

Welcome to  
Europe's strongest  
chemical region

**CHEMCOLOGNE: INVESTMENT,  
INNOVATION, INFORMATION**

The background of the entire page is a photograph of an industrial facility, likely a chemical plant, with complex piping and structures. In the foreground, two men wearing hard hats and high-visibility vests are looking at a tablet. The man on the left wears a yellow hard hat and safety glasses, while the man on the right wears a blue hard hat. A large, semi-transparent white diagonal shape cuts across the image from the top right to the bottom left, serving as a backdrop for the text. A red curved graphic element is visible in the bottom left corner.

# Excellent: the investment climate

ChemCologne is your competent partner for everything related to investment projects in the Rhineland chemical region. We provide you with relevant information and introduce you to the right contacts from the fields of economics, politics and research.



## The Rhineland's chemical industry network

ChemCologne is an initiative with the goal of continually improving the Rhineland chemical region's competitiveness and attractiveness to investors. Our efforts are primarily aimed towards domestic and foreign investors interested in breaking into the region and contributing to its development through their chemical production sites.

ChemCologne members and partners come from the chemical industry, public institutions, and research and higher education establishments. This results in the pooling of diverse competencies to create a multilayered network that stands for information exchange, strong communication and synergy utilisation.

## A strong link for the chemical industry

The ChemCologne region essentially stretches across the three cities of Aachen, Bonn and Düsseldorf with the Greater Cologne area as its largest and most important chemical site. For all our activities, we can count on the support of the chemical enterprises seated within the region and the Rhineland chemistry employers' association. Communal establishments and the business development agency NRW.INVEST also support our projects.

Under the leadership of ChemCologne, economic interests, political goals and regional development projects go hand in hand. Healthy growth and sustainability are at the very top of our agenda. Our motto is: "connecting the chemical industry". We mediate successfully between the economy, science and politics, supporting potential investors searching for a site and helping them gain an economic foothold in the Rhineland.



# Extensive: our involvement

## Actively promoting an effective exchange of information

ChemCologne provides its members and partners with a strong network and valuable platform for exchanging information on diverse themes. Through this, we contribute significantly to the targeted location marketing of the strongest chemical region in Europe. Regular events help promote the network's philosophy and get members and partners around a table together.

An example of this is the ChemCologne chemical forum. Domestic and foreign representatives from the industry, management, economic associations and the media meet every two years to exchange information. Lectures and podium discussions each focus on a specific theme currently relevant to the region.

The sector's younger generation is also taken into consideration, with our annual ChemCologne cooperation day, which takes place at a university of the region. The goal is to not only intensify the exchange of information between science and the economy, but also to connect students with potential employers.

## On the road in the Rhineland and abroad

The "ChemCologne hosted by ..." network meeting takes place several times a year at one of our members' sites, or at another organisation or company. The agenda consists of presentations, site tours and an informal get-together.

Furthermore, ChemCologne introduces potential investors to the Rhineland chemical region through investor seminars. We also take this format abroad, in close cooperation with our member companies and NRW.INVEST. Further events such as experience exchanges, workshops and podium discussions on predetermined topics are also part of our portfolio.



# Exemplary: the chemical region

## From Europe to the Rhineland

The chemical industry is one of the key sectors of the EU. Almost a third of industrial employees work directly or indirectly for the chemical sector. The annual turnover of the EU chemical sector amounts around 550 billion euros. More than a quarter of this turnover is produced in Germany alone.

The Rhineland is one of the hotbeds of the German chemical industry. This is not only thanks to its advantageous location. Almost 160 million people live within a 500 km radius – about a third of all EU citizens. A dense transport network on land, water and in the air guarantees the best connections to all parts of the world. A clear locational advantage is the excellent quality of life in the region.

## Strong development for over a century

The chemical industry in the Rhineland was established in the 19th century, as part of increasing industrialisation and growing demand for sodium carbonate, rubber, fibres and pigments. The strongest growth phase came during the post-war reconstruction era after the Second World War and during the years of the German economic miracle.

Until the mid-1990s, large concerns such as BASF, Bayer, BP and Shell were the driving force behind the Rhineland chemical region. Since then, many different corporate divisions have been disposed of, joint ventures founded or entire production areas outsourced for economic reasons. Independent third parties emerged at chemical sites requiring

infrastructures and services for autonomous production.

Chemical and industrial parks have since characterised the image of the region. Between themselves, they profit from geographical and spill-over effects and numerous synergies. The production palette ranges from fuel for modern motors to highly complex drug molecules for life-science applications. While renowned concerns produce large quantities of raw materials, predominantly smaller and medium-sized plants process these further. These companies are often highly specialised and usually the market leaders in their field.

*The ChemCologne region: Europe's No. 1 chemical location*





# Impressive: the facts and figures

Only a handful of chemical regions across the world are capable of producing statistics as impressive as those of the Rhineland. An outstanding investment climate is substantiated by verifiable facts.





Our roots lie in the Rhineland.

It is here that our employees have developed many of our products and processes.

*Dr Klaus Schäfer,*

*Chief Industrial Operations Officer, Covestro Deutschland AG*

## Chemistry in the Rhineland is difficult to match

The Rhineland is one of Europe's leading chemical regions. Around 250 chemical enterprises of all sizes and sectors have settled here. Together, they employ more than 70,000 workers – from medium-sized companies to multinational corporations, both in petrochemistry and in all other areas relevant to the industry.

As is typical in the chemical industry, only around 20% of manufactured products end up with the end consumer, with the remaining 80% used as raw or auxiliary materials in various fields. Including those working for the processing industries, around 350,000 jobs are linked to the Rhineland chemical site.

In 2015 alone, the region's chemical industry (not including the pharmaceutical sector) generated over 30 billion euros in revenue. This is almost 70% of the chemical revenue in North Rhine-Westphalia and 22% of the chemical revenue in the whole of Germany.

### FIGURES OF THE RHINELAND CHEMICAL REGION





# Advantageous: Verbund production

A competitive advantage through cooperation. In the Rhineland, competitiveness not only stimulates business, but also the collective use of infrastructures, services, raw materials and energy.





 The Verbund, grown for over a century,  
is the great strength for Rhineland's  
chemical industry.

*Dr Ernst Grigat,  
Head of CHEMPARK Krefeld-Uerdingen, Dormagen and Leverkusen*

## Using a basis collectively

The great strength of the German – and the Rhenish – chemical industry is the so-called “Verbund” production (integrated production). This outstanding locational advantage particularly applies to chemical parks, where many companies have come together to form an integrated production network. Each is reliably supplied with the necessary chemical raw materials around the clock. This usually occurs via an extensive pipeline network.

The key: one company's waste product can be used as the foundation for another company's production. The Verbund production satisfies the demands of a modern network as well as those of a sharing economy. Through highly integrated production, resources are saved and energy consumption is reduced.

With this comes the efficient networking of the various Rhineland chemical sites among themselves. The Verbund system is supported by a dense pipeline network. Sufficient reserves are always available, so that production can occur uninterrupted. Bottlenecks due to the availability of raw materials are practically eliminated by Verbund production, while the avoidance of long transport routes contributes significantly to cost reduction.





# Unique: the chemical parks

## CHEMICAL PARKS AND OPEN SPACE

- » BIZZPARK Oberbruch
- » Henkel Site Düsseldorf
- » Chemical park Knapsack
- » Chemical park Cologne-Merkenich
- » CHEMPARK Dormagen
- » CHEMPARK Krefeld-Uerdingen
- » CHEMPARK Leverkusen
- » Evonik Site Lülldorf
- » Pharmaceutical and chemical park Wuppertal

## One for all, all for one

The chemical park landscape in the Rhineland is almost unique. The companies seated here do not see each other as competitors, but rather work together on many levels. The most significant advantage is the aforementioned Verbund production. Simultaneously, the operating companies ensure the proper provision of commercial spaces and real estate, infrastructure and communications networks, and provisions and waste disposal facilities.

Investors can count on a tailor-made, all-round service in each of the region's twelve chemical parks. From the planning stage, to construction, operations, maintenance and the certification of industrial plants, all competencies are on hand and ready for use. Numerous services in the fields of IT, analytics and logistics are also provided.

Chemical parks offer investors a complete infrastructure developed especially for the sector. The companies based here can practically receive precursors and intermediate products at the push of a button or use technical facilities, safety and social establishments collectively. The existing free spaces are generally fully developed and immediately available for use.

Moving to a chemical park offers producers clear advantages:

- Optimal economic framework conditions
- Professional investor accompaniment and shorter approval periods
- The use of existing, optimised infrastructures
- Widespread concentration on the core business
- Time and cost advantages through the use of individual services
- Synergies and competence gaining via efficient network structures

# Outstanding: the infrastructure

## A hub at the heart of Europe

Due to its central location, early foundation, importance as a handling site and industrial development, the infrastructure of the Rhineland has been developed to the very highest standard for centuries. The intersections of many international transport routes lie in the ChemCologne region, making it the leading logistics centre in Europe.

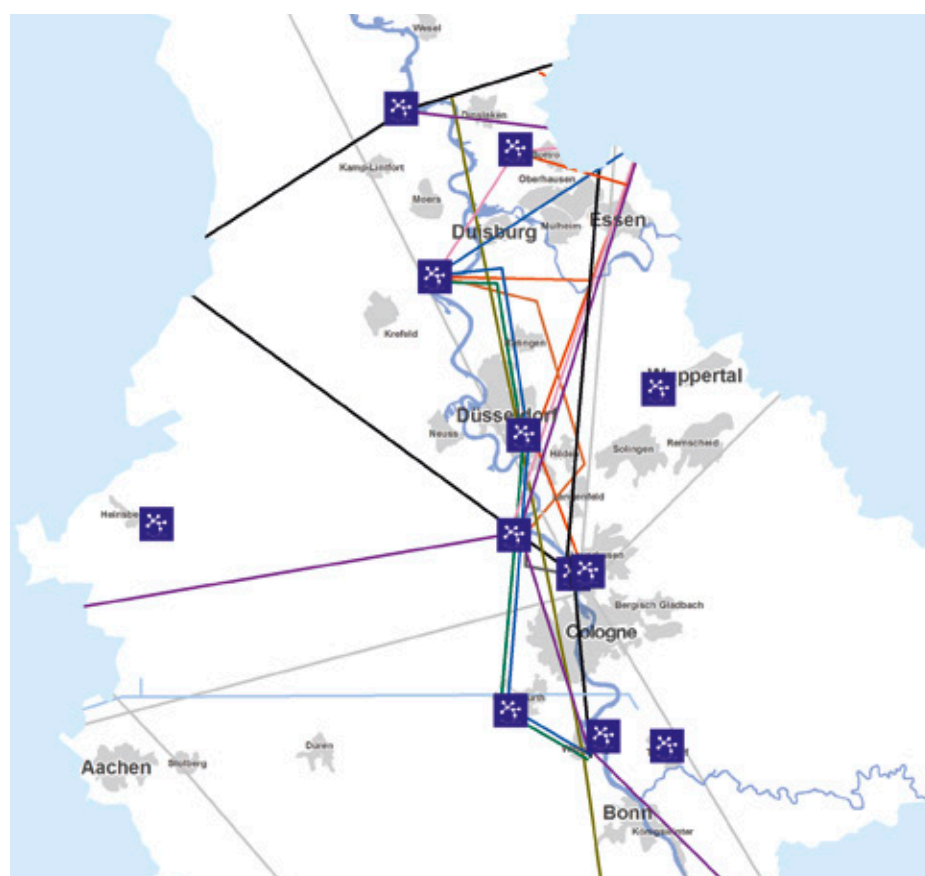
The dense transport network and excellent connections between rail, road, water and air are exemplary. Numerous motorways in all directions make it possible to transport goods quickly via road. Its position on the Rhine also offers outstanding connections to the two most important European ports in Rotterdam and Antwerp, as well as the largest inland port in Duisburg.

## Achieving goals via many different routes

With the Cologne-Bonn and Düsseldorf international airports, the chemical region also has two efficient air traffic hubs at its disposal. Cologne-Bonn airport is the third-largest freight airport in Germany, while the largest German airport in Frankfurt am Main is only around an hour away by train.

The combination of several modes of transport is an important component of modern transport systems due to increased environmental consciousness. Chemical products can be handled quickly and reliably via multimodal systems for combined freight traffic.

*Pipeline connections in the Rhineland: Beside mineral oil pipelines from the seaports a dense network of product pipelines exist.*



A unique pipeline network, via which more than half of the liquid or gaseous products are transported, is especially important for the chemical industry. In contrast to the roads, it is only accessible for companies connected to the network and is maintained by the responsible operating companies. In particular, this provides an environmentally friendly and economical route for transporting ethylene, crude oil and mineral oil products from the North Sea ports to the Rhineland.

# Inevitable: highly qualified staff

Vocational training and further training play a prominent role in the chemical industry. This is recognised in the Rhineland, and skilled employees from all fields are widely available thanks to exemplary training concepts.





The social partnership which has grown over decades in the chemical industry ensures both planning security for companies and reliable working conditions for employees.

*Friedrich Überacker,  
Managing Director employer's association chemical industry Rhineland*

## Training for perfection

The quality of the work in the chemical industry relies upon the qualifications and motivation of its employees. Companies and universities in the Rhineland work together to provide solutions on themes related to vocational training and further training. Thanks to dual degree courses, theoretical training is combined with entrepreneurial practice. Almost 20 of these degree courses in the disciplines of economics, technology, natural science and computer science are on offer.

Nearly 50 recognised apprenticeships connected either directly or indirectly to the chemical industry can be learned in the ChemCologne region. The spectrum ranges from the natural sciences, technical and sales occupations to training places in the field of gastronomy, IT and media.

## Training with good judgement

The chemical firms in the Rhineland help their staff adapt to the sector's continually changing demands, thereby ensuring a high qualification level. Additionally, regional further education establishments provide companies with tailor-made training.

## Strong social partnership

Next to the high quality of the staff, investors appreciate the continuously fair balance of interest between employers and employees in Germany's chemical industry. The risk of a strike is virtually zero, meaning that production losses due to industrial action are highly unlikely. In fact, the last labour strike in the German chemical industry dates back to 1971.





# Pioneering: research and development

## Thinking of tomorrow today

There can be no progress without research. The Rhineland is not only about production. Here, progressive process technologies are developed, driving

forwarding innovation. In Germany, more than ten billion euros are invested into research and development for the chemical industry every year – more than anywhere else in the world. ChemCologne is also the European leader for the amount

of patents issued in the fields of chemistry and metallurgy.

This is notable, if not astonishing. An outstanding academic network is available for the chemical enterprises in the Rhineland. In a dense network of universities of applied science, universities and further research institutes, almost every theme along the chemical value-creation chains is dealt with. Technology centres also promote a philosophy of innovation and design scenarios for the future.

Many institutes and work groups at the universities in Aachen, Bonn, Düsseldorf and Cologne and the region's universities of applied science are devoted to pure research and chemical engineering. The interlinking of chemistry with life and material sciences and engineering thereby manifests itself in various cooperations within special research areas and joint projects.

*The following selection of universities and institutes highlights the significance of R&D in the ChemCologne region:*

### UNIVERSITIES

- » RWTH Aachen University
- » University of Bonn
- » Heinrich Heine University Düsseldorf
- » University of Cologne
- » University of Wuppertal

### UNIVERSITIES OF APPLIED SCIENCES

- » FH Aachen
- » Hochschule Bonn-Rhein-Sieg
- » TH Cologne
- » Hochschule Niederrhein

### FURTHER INSTITUTES

- » DLR, Cologne
- » Forschungszentrum Jülich
- » Fraunhofer Institute of Molecular Biology and Applied Ecology



*Images:*

*Currenta GmbH & Co. OHG, Lanxess Deutschland GmbH*

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