FEDERCHIMICA
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The chemical industry in Italy

2019

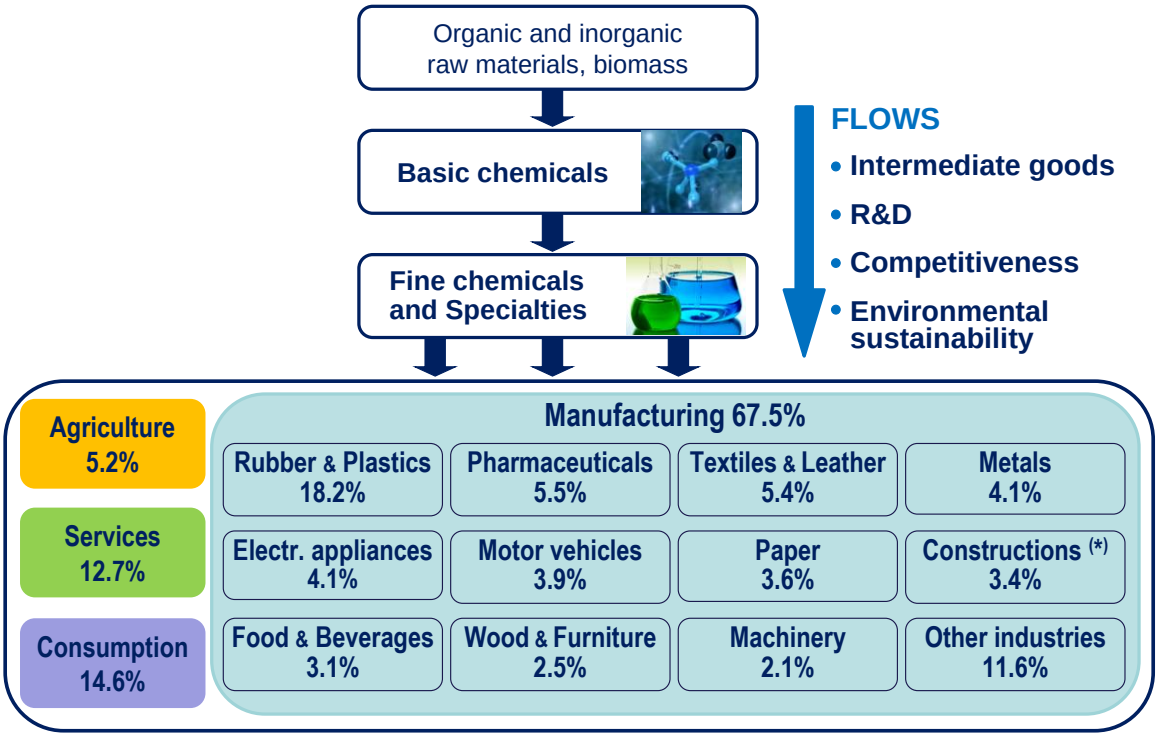
On the cover:
“Chimica e fantasia”, Michele Cascella, 1967

The chemical industry in Italy 2019

Facts and figures to get a deeper insight in the chemical industry

This publication aims to provide international readers with key elements regarding the chemical industry in Italy, such as its most significant features, its companies and the main development trends affecting its growth.

The chemical industry as a driver of technology transfer



(*) Including materials for constructions
Source: Federchimica's calculations on Istat; 2016

Chemical science and chemical industry have a unique interconnection. In fact, while **the former studies properties and transformations of matter, the latter acquires such scientific knowledge and incorporates it in technologies and products thanks to Research and Development activity, contributing to improve well-being and quality of life**.

The importance of the chemical industry is often not properly perceived, since most of its products are not directly used in everyday life: indeed, they mainly consist in **intermediate goods** employed by other industries for producing final goods. Nevertheless, chemical goods are incredibly widespread and affect daily life diffusely.

Thanks to successive transformations of both **organic** and **inorganic** raw materials (such as oil, coal, biomasses or water and minerals, respectively), the chemical industry creates innumerous products: **basic chemicals** are the primary constituents of all other chemicals goods and lead to the manufacture of **fine chemicals and specialties**, which in turn are employed in other industries.

Chemical products play significant roles in any economic sector from agriculture (5.2%) to services (12.7%) down to households' consumption (14.6%); among the others, manufacturing is the sector affected the most by their use (67.5%).

The chemical industry is a far-reaching **engine of innovation**: thanks to its intermediate goods, **it transfers research-based technological innovation to all user sectors**, **fostering their competitiveness and sustainability as well as contributing to job creation and security**. Behind the worldwide success of Made-in-Italy products (such as leather, wearing apparel, furniture, tiles and many more), one can often find innovative chemical firms and products.

In order to face global competition, Made-in-Italy industries must raise their technological capabilities in full compliance with environment safeguard objectives: the chemical industry represents the ideal partner to reach such goals.

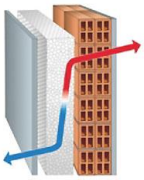
Chemicals, sustainability and circular economy: some examples

Biobased products

Biodegradable and compostable bags, mulching films for agricultural applications, *environment-friendly* biolubricants, second-generation biofuels from biomass

Food packaging

Innovative packaging materials and solutions with improved preservation properties, aimed to enhance food conservation and cut down waste



Thermal insulation

Design of increasingly effective, high-performance construction materials, allowing to raise energy efficiency in buildings

Sustainable tyres

Cutting-edge, high-performance elastomers which reduce fuel consumption, use of additives

Recovered and reused products

Nylon made from consumption or production waste, regeneration of used mineral oils, additives allowing the recovery of returned concrete, recovery and reuse of plastics

Source: Federchimica; 2018

As the European Commission stated during the *High Level Group on the Competitiveness of the European Chemicals Industry* (2009), not only chemical products are not a threat with respect to sustainability goals, but they work as "solution providers". In fact, there are a multitude of contexts in which chemical industry promotes sustainable development and circular economy models.

As far as global warming and limited availability of energy resources are concerned, the chemical industry has developed various **techologies and solutions aimed to cut down on energy consumption in houses and buildings**.

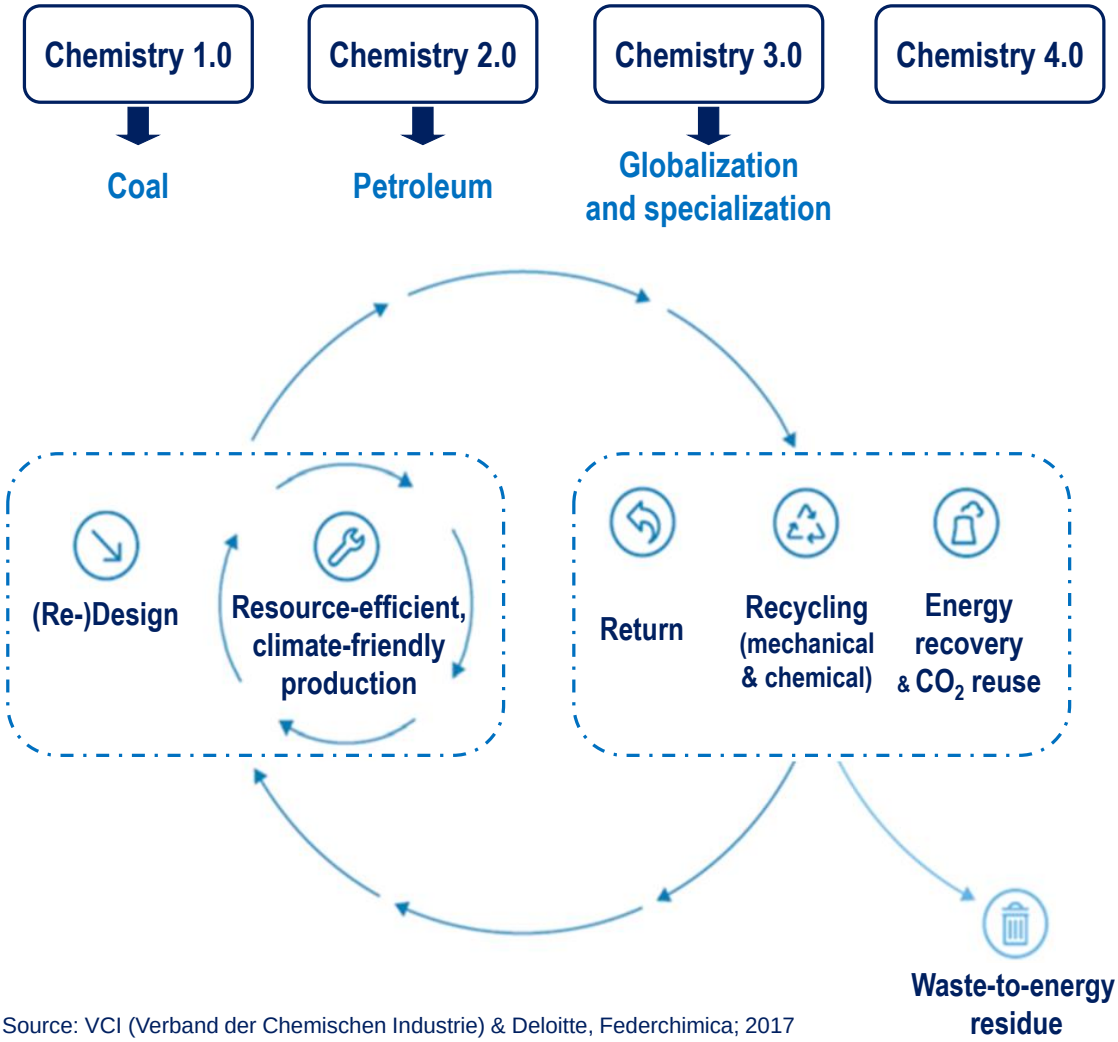
Another contribution regards **motor vehicles, to improve their safety and eco-compatibility: a lot of chemical products are employed in today's cars manufacturing, but there will be many more in tomorrow's**. Autonomous cars, for instance, require varnishes capable of protecting sensors from cold and dirt. In addition, chemicals play a major role in the development of electric cars' batteries.

The chemical industry is also a foreground player with reference to **food safety, food security and waste reduction**. Innovative technologies and products prevent animal diseases, enhance food conservation and preserve its nutritional properties, support water purification and distribution, allow increasingly consistent harvests also in presence of adverse conditions.

Plastic packaging materials provide substantial benefits, too. The amount of CO_2 emissions due to the manufacture of plastic packaging is significantly lower than the food-waste-related emissions which would occur in absence of suitable means of conservation: for instance, plastic prevents the emission of 13 kilograms of CO_2 per kilogram of meat produced.

Chemical products from renewable resources are just one of **the many contributions the chemical industry as a whole could give to sustainability: in fact, all its branches are providers of sustainable solutions**. Furthermore, renewable raw materials are not always more sustainable than traditional ones: **only products' Life Cycle Assessments provide exhaustive evaluations to identify what the optimal solutions are.**

From Chemical Industry 1.0 to Chemical Industry 4.0: circular economy and digitalization



Source: VCI (Verband der Chemischen Industrie) & Deloitte, Federchimica; 2017

The chemical industry is facing a **season of meaningful changes**, such as the evolution of international competition and the growing consideration towards an **efficient and environment-friendly consumption of resources**.

The chemical industry experienced different steps in its development, moving from a predominant use of coal to the rise of oil, down to the challenges of globalization and specialization. Now the chemical industry is entering its **"4.0" phase**: "doing more with less".

Chemical Industry 4.0 means circular economy and digitalization. Starting from products' design, **new productive and recycling models** are put in place to maximize the use of already-existing molecules: linear production models make way for circular production models. **The chemical industry plays a major role in such evolving context, since it is located upstream of different supply chains and is endowed with the technological competence to manage and lead change**.

With reference to returning and recycling, diverse and innovative ways to reuse or transform waste have been outlined: from utter reuse to recycling (both mechanical and chemical), down to energy recovery and CO_2 reuse.

In this context, **digitalization** could facilitate the implementation of circular economy models, thanks to **big data collection and sharing among supply chain's players**, as well as to **processes' improvement** throughout the entire life cycle of products.

The chemical industry in Italy

Main features of the chemical industry in Italy

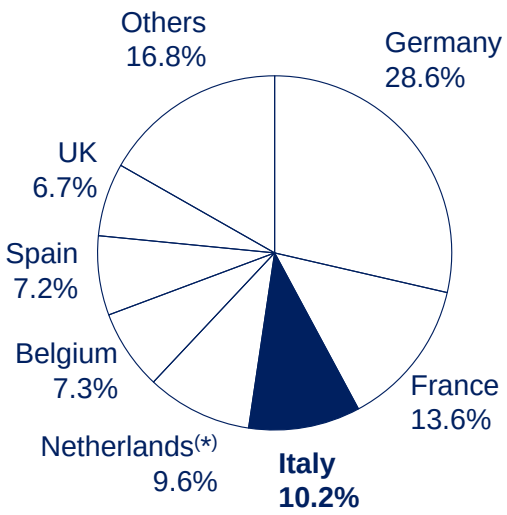
(billion Euros, unless otherwise stated; 2018)

	Chemical industry	Chemicals and pharmaceuticals
Production	55.7	87.7
Export	31.0	56.9
Import	39.3	65.7
Trade balance	-8.3	-8.8
Domestic demand	64.0	96.5
Firms (n°)	2,833	3,289
Employed (thous.)	109.6	175.6
Investments	1.7	2.8
R&D spending	0.5	1.4

Notes: latest data available for R&D spending refer to 2016
Source: Federchimica's calculations on Istat

European chemical production value, by country

(% share of EU total production value)



(*) Netherlands' production value includes a considerable amount of merely commercial activities
Source: Federchimica's calculations on Istat, Eurostat; 2017

With a turnover of almost 56 billion Euros in 2018, Italy is the third European country in terms of chemical production, with a share of total production exceeding 10%; it is also the 11th chemical producer worldwide. With reference to various branches of fine chemicals and specialties, Italy holds even higher positions in international rankings: for instance, as far as pharmaceutical active ingredients are concerned, it boasts a global leadership.

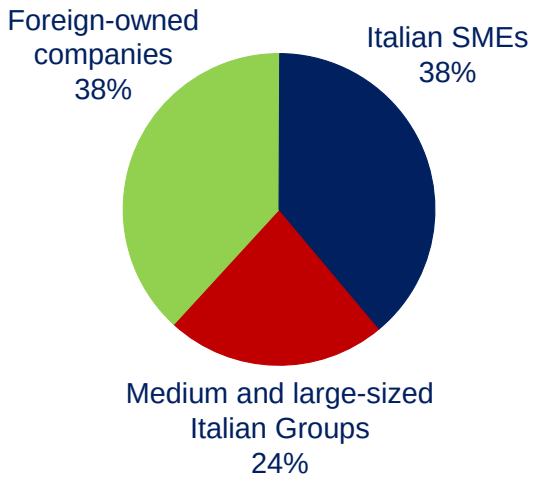
Being a country with a strong industrial vocation, Italy represents the third largest market for chemicals within the EU. Its positioning in the middle of the Mediterranean Sea can be extremely convenient: this is one of the reasons why many foreign-owned chemical companies have placed their Southern Europe strategic headquarters there.

More than 2,800 companies are active throughout the whole national territory, employing more than 109 thousand highly-qualified people.

Well-balanced presence of different companies

The distribution of Italy's chemical production

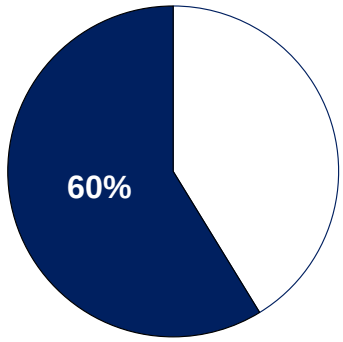
(% share of total production value)



Notes: medium and large-sized Italian Groups are those whose worldwide sales exceed 100 million Euros
Source: Federchimica; 2018

Chemical production of domestic and foreign-owned multinational companies

(% share of total production value)



Source: Federchimica; 2018

Chemical industry in Italy is characterized by a well-balanced presence of three different actors: Italian SMEs, Italian medium and large-sized Groups and foreign-owned companies.

SMEs play an important role in many European countries, but their presence is even more significant in Italy, where they account for 38% of total value of production. They record notable performances in terms of productivity and quality employment; nevertheless, they often struggle dealing with uselessly complex regulations, which impose identical requirements to all firms (regardless of their dimensions and ability to cope with the implementation).

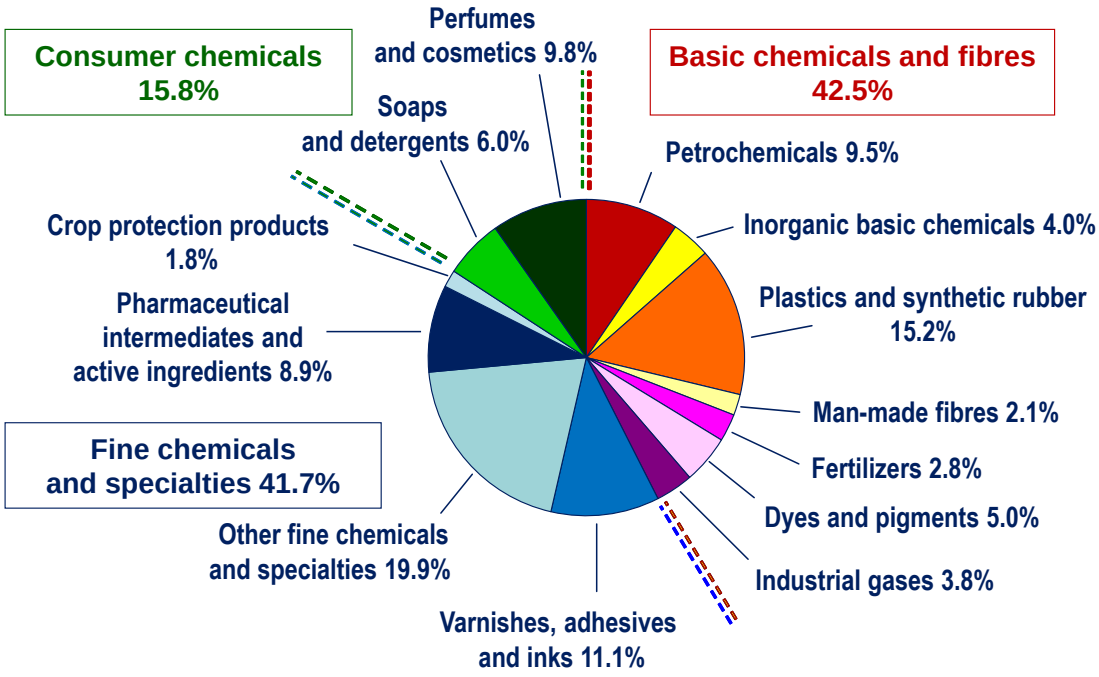
Italy also presents a valuable set of **domestic-owned companies, both medium and large-sized**, which contribute to 24% of total value production. Despite being smaller than the main international chemical corporations, they have enough expertise and critical mass to deal with challenges such as R&D and productive internationalization.

Foreign-owned chemical companies in Italy represent 38% of the whole chemical production value. They export more than 60% of their production value, which demonstrates Italy is considered not only an interesting market but also a valuable manufacturing platform. Many of them perform R&D activities in Italy, too.

The chemical industry in Italy is highly integrated with global markets. In fact, **about 60% of production value in Italy refers to multinational companies, either domestic or foreign-owned**.

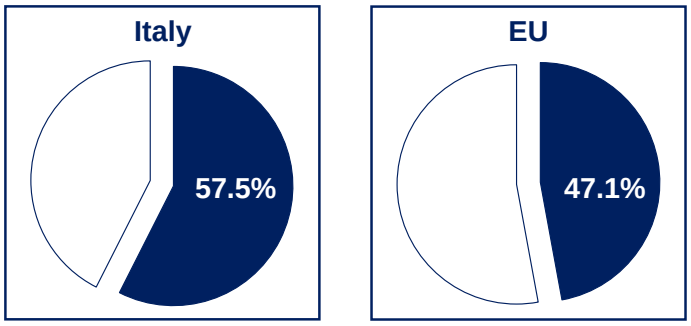
A variety of different sectors

Italian chemical production, by sector
(% share of total production value)



Source: Federchimica's calculations on Istat; 2016

Share of downstream chemicals on total production value (%)



Notes: downstream chemicals include fine chemicals and specialties, as well as consumer chemicals
Source: Istat, Eurostat; 2016

The chemical industry is characterized by a multitude of different branches; Italy's chemical companies are active in each of them.

A significant share (42%) of total production value concerns **basic chemicals and fibres**, which are the main constituents of downstream chemical products.

Italy shows a **remarkable and increasing specialization in the manufacture of downstream chemicals**, namely **fine chemicals and specialties** and **consumer chemicals**: these sectors cover more than 57% of total production value in Italy, far exceeding the corresponding European average (47%).

In downstream chemical sectors, scale economies are not particularly relevant; in fact, the key to their success is the ability to provide customers with diversified and high-performance products which are tailored to specific needs. For these reasons, **downstream chemical sectors are characterized by a significant presence of SMEs**.

Partnerships with Industrial Districts

The main Italian Industrial Districts

Firenze - Arezzo - Marche	leather - shoes
Sassuolo	ceramic tiles
Alto Livenza - Brianza - Pesaro	furniture
Cadore	eyewear frames
Arzignano - S. Croce	tanning
Vicenza - Arezzo - Valenza	jewellery
Varese - Torino - Napoli	aeronautics
Fermo - Brenta	shoes
Prato - Vicenza - Biella - Napoli	textiles - cloth
Vicenza	women‘s hosiery
Treviso - Vicenza - Padova	plastic products
Pordenone - Treviso - Fabriano	domestic appliances
Como	silk products
Montebelluna	sport shoes
Varese - Bergamo	rubber and plastics
Alpi Apuane - Verona	marble
Bologna	motorbikes
Castel Goffredo	women hosiery
Manzano	chairs and tables
Capannori	paper
Murge - Forlì	sofas
Lodi - Cremona	cosmetics
Lazio - Milano - Napoli	pharmaceuticals
Padova - Mirandola	biomedicals

Source: Intesa Sanpaolo

One of the most peculiar features of the Italian economic system is the presence of **Industrial Districts (or Clusters)**: they consist in **concentrated networks of SMEs, each located in well-defined geographical areas and specialized in the manufacturing of few, specific items**. Italian Industrial Districts are acknowledged all over the world for their high-quality, cutting-edge products.

In order to guarantee first-rate and innovative manufactures, Clusters have often built partnerships with Italian chemical companies, which are able to develop sophisticated intermediates responding to any specific requirement.

In light of these considerations, **investing in Italy’s chemical industry offers a wide range of cooperation opportunities** with a variety of qualified customers: in fact, **Italian Districts are characterized by a strong propensity to innovate and are often in search of competent partners for designing and testing new products**.

Actually, choosing Italian chemical products means having access to the secret upon which the success of local Industrial Districts relies.

The geography of Italian chemical industry

Major chemical industry sites in Italy

Distribution of chemical employment (%)

	% share
Northern Italy	78.2
Central Italy	12.3
Southern Italy	9.5

Source: Federchimica, Istat; 2016

Main European Regions for chemical production

	No. of people employed	% of population	% of EU chemical employment
1. Rhine-Westphalia (D)	108,152	0.61	9.4
2. Bavaria (D)	60,400	0.47	5.2
3. Rhineland-Palatinate (D)	52,779	1.30	4.6
4. Lombardy (I)	**44,618**	**0.45**	**3.9**
5. Hesse (D)	43,062	0.70	3.7
6. Catalonia (E)	35,061	0.47	3.0
7. Baden-Württemberg (D)	34,269	0.31	3.0
8. Flanders (B)	32,173	0.50	2.8
9. Lower Saxony (D)	27,769	0.35	2.4
10. Île de France(*) (F)	25,337	0.21	2.3

(*) Latest data available: 2015
Source: Federchimcia's calculations on Eurostat, Istat; 2016

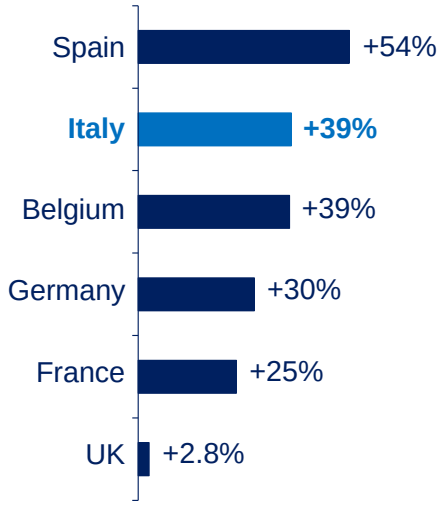
Chemical production in Italy is concentrated in northern Regions, closer to downstream chemicals European markets and local customer companies. Northern Italy accounts for about 78% of chemical employment. In particular, **Lombardy has a true vocation for chemicals**: not only it is the first Italian Region for workers and production, but it is also ranked among the **top-five chemical Regions in Europe** and it is **the first outside Germany**.

There are noteworthy chemical sites all over the country, as well, including southern Regions and islands. They offer interesting foreign investment opportunities thanks to their logistic features, the availability of highly qualified workforce and investment support schemes.

A strong international attitude

Chemical export performance, by European country

(% change in value, 2010-2018)



Source: Federchimica's calculations on Eurostat

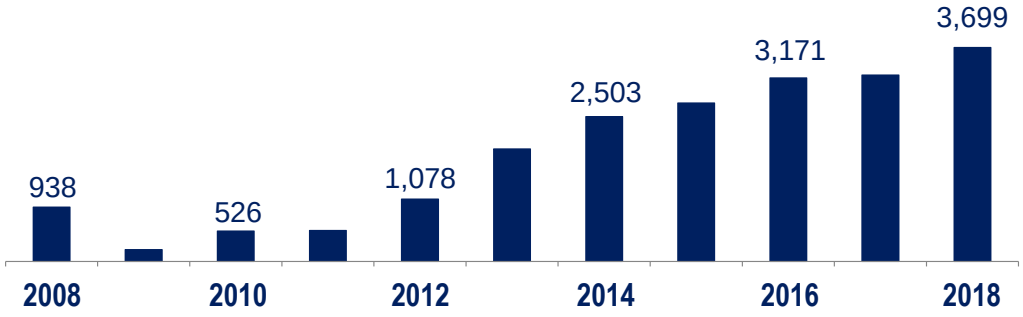
Fine chemicals and specialties: micro-sectors of specialization with trade surpluses

(trade balances, million Euros; 2018)

- Cosmetics = 2,746
- Detergents = 668
- Paints and varnishes = 990
- Glues and adhesives = 238
- Mastics and sealants= 74
- Solvents and thinners = 48
- Glazes and ceramic dyes = 43
- Additives for lubricating oils = 423
- Catalysts = 132
- Plasticizers and stabilizers for rubber and plastics = 165
- Products for the treatment of textile and leather = 108
- Additives for cements = 80
- Descaling and similar preparations = 56

Source: Federchimica's calculations on Istat

Trade balance of fine chemicals and specialties (million Euros)



Source: Federchimica's calculations on Istat

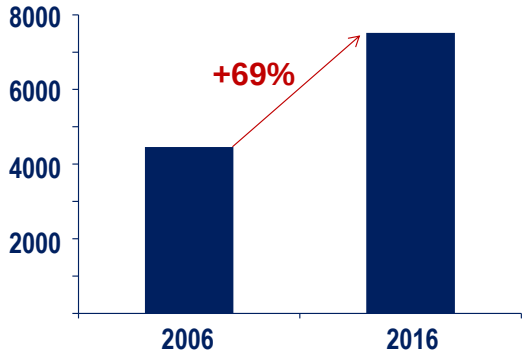
Italy's chemical industry enjoys a strong positioning in international markets, allowing it to benefit from globalization. What Italy's chemical companies can offer to their international customers are those key strengths which foster successful partnerships with domestic clients, too, namely: innovation, customization, flexibility and the ability to fulfill any client's specific requirements.

Their trade performances have been continuously improving. Exports to turnover ratio has reached 56%, with an increase of 23 percentage points in the last 20 years; over this time span, chemical industry has become **the third Italian manufacturing sector in terms of exports** (following machinery and motor vehicles). Moreover, **comparing Italy's chemical exports to other major European countries, only Spain has performed better over the period 2010-2018**.

Italy's specialization in fine chemicals and specialties emerges from export results, as well: those products, originally developed for Made-in-Italy typical sectors (**auxiliaries, additives, varnishes, adhesives**, etc.) or embodying the principle of "beautiful and well made" (**detergents and cosmetics**), recorded a **trade balance record value of about 3.7 billion Euros in 2018**.

Innovation and growing engagement in R&D

Employees devoted to R&D in Italy's chemical industry



Source: Istat

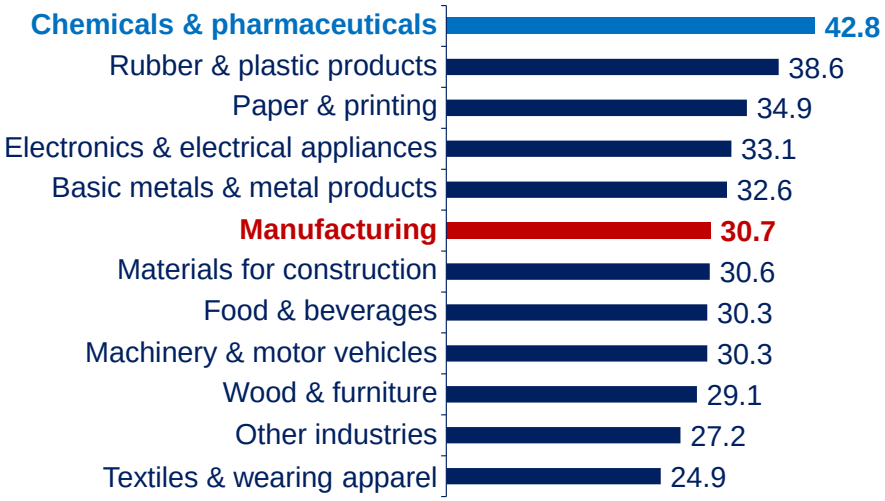
Number of chemical companies with in-house R&D, by European country

Germany	1,106
Italy	**817**
France	693
Spain	548
Netherlands	244

Notes: the companies considered are those with 10 or more people employed; data on UK not available
Source: Eurostat - Community Innovation Survey; 2016

Manufacturing companies investing in eco-friendly products and technologies in Italy

(% share of total manufacturing companies)



Source: Symbola Foundation – Greenitaly Report

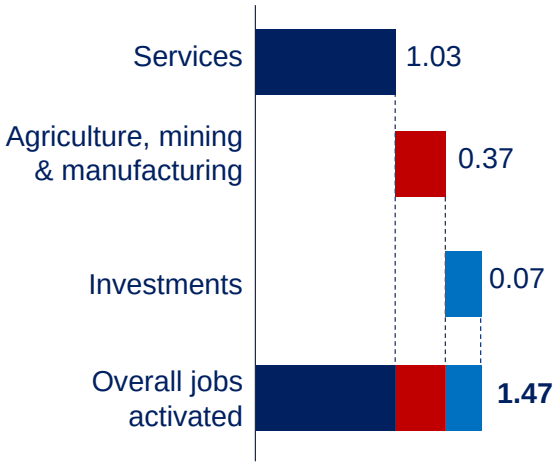
The evolution of globalization has made incremental innovation insufficient to cope with growing international competition. Highly innovative and cutting-edge solutions are required to be considered strategic partners by international customers. This is why **R&D activity has become so crucial to Italian chemical enterprises**, **which increased the work force devoted to R&D by 69% in the last decade**.

In chemical industry, innovation is based on research. Not only large-sized companies are involved in R&D in Italy, but SMEs too. **In fact, there are more than 800 chemical companies performing in-house R&D: among European countries, only Germany accounts for more**.

Both product and process innovation are in place in chemical industry. They allow its intermediate products to work as technological innovation drivers, transferring chemical R&D outcomes to the whole supply chain. Moreover, innovation is fundamental to pursue environmental sustainability. In that regard, chemical industry is at the forefront: alongside with the pharmaceutical industry, **it is the sector which invested the most in eco-friendly technologies and products over the period 2014-2018.**

Qualified employment and lifelong learning

Employment activated by Italy's chemical industry
(No. of people employed for each chemical worker; 2018)



	People employed (thousands)
Direct employment	109.6
Indirect employment	161.1
Total employment activated by the chemical industry	**270.7**

Notes: indirect employment refers to the chemical industry contribution in other sectors' employment activated through its purchasings and investments
Source: Federchimica's calculations on Istat

Lifelong learning: workers' participation in training courses
(% share of total employees participating in at least one training course yearly)

Chemical industry	42%
Manufacturing	26%

Notes: average values over the period 2014-2016
Source: Federchimica's calculations on Excelsior Unioncamere Information System

The chemical industry in Italy employs more than 109 thousand people. In addition, **thanks to its satellite activities (such as investments and purchases), it also fosters qualified employment in other sectors**: for each person employed in the chemical industry, about 1.5 jobs are activated in the economic system, leading to an overall count of 270 thousand workers.

On the whole, **chemical employees are characterized by high qualifications**: university graduates are 19% of overall chemical employment, compared to an average share of 9% in Italian manufacturing.

Alongside with the pharmaceutical industry, **the chemical sector is the one investing the most for its workers' training: in fact, 42% of employees takes part in at least one training course every year**, far exceeding manufacturing average (26%).

Chemical companies promote human resources qualification and productivity, which result in remuneration premiums, too: **Italy's chemical industry wages are 45% higher than the average national wage**. Furthermore, labour flexibility and quality employment are guaranteed by a responsible use of different contracts; the majority of workers (95%) has a permanent contract 95%.

What foreign companies managers appreciate the most in Italy's chemical industry

The well-developed and relevant presence of foreign-owned companies proves that Italy's chemical industry presents remarkable factors of competitiveness.

According to a survey carried out across foreign-owned chemical companies' top managers, **human resources are undoubtedly considered Italy's main strength**, since they guarantee:

- excellent competencies in chemistry and management;
- good quality to cost ratio, in particular for young and qualified profiles;
- creativity, which translates into problem solving capability;
- high availability in terms of time dedicated to work;
- flexibility of the single employee as well as of the organization as a whole, considered increasingly important in a rapidly evolving environment.

More specifically, the survey pointed out the **positive role of chemical Industrial Relations**: through communication, innovation and Social Responsibility, they prevent and overcome possible tensions deriving from organizational decisions.

Italy's relevance for chemical companies is also due to some features of its industrial system:

- despite a partial de-escalation, the **domestic market** remains the third at European level;
- it presents unique characteristics and ranks among the **most advanced industries worldwide for several value chains**;
- **traditional "Made in Italy" sectors** are trend setters and strongly oriented to export and innovation: as customers, they can offer favourable partnership opportunities to chemical suppliers;
- such features can be widely found also in the so-called **"new Italian specializations"**: i.e. food, cosmetics, packaging, specialty chemicals;
- a key point in value chains lies in the **quality of engineering**; it is a well-known excellence of Italian industry and becoming even more relevant in the development of Industry 4.0.

Strengths of chemical industry in Italy, according to top managers of foreign-owned companies

(% of foreign-owned companies recognizing medium to high importance)

Human resources	
- Problem solving attitude	**91%**
- Flexibility of human resources	**91%**
- Quality to cost ratio of more qualified employees	**80%**
- Flexibility of the organization as a whole	**94%**
Features of Italian market and value chains	
- Size	**77%**
- Quality of demand by trend setter Italian customers	**74%**
- Partnership with Italian customers to develop new products	**60%**
- Quality and reliability of equipment suppliers	**80%**
Italy as a manufacturing platform for export	**89%**

Source: Federchimica

Advanced Industrial Relations and competitiveness

Qualified employees, highly competitive labour costs and a solid system of Industrial Relations with innovative contents and collaborative bargaining attitudes with Trade Unions: these are some of the key strengths of Italy's chemical industry.

Chemical companies aim to pursue labour efficiency, as well as the development of human resources; to those aims, the chemical National Collective Agreement (NCA) offers a wide range of opportunities to chemical companies, such as:

- the possibility to **define daily and weekly working times at company level**, to meet both enterprises and workers' necessities;
- a **flexible job classification system**, taking into account firms' specific organizational needs and providing simplified rules for SMEs;
- the promotion of **wage negotiation at company level through collective performance-related pay**, linked to productivity and economic performances;
- the possibility to temporarily change NCA rules, thanks to company agreements;
- the establishment of **Joint Committees at company level**, aimed at stimulating **participatory consultations among Social Partners**;
- the creation of a **digital version of the NCA**, to encourage and facilitate its consultation, knowledge and implementation;
- the continuous promotion of quality enterprise bargaining, productivity, welfare and expertise.

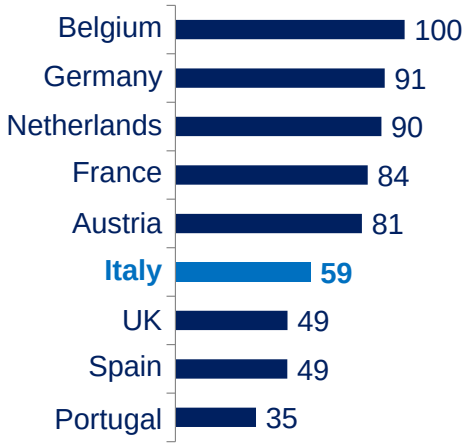
To assure enterprise bargaining is oriented towards fostering firms' competitiveness and high quality negotiations, the NCA advocates **joint training programs for Social Partners, which are developed and managed together with Trade Unions**.

The commitment to Social Responsibility also led to the creation of **Fonchim and FASCHIM, the first sectorial funds for supplementary pensions and health insurance**. The shares of employees enrolled in these funds are among the highest across Italian industrial sectorial funds.

The reliability and consistency of chemical Industrial Relations is confirmed by the almost **null incidence of strikes** on the total count of workable hours.

Average hourly labour cost in chemical industry

(index Belgium = 100; 2017)



Source: BAVC

Chemical sector funds for supplementary pensions and health insurance (2018)

	No. of employees enrolled (thousands)	Share of total employees (%)
Fonchim	160	79%
FASCHIM	214	82%

Note: - Fonchim members include employees referring to the following NCAs: chemical, insulation materials, glass, lamps & displays, mining and metals.
- FASCHIM members include employees referring to the following NCAs: chemical, insulation materials, mining and metals. 88 thousand employees' family members are enrolled, too.

Source: Fonchim, FASCHIM

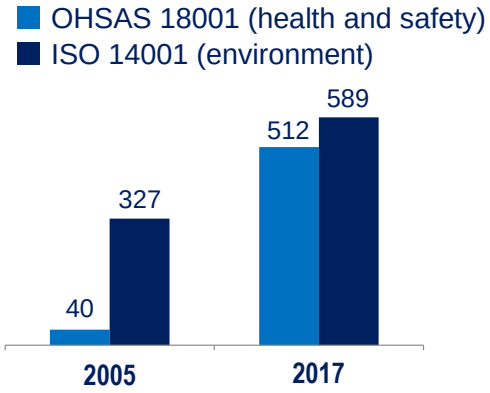
A strong commitment for Health, Safety and Environment

Health, Safety and Environment expenses in Italy's chemical industry
(2017)

Expenses for HSE (milion Euros)	1,217
Incidence on turnover (%)	2.2

Source: Federchimica - Responsible Care

Productive and/or logistic units with HSE standards certifications
(2017)



Source: Accredia, Federchimica - Responsible Care

On-the-job injuries
(No. of injuries per million hours worked)

Basic metals	21.9
Wood	19.4
Metal products	18.6
Non-metallic mineral products	17.7
Rubber and plastics	16.5
Food	16.0
Maintenance	15.5
Paper	15.5
Furniture	14.9
Manufacturing	**13.5**
Other means of transport	13.5
Machinery	12.5
Electrical appliances	10.9
Printing	10.9
Motor vehicles	10.7
Beverages	10.5
Textiles	9.7
Chemicals	**8.9**
Other manufaturing industries	8.3
Leather	8.2
Tobacco	8.2
Pharmaceuticals	5.8
Electronics	5.4
Wearing apparel	5.2
Coke	3.9

Notes: average values over the period 2015-2017
Source: INAIL, Federchimica – Responsible Care

Italian chemical companies are strongly engaged in sustainable development. Such a commitment requires **significant investments**: in 2017, more than 1.2 billion Euros were spent on Health, Safety and Environment (HSE).

From the very beginning, these investments have resulted in actual beneficial outcomes. **Safety measurements indicate chemical industry as one of the most virtuous sectors in Italy**: in particular, on-the-job injuries are far below the manufacturing average. Furthermore, chemical enterprises' commitment is also proved by the **growing adoption of HSE standards through the obtainment of certifications** (such as ISO 14001 and OHSAS 18001).

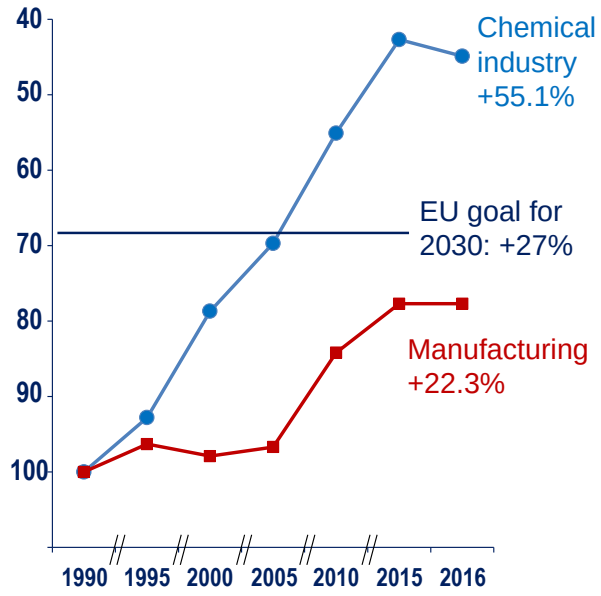
Together with participant companies, Federchimica has been managing the international **Responsible Care Program** in Italy for more than 20 years. It consists in a **voluntary subscription program, within which member firms commit to pursue HSE objectives following a continuous improvement approach**. In 2006, INAIL (the National Institute for Insurance against Injuries at Work) agreed with Federchimica to charge discounted fees to those firms enrolling in Responsible Care, encouraging their efforts in promoting prevention and safety in the workplace. Such agreement has been renewed in 2013 and 2016.

With reference to logistics issues, chemical industry is constantly looking for safer and more sustainable solutions in terms of transports, packaging and distributive network rationalization. Moreover, Federchimica established the so-called "**Emergency Transport Service**", to help public Authorities preventing and dealing with emergencies all over the national territory.

Environmental responsibility leading to actual results

Improvements in energy efficiency

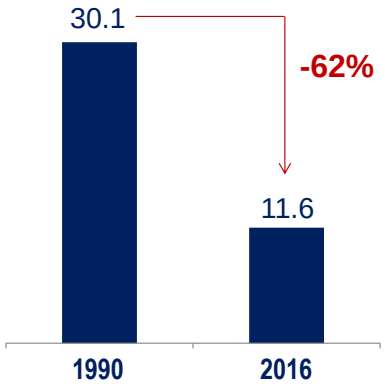
(energy consumption to industrial production ratio; inverse scaling; indexes 1990 = 100)



Source: ENEA, ODYSSEE Project

Greenhouse gases emissions

(CO_2 equivalents, million tonnes)



Europe 2020 climate and energy targets

Goal for 2020: -20% greenhouse gas emissions (compared to 1990) ✓

Goal for 2030: -43% greenhouse gas emissions (compared to 1990) ✓

Source: ISPRA, Istat

All main environmental indicators show impressive improvements over the years. Emissions in water have been reduced by more than 70%, while emissions in the atmosphere were cut down by more than 92%.

Aiming to "do more with less", over the years chemical enterprises have obtained tangible results in terms of resources usage and environmental impacts.

Chemical industry's main input are still **fossil raw materials**; nevertheless, its employment has **decreased by 32%** over the period 1990-2016. **Water consumption has dropped**, too (-39% over the time span 2005-2017) and the share of potable water utilized is 1%, only.

Considering energy consumption, **the chemical industry has lowered its energy needs by 43% between 1990 and 2016,** despite being an energy intensive sector. It never ceased to show improvements including during favourable economic cycles and production increases, proving its constant commitment beyond economic conjuncture: **its energy efficiency** (energy usage to volume production ratio) **has improved by 55%**, far exceeding both manufacturing average and EU efficiency objectives (for 2020 and 2030, as well).

As far as emissions are concerned, **chemical sector greenhouse gases emissions have declined by 62% with respect to 1990**, going beyond European goals for both 2020 and 2030. In addition, chemical products play a decisive role in cutting down other sectors' emissions: **each tonne of CO_2 equivalent emissions by the chemical sector prevents other industries or final consumers from producing 2.6 tonnes of greenhouse gases (through buildings insulation, fertilizers, packaging, …)**. On balance, chemical industry is responsible for averting 35.2 CO_2 equivalent million tonnes of greenhouse gases emissions every year,

Emissions in water and atmosphere have been considerably reduced, too. Moreover, working towards the implementation of circular economy models, **24% of chemical industry waste is recycled and 37% devoted to backfilling.**

REACH regulation implementation

The REACH Regulation entered into force in the European Union on 1st June 2007, representing a great innovation in the assessment and management of risks posed by chemicals to the health and to the environment. Based on the principle “no data, no market”, it shifted the responsibility to provide data and to demonstrate the safety of chemicals to the Industry. In this system manufacturers and importers have to provide information for all substances produced or imported in quantities of 1 ton or more per year, through a registration dossier to be submitted to the European Chemicals Agency (ECHA).

On 31st May 2018, the transitional deadlines for REACH registrations terminated. At that date, 21,300 substances had been registrated. In 2007, together with other associations, Federchimica established the service company Centro Reach Ltd. The mission of Centro Reach is to support chemical companies and users of chemical substances both in Italy and in other countries as well as importers of substances from extra-EU countries. More than 100,000 downstream users in numerous sectors are impacted by Reach Regulation and Centro Reach is prepared to help companies in the application of REACH.

This support is specifically oriented towards SMEs, the most common company size in the Italian industrial system.

Centro Reach provides advisory and consultancy services in several areas, i.e.:

- Company Consultancy:
    - analysis of product portfolio, assistance for decision-making and action plans;
    - preparation of the technical dossier for registration;
    - connection with ECHA and national competent authorities, for the assessment procedures, authorisations or restrictions;
    - updating of classification and labelling procedures.
- SIEF (Substance Information Exchange Forum) and Consortia:
    - support in sharing of information for chemical substances within the SIEF;
    - assistance in preparation and involvement in registration consortia;
    - representation of companies in consortia.
- Assistance in the preparation/revision of Safety Data Sheets;
- Support for Biocides Regulation applications and organization of Biocide Task Forces;
- Training courses (also at company site);
- R&D and Methods (f.i. QSAR, in-silico).

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Quality and certifications

Chemical companies operating in Italy have become increasingly aware of the importance of responsible production (namely, preserving workers and consumers health, as well as the environment). On the whole, commitment to operating in accordance with sustainability principles has been well-imprinted in their culture for many years. Furthermore, chemical companies in Italy are conscious that carrying out their activities responsibly represents a crucial factor of competitiveness.

To that extent, regulations and standards such as the “Certification of Quality, Environment and Safety” have significantly fostered chemical industry’s engagement towards sustainbility and responsible production. Thanks to its proactive approach, Italy’s chemical industry shows the best performances regarding ISO 9001, ISO 14001/EMAS and BS OHSAS 18001/ISO45001 compared other industrial sectors. In addition, environmental sustainability (ISO 50001, carbon and water footprint, end of waste and waste management) shows an improving positive trend, highlighting the fact Italian chemical companies care about the environment.

Such remarkable results have been possible thanks to the contribution of Certiquality: established by Federchimica in 1989, this certification authority has aimed to provide its member companies with high-qualified audit services. Certiquality enjoys a prominent position among audit bodies, with more than twenty-thousand certifications issued in both European and non-European countries. As far as chemical companies in Italy are concerned, Certiquality represents a reliable and specialised partner, supporting and providing solutions compatible with the wide variety of certification standards.

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SC Sviluppo chimica, Federchimica's service company

SC Sviluppo chimica S.p.A., a service company fully owned by Federchimica, supports chemical companies by offering professional services in several areas, such as:

- Safety, Product Management and Industrial Hygiene;
- Transport and Logistics;
- Energy and Sustainable Development;
- R&D and Venture Capital,
- Industrial Relations and National Collective Agreement;
- IT and administrative support.

In order to foster Chemical industry's competitiveness, SC Sviluppo chimica S.p.A.:

- promotes sectoral diffusion of state-of-the-art technology, innovation and best practices information within the above indicated functional areas;
- monitors European Commission's funding opportunities to support Chemical Companies (particularly SMEs) how to design and develop, present, get funded and report jointly-participated R&D projects;
- promotes Venture Capital and Private Equity funding of Chemical Companies operating within the innovative fields of Sustainable & Green Chemistry, Circular Economy and Bioeconomy, in order to support latest market developments and sustain technology exploitation such as Industry4.0 and other promising implementations;
- organizes training courses for managers and public officers on Safety, Security, Logistics and Energy issues.

Sviluppo chimica spa

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FEDERCHIMICA

Governance, Structure and Associations

FEDERCHIMICA

Federchimica is the abbreviated name of the Italian Federation of chemical industry. Founded as the Italian Federation of Chemical Industry Associations in 1920, it became Aschimici in 1945 and it was transformed into Federchimica in 1984.

Associates
At present 1,400 companies, with a total of more than 92,000 employees, are part of Federchimica. They are grouped into 17 Associations, articulated into 38 Product Groups. Federchimica is a member of Confindustria (General Confederation of the Italian Industry) and of Cefic (European Chemical Industry Council).

Targets
Federchimica, whose primary objectives are the coordination and support of the role of chemical industry in Italy as well as the promotion of its development capability, has the following main targets:

- to elaborate guidelines on economic, industrial and trade union policies as well as in the areas of environment, innovation and energy policy;
- to promote these policies to Public Authorities, national economic Organizations, other entrepreneurial Organizations, international Organizations to whom the Federation belongs, Trade Unions, environmental and consumer Organizations;
- to contribute to the establishment of an accurate image of chemical industry in the public opinion;
- to carry out studies and projects inspiring and sustaining entrepreneurial choice;
- to contribute to the constant promotion of member companies' upgrading, with a particular attention to initiatives in the field of innovation.

Management Departments
Federchimica's activity is carried out by the General Management Department and by four Central Departments:

- Industrial Relations,
- Internal Relations,
- Institutional Relations,
- Technical and Scientific Affairs.

Sector Associations
The activities of Sector Associations are coordinated by the General Management Department and implemented in close coordination with Central Departments.

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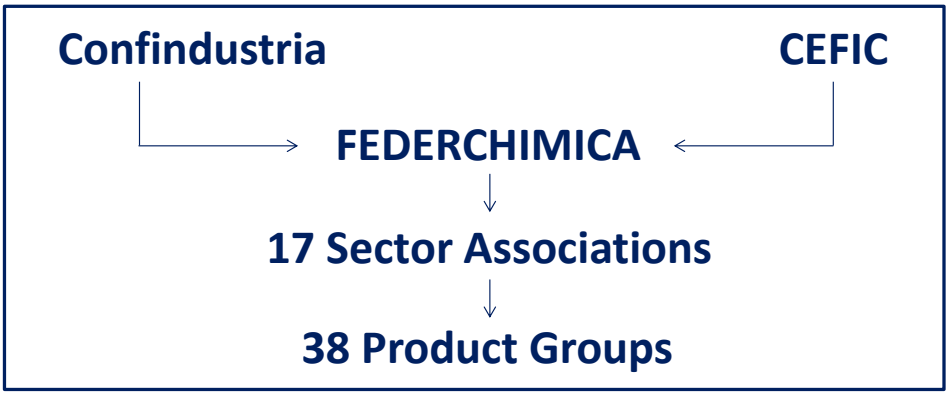

The 17 Sector Associations of Federchimica

AGROFARMA
Plant protection products

AIA
Aerosol products

AISA
Animal health-care products

AISPEC
Abrasives
Auxiliaries for detergents and surfactants
Food additives and processing aids
Starches and starch derivatives
Flavors and fragrances
Biomass derived chemicals
Intermediates and specialty chemicals
Lubricants Manufacturers - Gail
Financial, service, engineering and research for chemical industry - Serchim
Ingredients for food supplements and functional food – Miaf
Raw materials for cosmetics and additives for cosmetics and pharma - Mapic
Photosensitive products
Bitumen waterproofing membranes - MBP

ASCHIMFARMA
Pharmaceutical raw materials and Intermediates

ASSOBASE
Inorganic & organic chemicals
Surfactants and raw materials for detergents

ASSOBIOTEC
Products and processes of biotechnological origin

ASSOCASA
Cleaning and maintenance products

ASSOFERTILIZZANTI
Mineral fertilizers
Organic and organo-mineral fertilizers and soil conditioners
Specialty fertilizers

ASSOFIBRE CIRFS ITALIA
Cellulosic & synthetic fibres, continuous filament, staple, tow, top

ASSOGASLIQUIDI
LPG for Combustion
LPG for Traction
LNG

ASSOGASTECNICI
Technical and Special gases
Medical gases

ASSOSALUTE
O.T.C. medicines (self-medication medicines)

AVISA
Adhesives and sealants
Paints and varnishes
Printing inks

CERAMICOLOR
Ceramic glaze, inorganic pigments and metal oxides

COSMETICA ITALIA
Cosmetics in Pharmacies
Cosmetics in Perfume shops
Herbalist's Cosmetics Trade
Cosmetics for Beauty Salons
Professional Products for Hairdressers
Contract Manufacturing

PLASTICS EUROPE ITALIA
Compounds and auxiliaries for plastic, plasticizers and other related products
Advanced materials
Thermosetting resins and system
Thermoplastic resins and system

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Central Departments

Industrial Relations
Collective Bargaining, Social and Labour Legislation, Social Partners' Education and Training, Labour Statistics and Analysis

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Internal relations
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Institutional relations
Relations with National Parliament, Central and Regional Public Administrations

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Technical and scientific affairs
Safety, Health and Environment, International Trade, Energy, Climate Change and Responsible Care Program, Logistics, R&D, Innovation Financing and Partnership

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Sector Associations

AGROFARMA
National Crop Protection Association

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AIA
Italian Aerosol Association

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AISA
National Association
of Animal Health-care Products

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AISPEC
National Association
of Fine Chemicals and Specialized Sectors

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ASCHIMFARMA
National Association of Active Ingredients
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for the Pharmaceuticals Industry

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ASSOBASE
National Association of Organic
and Inorganic Basic Chemistry Producers

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ASSOBIOTEC
National Association
for the development of Biotechnologies

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ASSOCASA
National Association of Detergents and
Specialties for Industry and Home Care

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ASSOFERTILIZZANTI
National Association
of Fertilizer Producers

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ASSOFIBRE CIRFS ITALIA
National Association
Man-Made Fibers Producers

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ASSOGASLIQUIDI
National Association
of Liquefied Gases Distributors

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ASSOSALUTE
National Association
of the Self Medication Industry

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AVISA
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Sealants and Adhesives Producers

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CERAMICOLOR
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and Metal Oxides Producers

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