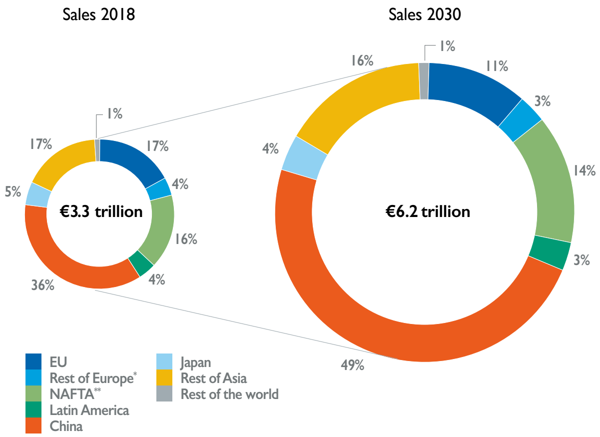
EU share of global chemicals market



Source: Cefic Chemdata International 2019

A smaller share for Europe of a bigger chemicals cake

Growth in world chemical sales 2018-2030



Source: Cefic Chemdata International 2019
* Rest of Europe covers Switzerland, Norway, Turkey, Russia and Ukraine
** North American Free Trade Agreement
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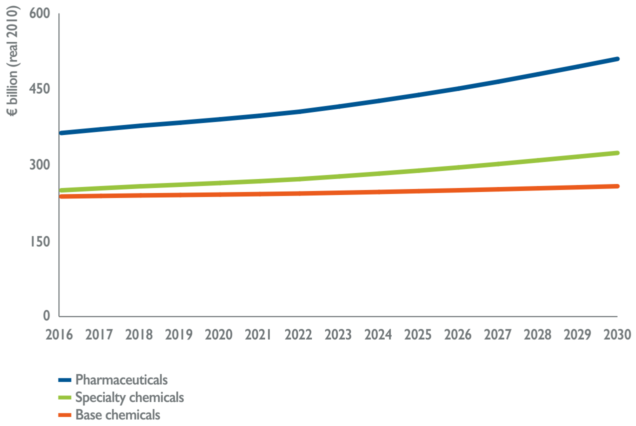
Europe leads in specialty chemicals

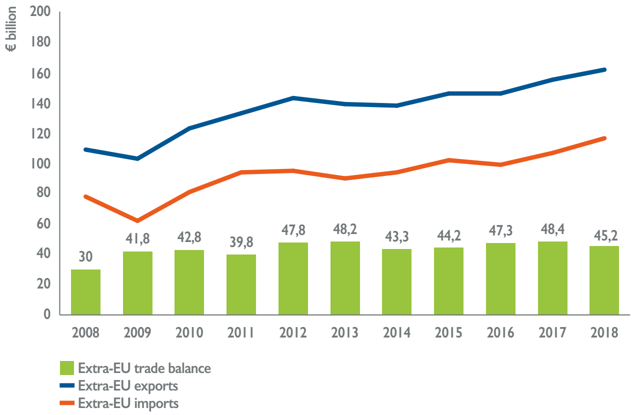
EU production value (real 2010, € billion)



Source: Prognos model results and Cefic analysis 2019

EU chemicals trade surplus reaches significant level

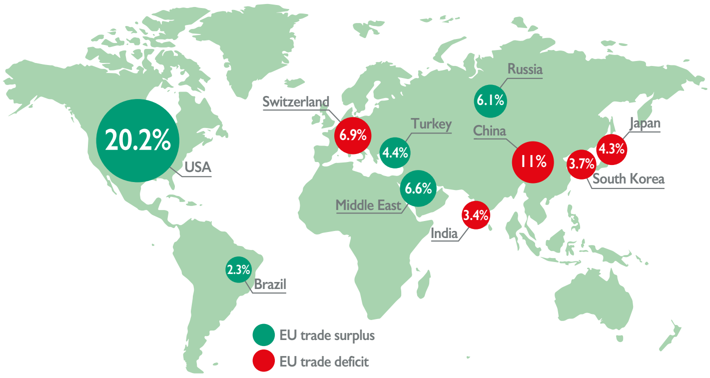
Extra-EU chemicals trade balance



Source: Cefic Chemdata International 2019

Top 10 EU partners account for 70% of EU chemicals trade*

EU chemicals trade* flows with top partners (2018)



Source: Cefic Chemdata International 2019
* Trade = exports + imports

The EU is the largest chemicals exporting region in the world

World network of major chemicals exports flows (2017, € billion)

Declarant ▼ / Partner ▶	EU	Rest of Asia*	United States	China	Japan	Rest of Europe**	Middle East	Latin America	Africa	Oceania	World
EU		37,9	30,0	15,2	5,2	29,0	11,2	9,5	12,1	2,3	158,3
Rest of Asia*	18,2		9,3	60,4	8,8	2,1	7,2	4,2	4,9	3,0	122,3
United States	21,3	17,1		12,0	7,0	1,3	2,7	13,8	1,8	2,0	120,2
China	13,6	47,9	10,9		6,9	2,8	3,9	7,5	5,0	2,6	103,3
Japan	5,8	28,4	6,1	16,3		0,3	0,5	0,6	0,3	0,4	59,3
Rest of Europe**	19,1	7,0	2,4	2,4	0,5		0,7	2,5	0,6	0,1	35,8
Middle East	5,3	12,3	1,4	12,4	0,3	0,5		1,4	1,5	0,4	35,6
Latin America	3,3	1,4	3,9	1,0	0,5	0,1	0,1		0,2	0,0	11,7
Africa	4,8	2,8	0,7	0,6	0,1	0,2	0,7	1,0		0,1	10,9
Oceania	0,3	1,3	0,4	0,4	0,3	0,0	0,1	1,0	0,0		3,1
World	93,7	157,9	86,8	122,3	29,8	36,4	27,3	41,3	26,7	11,0	689,1

Source: Cefic Chemdata International 2019
* Asia excluding China, Japan and Middle East
** Rest of Europe covers Switzerland, Norway, Turkey, Russia and Ukraine

The EU has the largest chemicals surplus in the world

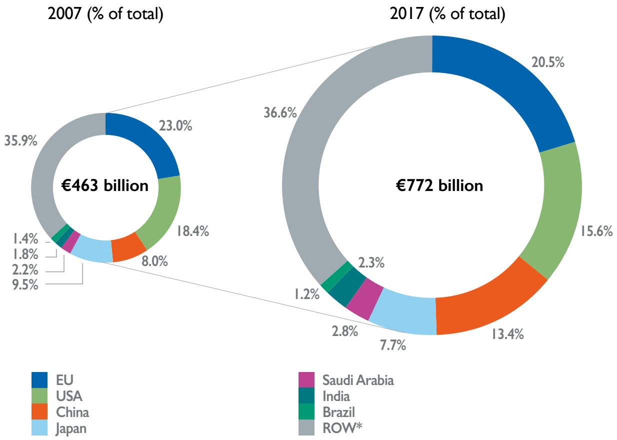
World matrix: chemicals trade balance (2017)

Trade deficit
Trade surplus

Source: Cefic Chemdata International 2019
* Asia excluding China, Japan and Middle East
** Rest of Europe covers Switzerland, Norway, Turkey, Russia and Ukraine

Decreasing share of chemicals exports for the EU, USA and Japan

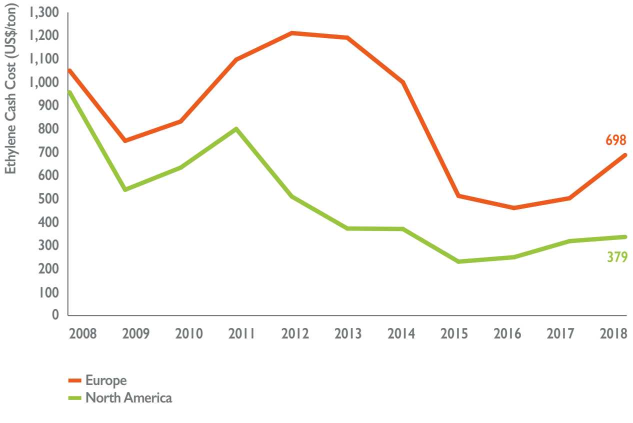
Chemicals exports by country of origin



Source: Cefic Chemdata International 2019
* Rest of the World, intra-EU trade excluded

Energy costs are the Achilles' heel of European industry

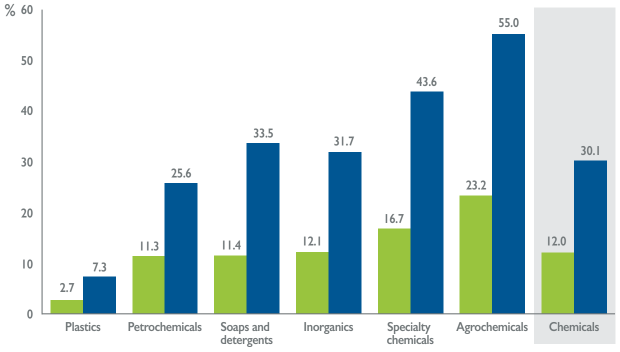
Average ethylene cash costs in Europe versus North America (US$/ton)



Source: ICIS and Cefic analysis 2019

Regulatory costs remain high

EU regulatory cost* of the chemical sector

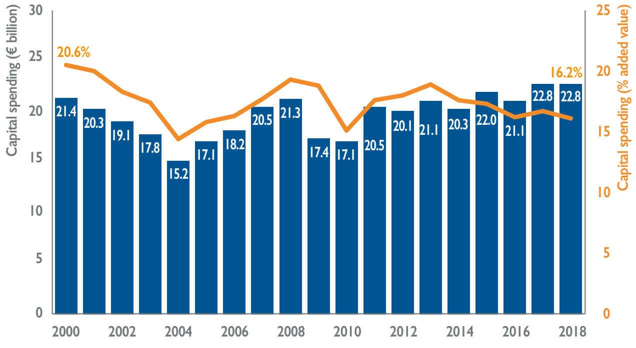


EU regulation cost (% of added value)
EU regulation cost (% of gross operating surplus)

Source: EU Commission Report, "Cumulative Cost Assessment (CCA) for the EU Chemical Industry" (11 July 2016)
* Average cost per year (2004-2014)

EU capital spending reaches second highest level since 2000

Capital spending in the EU chemical industry

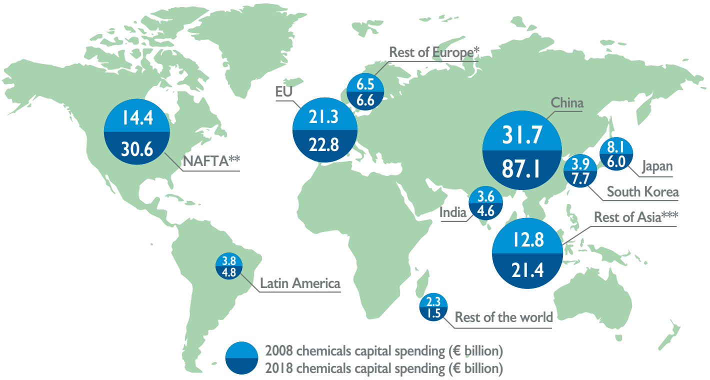


EU chemicals capital spending (% of added value)
EU chemicals capital spending (€ billion)

Source: Cefic Chemdata International 2019 and Cefic analysis 2019

China dominates world chemicals investment

Capital spending by region



Source: Cefic Chemdata International 2019
* Rest of Europe covers Switzerland, Norway, Turkey, Russia and Ukraine
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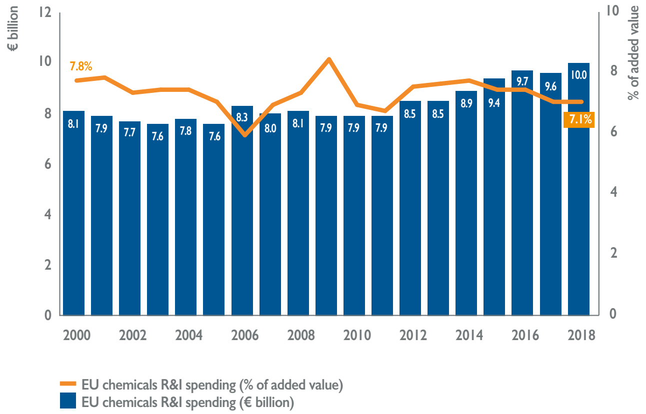
EU Research and Innovation (R&I) spending reaches highest level since 2000

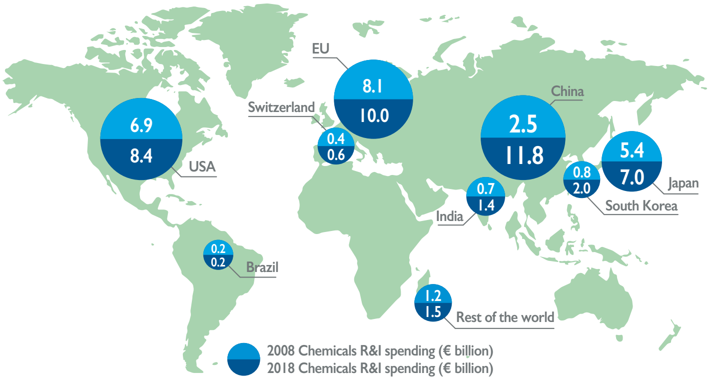
R&I spending in the EU chemical industry



Source: Cefic Chemdata International 2019 and Cefic analysis 2019

Europe is the second largest R&I investor in the world

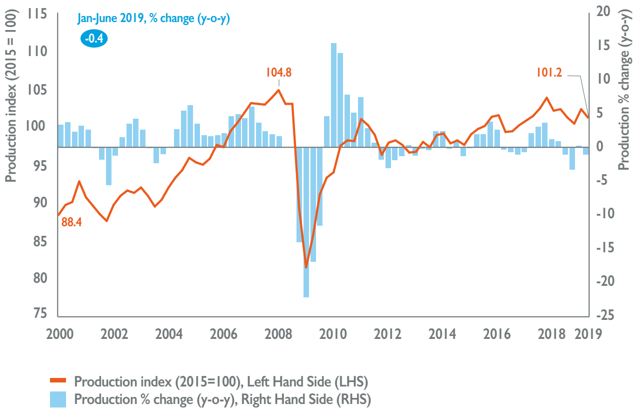
R&I spending by region



Source: Cefic Chemdata International 2019

EU chemical maintains steadily growth

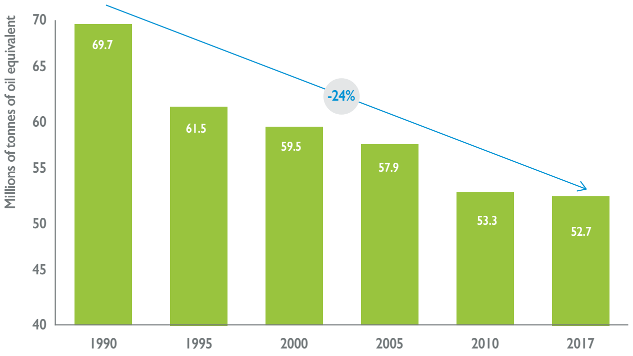
EU chemical industry production



Source: Cefic Chemdata International 2019

Fuel and power consumption* falls 24% since 1990

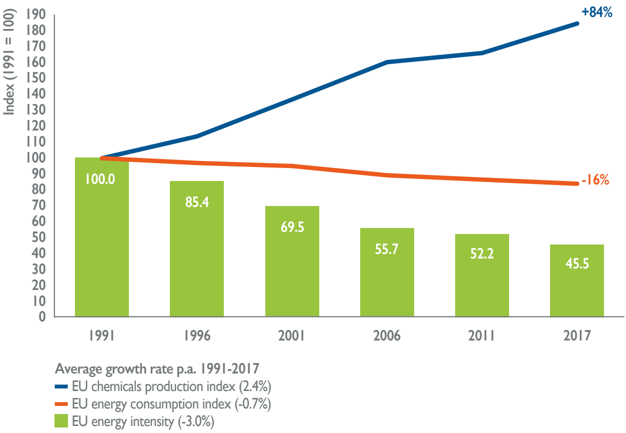
Fuel and power consumption in the EU chemical* industry



Source: Eurostat and Cefic analysis 2019
* Chemicals including pharmaceuticals

Energy intensity* halved over a 26-year period

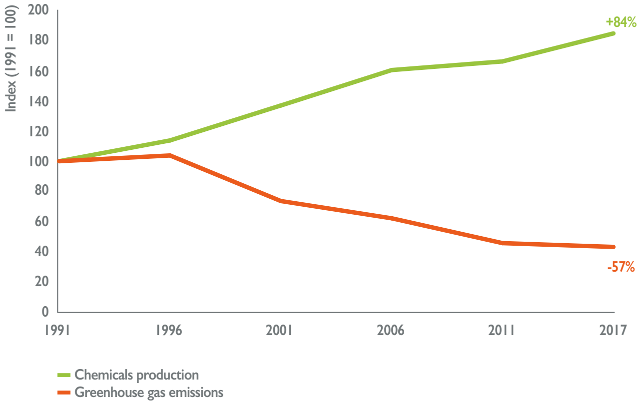
Energy intensity* in the EU chemical industry



Source: Eurostat energy database and Cefic Chemdata International 2019
* Energy intensity is measured by energy input per unit of chemicals production (including pharmaceuticals)

Chemicals production*, greenhouse gas emissions**, decouple

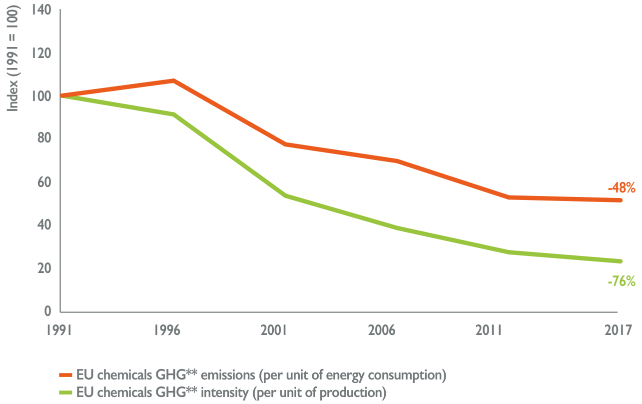
Greenhouse gas emissions* and production**



Source: European Environment Agency (EEA) and Cefic analysis 2019
* Including pharmaceuticals
** Energy (Fuel and Power CO_2) included

Greenhouse gas intensity plummets 76% since 1991

Greenhouse gas emissions* per unit of energy consumption and per unit of production**



Source: European Environment Agency (EEA)
* Energy (Fuel and Power CO_2) included
** Including pharmaceuticals

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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 about 17% 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.

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