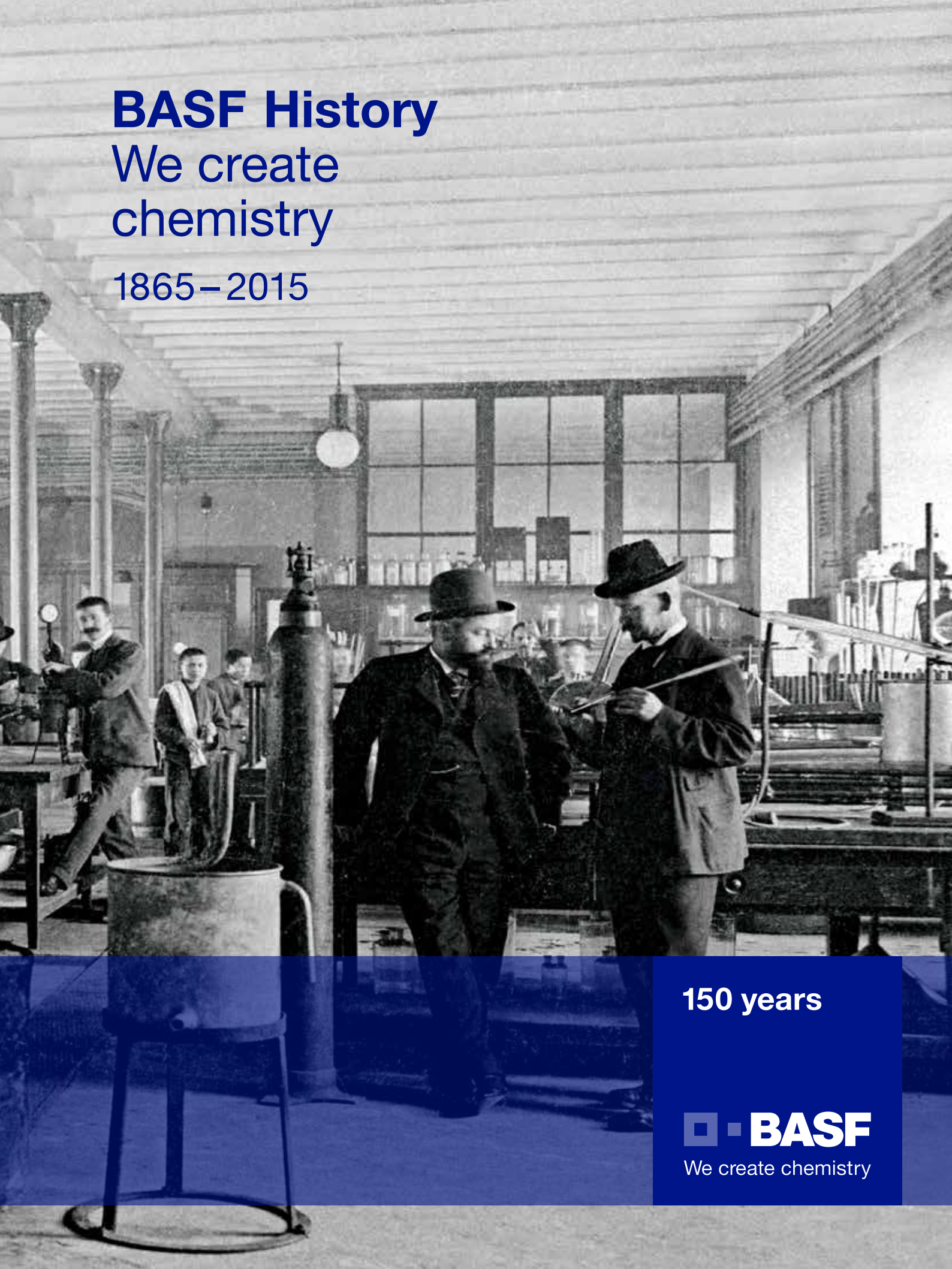
BASF History
We create chemistry
1865–2015



150 years

BASF
We create chemistry

BASF History
We create chemistry

1865–2015

BASF celebrates its 150th anniversary in 2015.
Discover a company history which shows
how chemistry enables new ideas and solutions.

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Workers operate filter presses by hand to get indigo as dry as possible at the end of the production process in 1921.

1865 – 1901

The Age of Dyes

Female workers take care of plants at the Agricultural Research Station Limburgerhof, today Agricultural Center Limburgerhof, around the year 1925. Pot experiments yield information about the influence of fertilizers on plant growth.

1902–1924

The Haber-Bosch Process and the Age of Fertilizers

1925 – 1944

New High-Pressure Syntheses

A high-pressure reactor with vast dimensions is fitted at the Ludwigshafen site in 1935. BASF pioneers high-pressure technology and introduces it to the chemical industry. High-pressure technology becomes increasingly characteristic of industrial chemistry.

1945 – 1964

From New Beginnings to the Plastic Age

Since the 1960s, plastics have opened up many new areas of application. In this case, plastic tubs are injection molded at the Application Technology Department in 1960.

BASF becomes progressively international. This is especially true for production which is increasingly expanded overseas in order to get closer to important customer markets. An example of this is shown here with BASF's production of dyes in Brazil in 1970.

1965–1989

The Road to Becoming a Transnational Company

BASF employees work in research and development at about 70 sites worldwide, including this United States site in 2014.

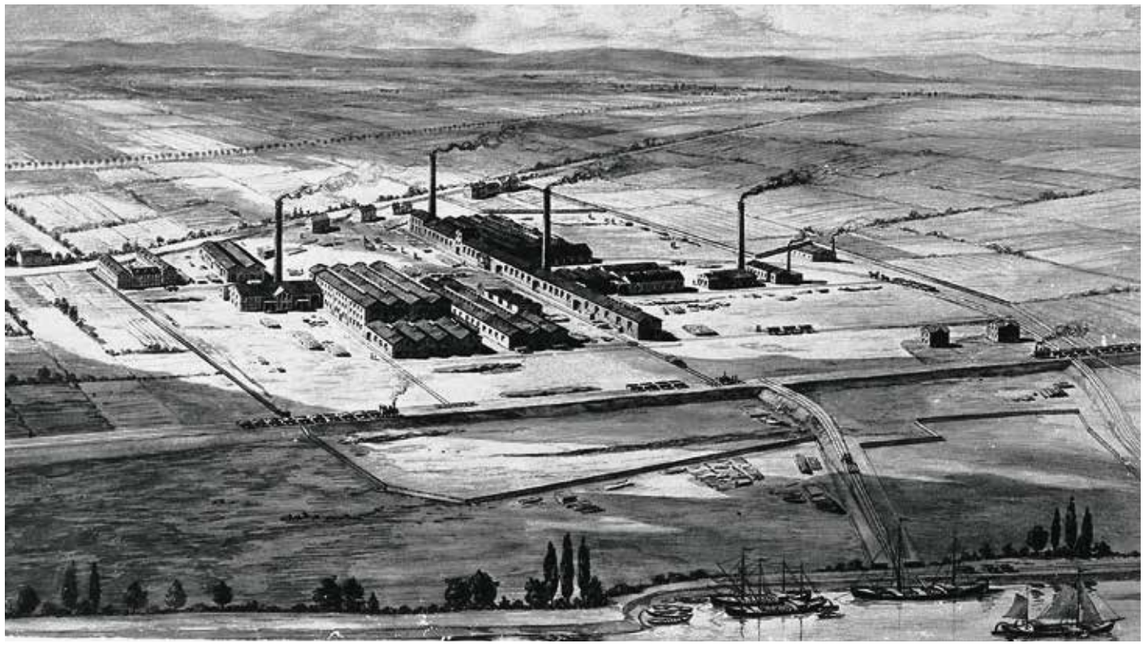
1990–2015

Sustainable Start to the New Millennium

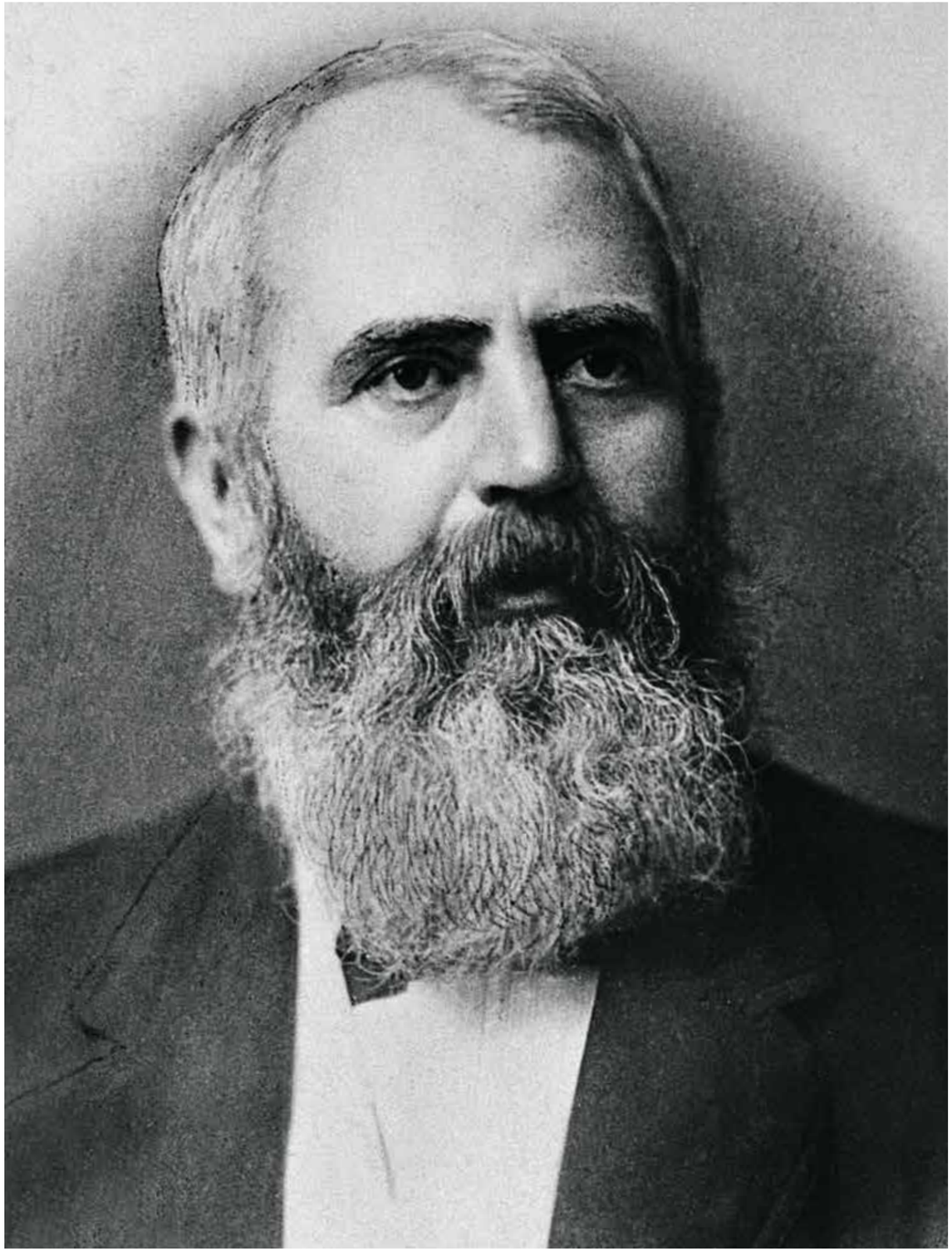
1865–1901

On April 6, 1865, the Badische Anilin- & Sodafabrik is founded in Mannheim, Germany. The emerging company is intended to produce dyes, as well as the necessary inorganic chemicals. When attempts to purchase a site in Mannheim on the Baden side of the Rhine fail, the facilities are built on the opposite river bank in Ludwigshafen, a city of the Palatinate region.

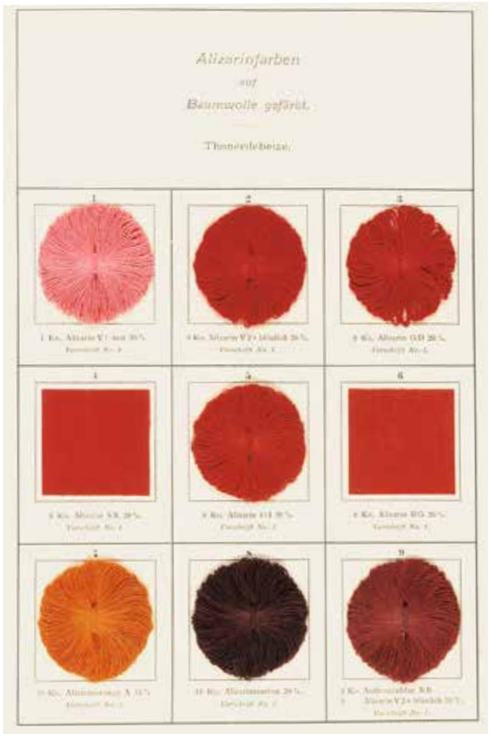
1865
The Englishman, Henry William Perkin, coincidentally discovers the first Mauveine coal tar dye and thus the possibility to use coal tar as a raw material for synthetic dyes in 1856. Friedrich Engelhorn (1821-1902), owner of a coal gas company in Mannheim, Germany, very quickly recognizes the opportunities for the coal tar his company produces. In 1861, he starts producing the red dyestuff fuchsine and aniline, the basic substance gained from coal tar. But he has a groundbreaking idea: a single company for the entire manufacturing process from raw and auxiliary materials, to the precursors and intermediate products, right through to the dyes themselves. On April 6, 1865, he founds a stock corporation in Mannheim known as the “Badische Anilin- & Sodafabrik.” It is headquartered on the opposite side of the Rhine in Ludwigshafen.
Below: Modest beginnings. BASF in 1866
Right: Friedrich Engelhorn, founder and first chairman of the BASF Board of Executive Directors from 1865 to 1883



1866
BASF employs its first company physician. Around 1900, the Medical Department moves into the new outpatient clinic.

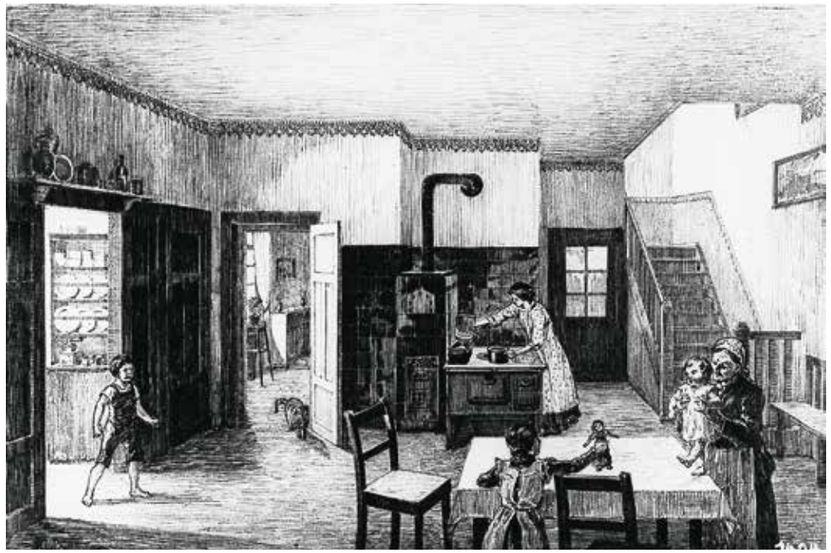


1868
As the first tar dyes for textiles are disappointing because they lack colorfastness and lightfastness, chemical research becomes essential. Therefore, BASF hires chemist Heinrich Caro (1834–1910) as the first head of research.
Right: Heinrich Caro directs BASF research from 1868, providing significant impulses.

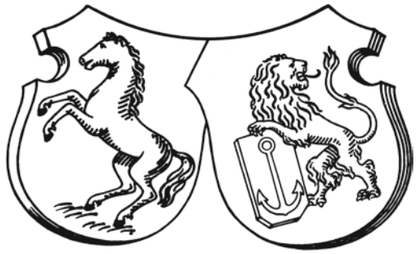


1869
Together with Berlin-based professors Carl Graebe and Carl Liebermann, Heinrich Caro succeeds in synthesizing the first natural dye in 1869: red alizarin becomes BASF's first worldwide sales success.
Top: From a book of samples from around 1900. "Alizarin dyes on cotton"

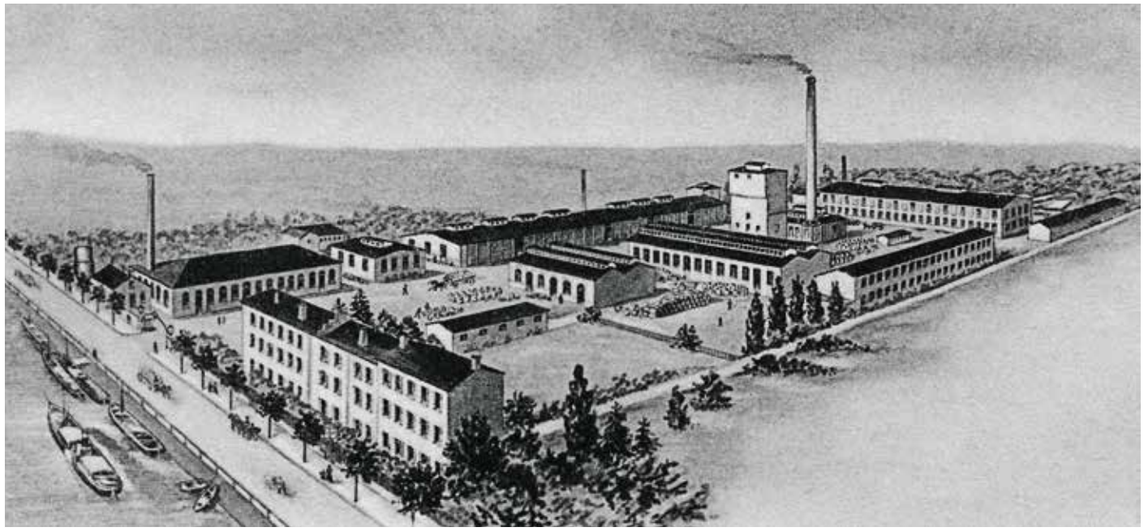
1872
The construction of the large "Hemshof colony" with more than 400 apartments commences in Ludwigshafen. BASF employees can live here under favorable living conditions.
Right: Workers' kitchen in the "Hemshof" colony in 1914
Bottom: The "Hemshof" colony, first employee housing, circa 1880

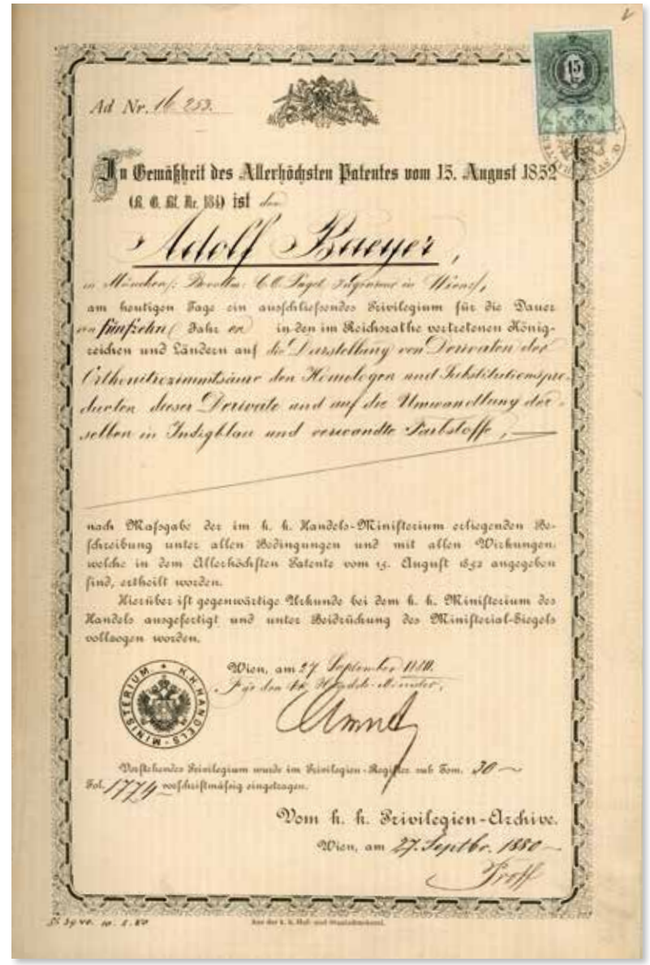


1873
Since the merger with the Stuttgart-based companies Knosp and Siegle, BASF has its own sales organization in Germany and abroad.
Top: Card with dye samples
Right: Following the merger with Knosp and Siegle, the Bavarian lion and the Stuttgart horse form BASF's first Logo.



1875
BASF is affected by the public discussion on health and welfare benefits for workers in modern industry.
To protect its workers, it establishes a health insurance plan in 1875 that pays sickness benefits solely from company funds.





1876
In 1876, Heinrich Caro succeeds in synthesizing a pure blue dye for cotton: methylene blue. When BASF is awarded a patent for methylene blue one year later, it marks the first time a coal tar dye is patented in Germany. Robert Koch can use the dye to make the tubercle bacillus visible in his research on tuberculosis in 1882.
Top: Methylene blue dye sample

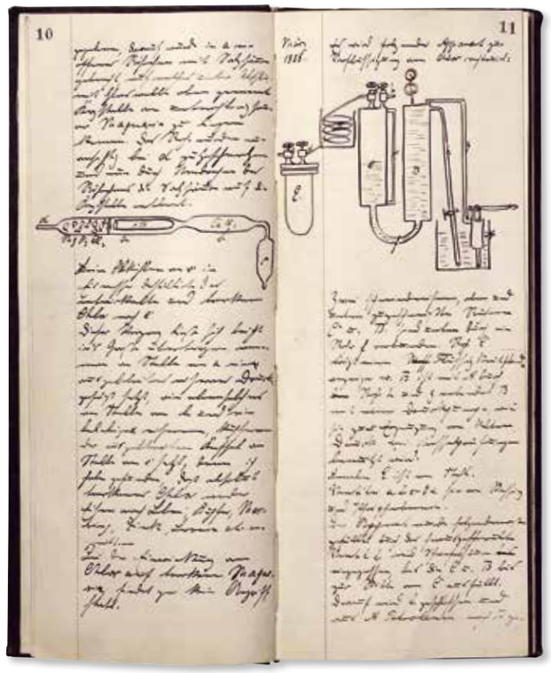
1877
BASF establishes its first production facility abroad – in Butirki, now a suburb of Moscow, Russia.
Left: BASF acquires a dye factory in Neuville-sur-Saône, France, in 1878.

1880
In 1880, Adolf von Baeyer, a chemist at the University of Munich, Germany, succeeds in synthesizing indigo, the most important natural dye at the time. BASF acquires the rights to exploit the indigo patent, joining the race for the industrial synthesis of the natural dye. For many years, the venture remains unsuccessful because it is not possible to produce large volumes of the necessary raw materials in a cost-effective manner. Only a new method proposed in 1890 by Karl Heumann, a professor in Zurich, Switzerland, seems to be more promising. This allows BASF to pave the way for the industrial production of indigo.
Top and left: BASF acquires the patents with which Adolf von Baeyer protects his great invention, here in Austria-Hungary.

1882
A local telephone network is set up in Ludwigshafen in 1882. BASF becomes the first subscriber to join the network. At the time, this is the first telephone connection in the Kingdom of Bavaria, to which the Palatine Ludwigshafen belongs. By 1903, BASF's internal network grows to 300 participants.
In 1921, telephone calls are still switched manually.

1884
In connection with Bismarck's social welfare legislation, BASF introduces the first company health insurance plan in 1884. Its benefits far exceed what the law requires. The new plan represents a major step in social progress, for at that time a breadwinner's prolonged illness could threaten an entire family's livelihood.
Top: View of the counter area of the company health insurance fund in 1959
Right: Price list cover page from 1885

1887
By now there are already 18 small laboratories at the Ludwigshafen site. Most, however, are ancillary operations conducting trials and experiments, and some are even housed in sheds – not a good foundation for efficient research, which is necessary even at this time to keep up with the fierce competition for national and international trademarks, patents, and process expertise. The research must be more tightly organized and equipped with more staff. Because a central building for research is urgently needed, the construction of the main laboratory begins in 1887.
Right: Chemists in the main laboratory in 1922



1888
To manufacture anthraquinonesulfonic acid, the basic substance for alizarin dyes, BASF needs ever greater volumes of fuming sulfuric acid (oleum). Rudolf Knietsch (1854–1906) develops an alternative and economical process in 1888. His sulfuric acid contact process makes BASF the largest producer of the substance in the world at this time. This also paves the way for the new field of catalytic processing. In the same year, Knietsch makes another groundbreaking invention, namely the liquefaction of chlorine, which is gaseous under normal conditions. But now it is possible to store, transport, and process chlorine, a major raw material for the chemical industry, in liquid form.
Left: Chlorine liquefaction. Sketch of a major discovery in Rudolf Knietsch's lab journal

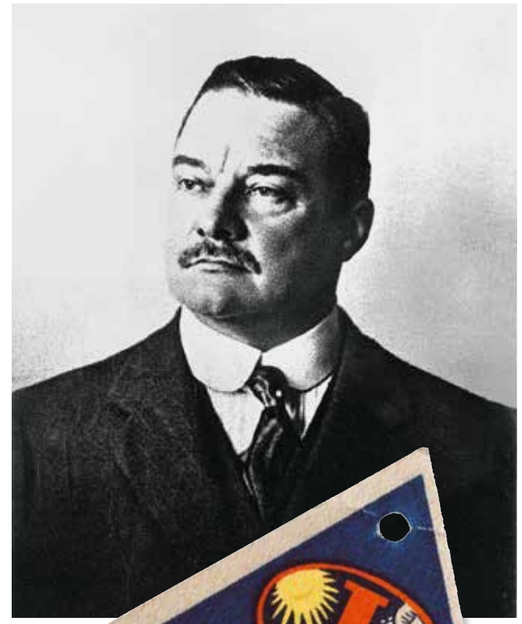
1890
A "patent office," the future patent department, is established. The patent department's responsibilities are to formulate, submit, and defend patent applications, to take care of trademarks, and to handle patent disputes with competitors. From 1877 to 1888, 60 patents resulting from the company's research activities are registered in Germany. From 1889 to 1900, the number of patent applications submitted in Germany rises to 468.

1891
Eugen Sapper (1858–1912) discovers the catalytic phthalic acid process. This process enables phthalic acid, which is used in the production of numerous dyes, to be made more easily and economically.
A central technical dyeworks facility is established, the forerunner of BASF's Application Technology Department.

1892
BASF starts with the construction of a sanatorium for lung disease in the Palatine region of Dannenfels.
It is the first public sanatorium for employees with lung disease in Europe.
Bottom: A veranda in Dannenfels, the oldest corporate sanatorium for lung disease in Europe in 1916

1897
BASF launches its "Indigo Pure BASF", winning the race to produce the "king" of natural dyes synthetically. Signs point to a profitable market.
Left: Brochure textile cover dyed with indigo informs readers about the merits of the blue dye around 1900.

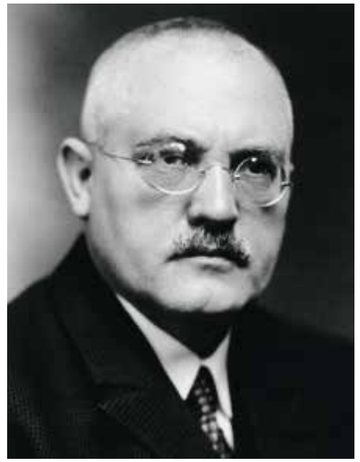
1900
The BASF Gesellschaftshaus is established. It offers dining and social rooms for senior management, a library with a reading hall for workers and a ballroom. The company's social policy, which the Gesellschaftshaus reflects, reads as follows: *"The management of BASF has already demonstrated in the early years of the company that solely paying wages and benefits in an amount based on general economic conditions does not fulfill its responsibilities toward workers and salaried staff [...]."*



1901
René Bohn (1862–1922) discovers a new blue dye in 1901. Indanthrene Blue RS surpasses indigo in colorfastness and lightfastness. The resulting high-quality indanthrene vat dyes (water-insoluble textile dyes) lead to new application opportunities in textile dyeing and printing.
From top to bottom: René Bohn, whose invention creates competition for indigo within BASF. Indanthrene labels in the 1920s

1902–1924

BASF begins its first research projects on nitrogen around the turn of the century. After work by Fritz Haber at Karlsruhe Technical University makes it possible to synthesize ammonia, a compound of nitrogen and hydrogen, there is a feasible way forward. At BASF, Carl Bosch takes on the job of developing the process on an industrial scale.



Picture: Ullstein Bild

1908
BASF takes up research on ammonia synthesis from nitrogen and hydrogen.
Left: The process for ammonia synthesis is named after these men.
Fritz Haber (1868–1934, left) provides the process on a laboratory scale, Carl Bosch (1874–1940, right) undertakes the industrial scale-up.
Bottom: BASF at the turn of the century

1907
Coal is not merely a source of energy at the time, but also the chemical industry's most important raw material. To secure its baseline supply of raw materials, BASF, together with Bayer and AGFA, acquires the Auguste Victoria mine in Marl, Germany, in 1907.
From the Annual Report of 1907: *"Always mindful of improving the welfare of our staff, we launched a non-contributory workers' pension plan at the beginning of this year which will pay invalidity pensions in accordance with specific guidelines."*
Bottom: A poster explains the new policy of paid leave.

An unsere Arbeiter.

Wir bringen hiemit zur Kenntnis, daß wir uns entschlossen haben, unseren Arbeitern alljährlich einen Urlaub zu gewähren.

Für die Bewilligung desselben gelten folgende Bestimmungen:

Jeder Arbeiter erhält nach Ablauf von 10 ohne Unterbrechung geleisteten Dienstjahren, vom Tage der Volljährigkeit an gerechnet, einen Urlaub von 1 Woche unter Bezahlung seines durchschnittlichen wöchentlichen Arbeitsverdienstes für die Dauer des Urlaubes. Außerdem gewähren wir für die Urlaubswoche eine Zulage von Mk. 7.—. (Krankheit, Militärdienst und militärische Übungen gelten nicht als Unterbrechung der Dienstzeit).

Der Zeitpunkt des Urlaubes für jeden einzelnen Arbeiter wird durch dessen Betriebsführer unter möglichster Berücksichtigung der Wünsche des Urlaubsberechtigten, jedoch unter Wahrung der Sicherheit und der geregelten Fortführung des Betriebes bestimmt.

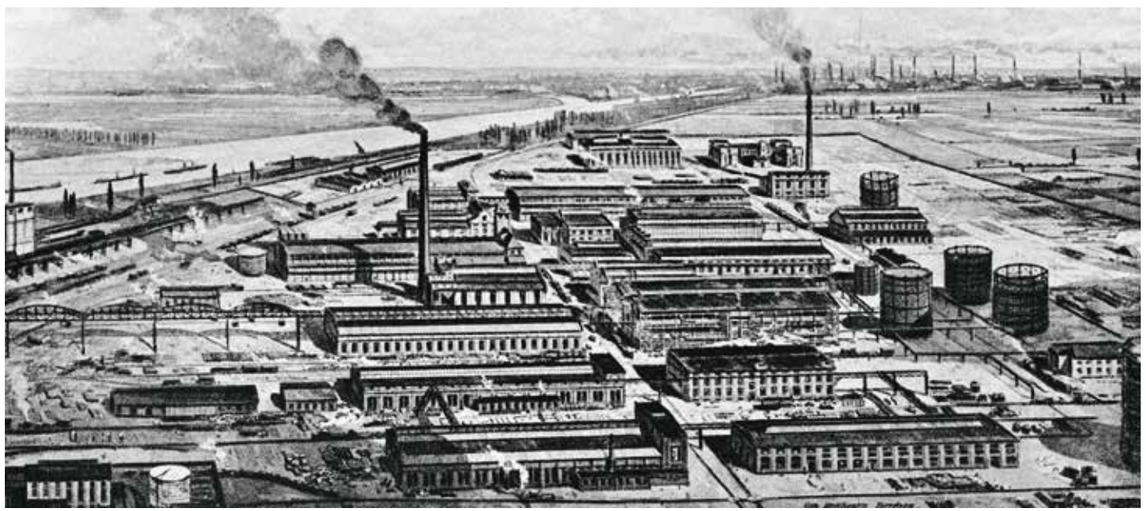
Vorstehende Bestimmungen treten mit dem Jahre 1908 in Kraft.

Ludwigshafen a. Rh., den 31. Dezember 1907.

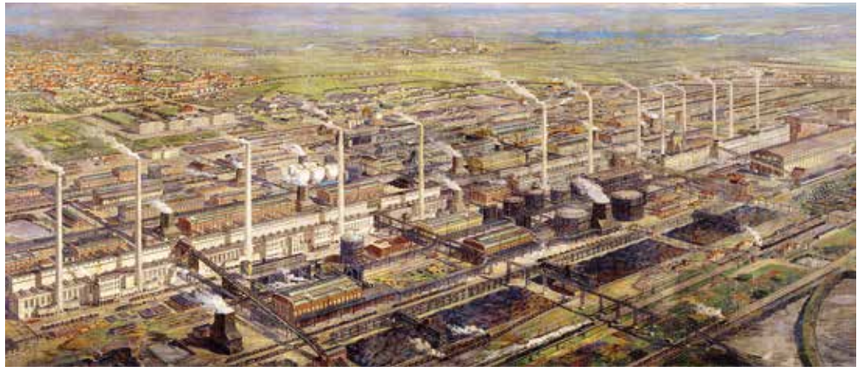
Die Direktion
der Badischen Anilin- & Soda-Fabrik.

1912
The technical implementation of the Haber-Bosch process is doomed for failure as new pressure vessels and pipes housed in reinforced concrete continue to burst. Carl Bosch himself is the one who comes up with the solution – a "double pipe" with an inner mantle of soft iron and an external pressure-bearing but perforated steel casing. To solve the growing material-related problems and the associated safety issues, BASF sets up the chemical industry's first materials testing lab in 1912, the precursor for material engineering today.
Interior of the materials testing lab, 1937

1913
At the newly built Oppau site north of Ludwigshafen, the first plant for ammonia synthesis begins its operation, commencing industrial production of fertilizer at BASF, too.
An opening ceremony is held for BASF's clubhouse, known then as the "Vereinshaus" and today as the "Feierabendhaus." It houses event rooms, a library, a restaurant, and a bowling alley that workers can use in their leisure time. To coincide with the opening of the building in April 1913, the first issue of the company newspaper is published.
The on-site fire department is founded as a professional fire brigade at the sites in Ludwigshafen and Oppau. In addition to firefighting and providing assistance during breakdowns, their tasks also include driving ambulances and providing first aid.
Top: The "Vereinshaus" in 1913
Bottom: The new factory in Oppau around 1914. The Ludwigshafen plants are visible off in the distance.



1914
The First World War begins in the summer of 1914. Germany pours its resources into the extensive war effort, which is increasingly placing a burden on the economy. The war makes the newly industrialized society aware for the first time of the two-sided nature of many of its products, including those in the chemical sector. Synthetic ammonia was created, for example, to secure food supplies for a growing population. But faced with an impending shortage of ammunition by late 1914, the government makes the production of ammonia its top priority. At the Oppau site, it is converted into nitric acid and then supplied to the explosives industry. Chlorine and phosgene, major intermediates used to make products such as dyes and drugs, for example, are used by armies on both sides as poison gases. BASF is one of the numerous suppliers.



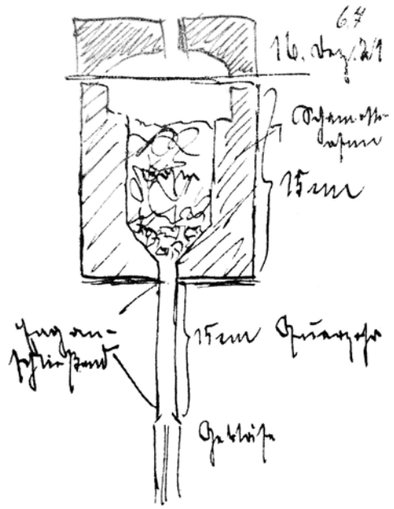
1917
With the Leuna plant in Merseburg, Germany, BASF's second plant for ammonia synthesis goes into operation, the first major BASF factory outside of Ludwigshafen.
Left: The Leuna site near Merseburg, Germany, around 1920

1918
When the First World War ends in 1918, German dye manufacturers lost their leading position on the world's markets. Production facilities, subsidiaries, affiliated and sales companies in other countries are confiscated, as are patents registered abroad. Reparations imposed by the victors hamper economic recovery. French troops occupy BASF for several months, and the company's links to the eastern bank of the Rhine are severed.
Top: War shortages. BASF distributes food to its employees in 1917.

1919
The creation of the first German Republic in November 1918 also leads to changes in the company's charter. What used to be a paternalistic approach to relations between the company and its employees is now replaced by legally mandated co-determination rights for workers. The first collective wage agreement in the chemical industry is signed in July 1919, stipulating the eight-hour working day long demanded by labor unions. BASF's first works council is elected in 1920, and its representatives are admitted to the company's Supervisory Board in 1922.

1921
A symphony concert for factory employees marks the beginning of the BASF cultural program.
On September 21, 1921, the young Oppau plant is hit by a massive explosion. Over 500 lives are claimed; the plant and community suffer major destruction.
Top: The Oppau plant after the explosion, 1921

1923
Rising inflation is the legacy of Germany's defeat in the First World War. One US dollar is worth 4.2 trillion marks. BASF's assets in this year amount to 65,733,583,748 million marks. BASF tries to protect its workforce from the effects of this extreme devaluation. At the height of the crisis in 1923, the company introduces the "aniline dollar" as a form of currency.
Following ammonia synthesis, a new high-pressure process is introduced, namely the synthesis of methanol developed by Matthias Pier (1882–1965).
Top: The "aniline dollar", for a short time the most sought after banknote in the Palatinate region



1924
During attempts to improve the production of synthesis gas with the production of ammonia, Fritz Winkler (1888–1950) discovers the fluidized bed principle in 1924. This technical feat yields an excellent combustible gas from the process of coking fine-grain lignite. The Winkler principle is also the basis for the process developed by BASF in 1950 whereby pyrite is roasted in fluidized bed furnaces to produce sulfuric acid.
Top: Sketch of the fluidized bed principle in the lab journal of Fritz Winkler

Responsibility

BASF has been committed to the model of sustainability since 1994. Each of the three dimensions of sustainability – economy, environment and society – has enjoyed a much longer tradition on its own at BASF.

1

Sustainability – old concept, new model

The roots of the term date back to the early 18th century. As a political model, sustainability comes to characterize the 21st century. In 1992, the UN sets the course for this, with a worldwide program of action for sustainable development called “Agenda 21.” Since 1994, BASF has been aligned with the principles of sustainable development, too. It drives BASF’s growth and becomes part of its mission statement in 2011: “We create chemistry for a sustainable future.”

For BASF, sustainability means to combine economic success with environmental and social responsibility. This harmonizes three strands of development with traditions of different duration at the company: shortly after its founding in 1865, BASF sets the initial strategic course that is crucial for economic success. It also draws attention to social issues at a particularly early stage as the emergence of industrialized society imposes special requirements. Environmental concerns begin to play an increasingly important role in the 1960s.

Physiotherapy
The Medical Department, founded in 1866 with the first company physician, moves into the new well-equipped outpatient clinic around 1900. It contains a room for physiotherapy, here in 1921.

Social responsibility

Protective clothing for work safety
In 1956, BASF introduces protective helmets. Wearing them is not yet required and employees are slow to accept them. This postcard from the 1960s humorously promotes more safety in the workplace by wearing protective helmets.

Maternity care center
BASF also includes the families of its workers in its health care services. It sets up a maternity ward in 1894 and a maternity care center in 1920. Here's a look inside the waiting room in 1921.

Company benefits

When BASF is founded in 1865, workers' wages are barely enough to survive. Illness becomes a major threat. Public health care is not yet available. Therefore, it becomes particularly important for BASF to voluntarily provide social services. Health care and safe working conditions, as well as providing acceptable living conditions for its workers are initially at the core of its services. Education and culture soon complement BASF's commitment even outside of company grounds. To date, BASF continues to respond to social needs with its services.

Safe working conditions and health care

A year after its founding, BASF hires a company physician – the very first in the German chemical industry. The establishment of workers' baths begins early. Company health insurance provided by BASF follows in 1884, providing far beyond what is now required by law. The first occupational safety measures include safety devices on machines and equipment. When the first safety engineer is employed in 1929, educating employees about accident risks, in addition to technical safety devices, becomes fundamental for the improvement of work safety.

Housing space and more

With the large-scale construction of workers' housing, BASF lays the cornerstone for a further pillar of its early social policy in 1872. It is important due to the housing shortage and deficiencies that characterize the situation for workers even in the 20th century. Their physical well-being is also taken care of, since the first canteen opens its doors in 1884. The needs of employees change as society changes and thus the balance between family and work is important today. In 1986, BASF introduces its first activities for this.

Educational and cultural activities

A wide range of educational opportunities for employees dates back to 1900, when a library is established for workers. When BASF conducts the first summer course for international students in 1949, educational opportunities are no longer restricted to BASF employees. To pique interest in science at an early age, BASF sets up the first school laboratories in 1997.

BASF's cultural commitment starts in 1921 with the first concert for its employees, setting trends in social life beyond the borders of Ludwigshafen.

Emergency medical services
The first special ambulances are purchased in 1935 for transporting the sick and injured. BASF establishes a modern emergency medical service in 1955. This picture shows an injured person in the ambulance in 1921 (top left).

School labs
BASF now promotes science education and the joy of experimenting in 30 countries. With the program "ReAçao," it also offers teachers in Brazil the opportunity to improve their science lessons (top right).

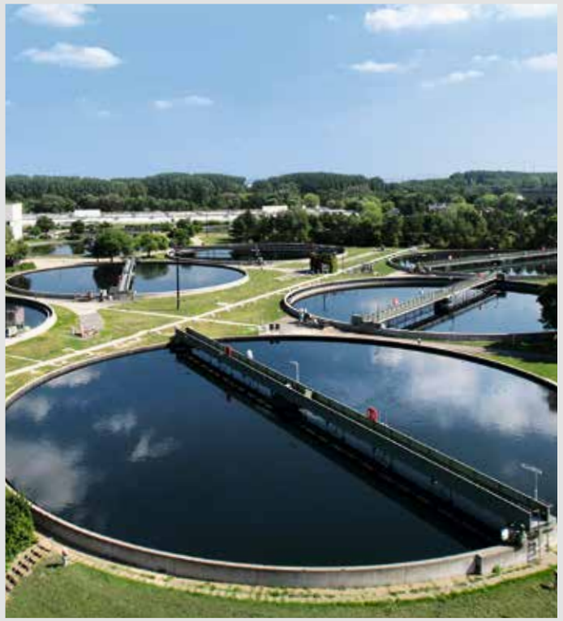
Fire department
To arrive on the scene quickly in case of emergency, BASF establishes a factory fire department in 1913. Rescue and recovery, extinguishing fires and protection have been its mission for more than 100 years. Track-mounted, engine-powered fire pump, here in 1930 (bottom).

Wastewater treatment
The wastewater treatment plant that goes into operation in 1974 is to date the largest of its kind in Europe. It purifies wastewater from BASF and surrounding communities. Its capacity is sufficient to purify the wastewater of a city with six million inhabitants (top left).

Efficient energy production
Since 1997, BASF has been generating steam and electricity in combined heat and power plants in Ludwigshafen. They achieve an efficiency of up to 90 percent. In conventional power plants, it is only half as high (top right).

Ecology laboratory
In Ludwigshafen, a new ecology laboratory goes into operation in 1991. Its responsibilities include biological/ecological and environmental analyses of individual substances, products, and wastewater (bottom left).

Incineration produces energy
Thermal disposal with patented technology: Since 1964, BASF has been burning waste from production in rotary furnaces, generating steam and electricity in the process. Here a picture from 1989 (bottom right)



Ecological dimension

A long way to the finish

Environmental aspects initially play as small a role for BASF as they do in society. Until the 20th century, smoking chimneys symbolize the economic boom instead of pollution. A profound change comes only in the 1960s, elicited by increasing social and political pressure as environmental damage becomes more and more apparent.

BASF reacts with an array of measures. Among others, it introduces rotary furnaces for the incineration of residue in 1964, a wastewater treatment plant in 1974, and a flue gas desulfurization facility for Ludwigshafen's central power plant in 1988. In 1985, BASF establishes an environmental guideline for the first time: economic considerations do not take priority over environmental protection. This applies to BASF sites worldwide.

Environmental protection measures are implemented outside of Ludwigshafen at an even earlier stage. Wastewater treatment is an example. After the first wastewater treatment plant in Guaratinguetá, Brazil, goes into operation in 1976, BASF operates wastewater treatment plants in 55 sites worldwide by 1988. Today there are over 60.

By now it's no longer just about responsive measures. BASF offers its customers solutions that help prevent greenhouse gas emissions and increase energy efficiency, such as insulation materials.

Using and producing energy more efficiently

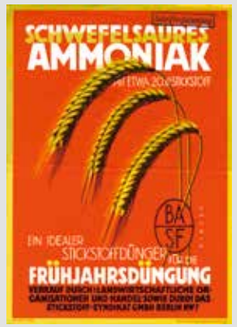
BASF has been using heat recovery since 1910, starting with steam boilers. The underlying principle of converting the emitted process heat into steam and making it available to factories as energy instead of polluting the environment is perfected over time. Energy flows are linked in the Energy Verbund. At the Ludwigshafen site, about 50 percent of the steam demand is covered by waste heat and energy from the incineration of residue. This saves money and protects the environment.

Not only the efficient use of energy, but also the generation of energy contributes to the protection of resources and the environment. Since 1997, BASF has been using gas and steam turbines in highly efficient combined heat and power (CHP) plants. It currently operates 20 CHP plants worldwide.

Air measurements with balloons
In 1960, BASF chooses an exceptional method to measure air values by using an open-air balloon. In contrast to machine-powered aircrafts, a measuring balloon allows faultless air measurements. Two plastic tubes with a length of 400 meters suck in the air to be measured.

Wheeled mini-lab
Equipped with modern analysis technology, environmental monitoring cars trace hundreds of individual substances, as here in 1985. The first of them comes into operation in 1973 to support the air and noise monitoring center that was set up one year earlier.

Wastewater management
Regular wastewater controls like those here in Jakarta, Indonesia, in 1989 are routine for BASF sites worldwide.



Ammonia synthesis
In 1913, BASF succeeds in what is considered technically impossible: the high-pressure synthesis of ammonia. Now fertilizers can also be artificially produced. Here is a poster from the 1920s.

Coal, oil and gas
Secure access to energy sources and raw materials is crucial. Therefore, BASF participates in the Auguste Victoria mine in 1907. With the conversion to petrochemicals, it acquires Wintershall AG in 1969.

Title page of a price list from 1896
The simplest form of customer contact is carried out via sales talks. Since the merger with the Stuttgart-based companies Knosp and Siegle, BASF has its own sales organization.

Economic Success Factors

The Verbund principle

When BASF is founded by Friedrich Engelhorn in 1865, Engelhorn pursues an innovative idea: integrating all production stages at only one location. Hence a close plant networking in Ludwigshafen develops through product and energy flows. Raw materials, energy and money are saved. This Production Verbund forms the traditional core competence of BASF, which is also "exported" for the first time to Belgium in 1964 with the founding of its plant in Antwerp. Today, BASF operates six major Verbund sites worldwide.

Research with vision

Three years after it is founded, BASF appoints Heinrich Caro as its first Research Director to strengthen its own research. In the following years, an unparalleled research organization is born. Soon a strategy relying on innovation becomes characteristic of BASF. After 17 long years of research and a few setbacks, it launches "Indigo Pure BASF" onto the market in 1897. It becomes a global success. The same applies to ammonia synthesis that goes into operation in 1913. Again, persistence is in demand. Both innovations reveal another characteristic of BASF research: many successes are only possible with the inclusion of external partners in the innovation process and close interdisciplinary cooperation within BASF.

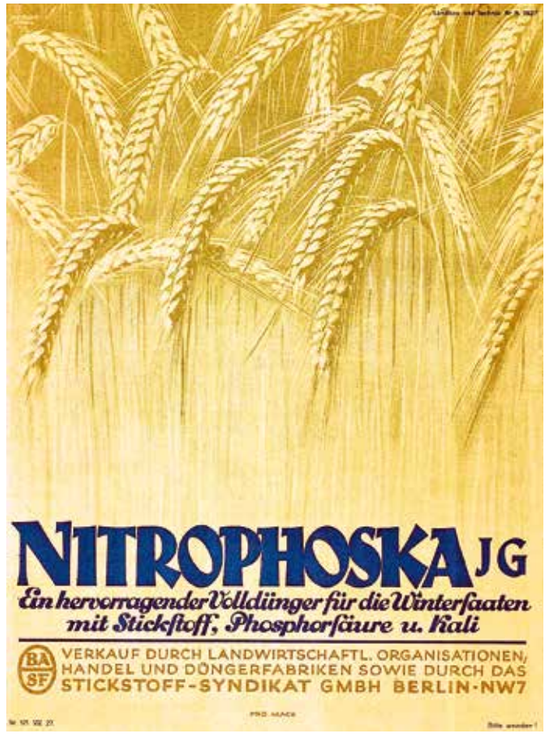
Customer orientation

The forerunner of BASF's Application Technology Department is founded in 1891 and involves more than mere contact with customers from the beginning. Instead, BASF also provides intensive support and advice. The model becomes an example and in 1914, BASF establishes an Agricultural Research Station in order to convince farmers of the benefits of new synthetic fertilizers. This proves successful. BASF soon also uses its close customer contact to identify market needs early on and to take them into account during product development. Explicit customer orientation gradually arises from BASF's contact with customers.

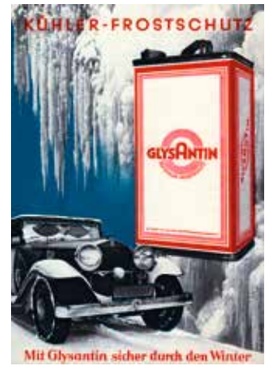
Designing new facilities
Because plants are closely interlinked in the Production Verbund, they require accurate planning which is here provided by the engineering office in the 1960s.

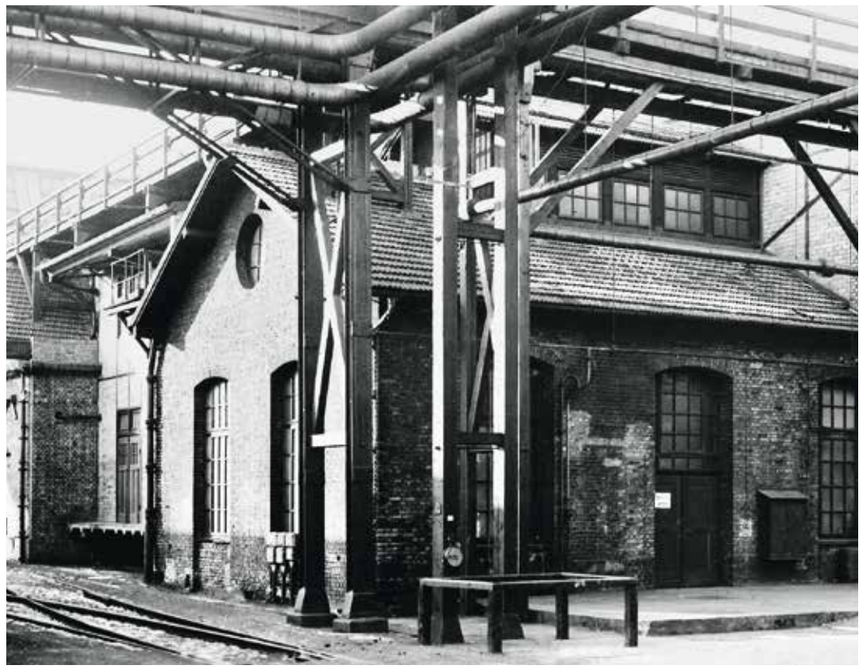
1925 – 1944
BASF builds on its expertise in the Haber-Bosch process and develops additional areas to apply high-pressure technology: the hydrogenation of coal to generate synthetic fuel and the production of synthetic rubber (Buna). It does so within the structure of I.G. Farbenindustrie AG, formed by the merger of BASF and five other major chemical companies in 1925.

1925
Ongoing political unrest, reparation obligations, the dismantling of factories, coal shortages, transportation problems, the French occupation of the left bank of the Rhine, and the establishment of a customs border on the Rhine still hinder economic recovery at BASF. Representatives of major chemical companies meet to discuss strengthening their loose cooperation which had started in 1916. They agree to jointly carry out the necessary streamlining of production and sales. In this way, the I.G. Farben Aktiengesellschaft (I.G. Farben) originates in 1925 through BASF's merger with five other companies (including Hoechst and Bayer). The registered office of the company is relocated to Frankfurt, Germany. The factories in Ludwigshafen and Oppau form the main part of the "Upper Rhine works group", one of the four original operating units of I.G. Farben.
Top: High-pressure reactors with vast dimensions are used to synthesize gasoline from coal starting in 1927.
Right: The administration building of I.G. Farben in Frankfurt on the river Main, Germany

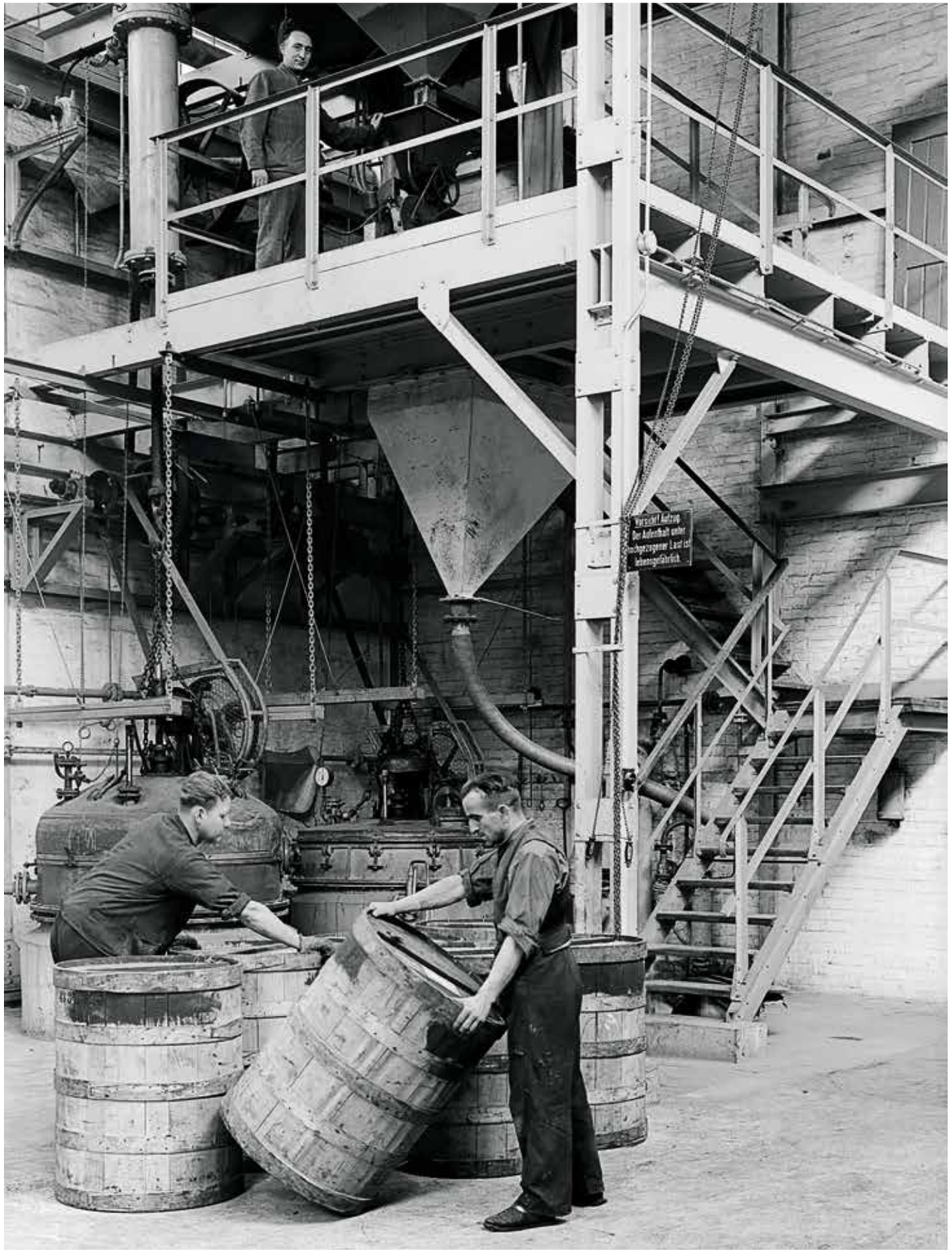


1927
With Nitrophoska, the world's first homogeneous compound fertilizer enters the market.
Gasoline from coal: In 1913, Friedrich Bergius, a chemist in Hanover, had already succeeded in obtaining liquid reaction products from coal under high pressure using hydrogen. BASF chemist Matthias Pier (1882 – 1965) picks up on this idea and soon finds a way to apply the process on an industrial scale. In 1927, the first tank car of gasoline derived from coal leaves the Leuna site near Merseburg, Germany.
Left: Product information cover page from the 1920s





1928
Under the future head of research, Walter Reppe (1892 – 1969), researchers start examining catalytic reactions of acetylene under pressure in 1928. These operations are known as "Reppe chemistry" and allow the formation of numerous organic compounds and intermediates from simple building blocks. Acetylene chemistry is also one of the most important prerequisites for the development of plastics.
In the severe winter of 1928 – 29, I.G. Farben introduces the first antifreeze for cars, Glysantin, on the market.
Top: The antifreeze Glysantin always gets the car ready – even in the winter.
Left: Modest location of groundbreaking developments, the plastics technical center in 1929

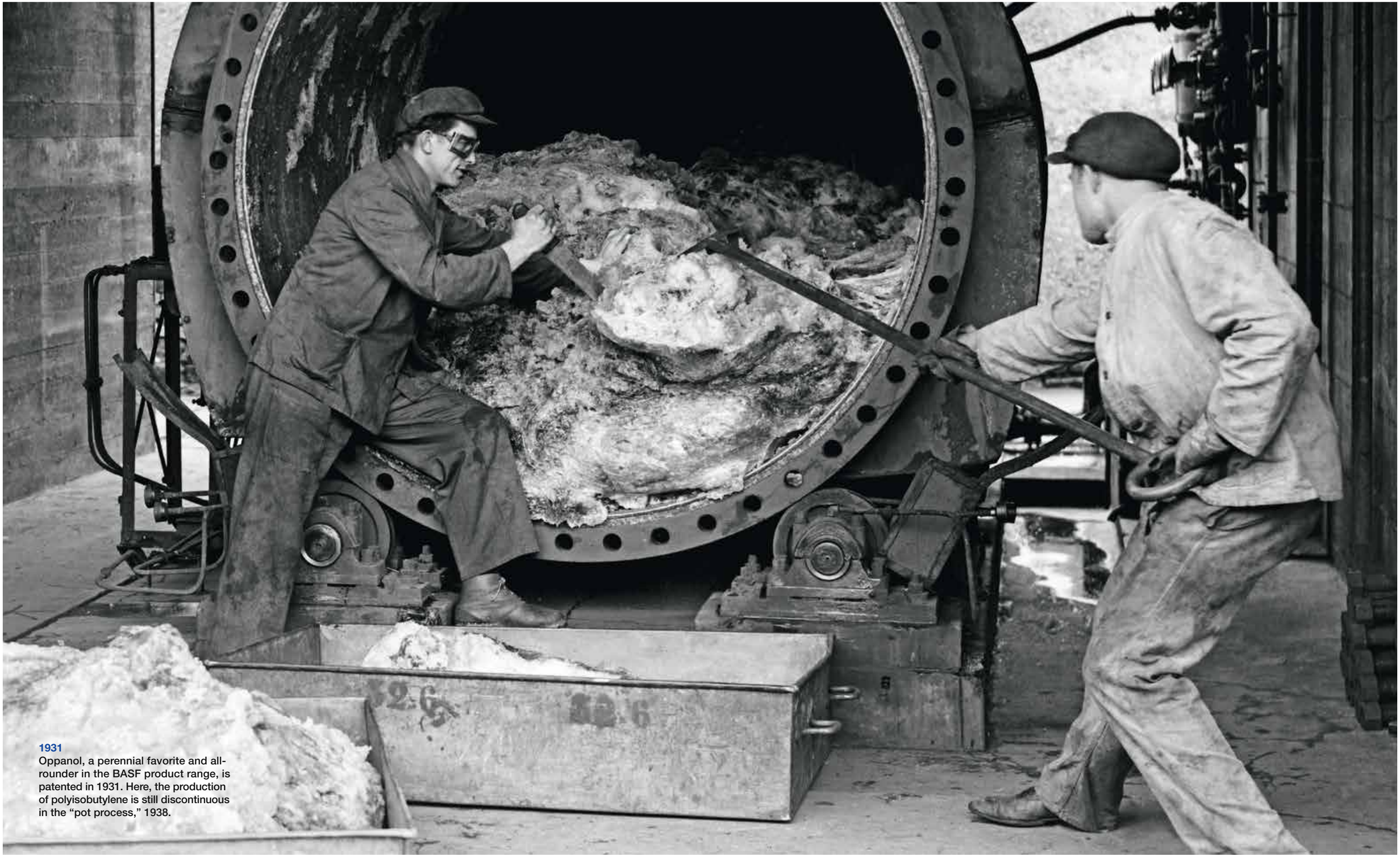


1929
The new age of plastics begins with the synthesis of styrene in 1929. Over the following years at the Ludwigshafen and Oppau sites, which now employ 24,442 people, extensive work begins in the new field of chemistry and physics: polymers. A number of these compounds will be developed for the large-scale production of plastics: polymeric acrylic compounds (1929), polystyrene (1930), polyvinyl chloride (1931), polyisobutylene (1931), polyvinyl ether (1934), and polyethylene (1937).
After the New York stock market crash, the short-term foreign loans, with which the economic reconstruction has been funded, are recalled from Germany. The resulting deteriorating economic situation, accompanied by mass unemployment and poverty, contributes to the political instability of the Weimar Republic and ultimately paves the way to power for the Nazis.
Left: In 1934, polystyrene is still filled in wooden barrels.

Picture: Archives of the Max Planck Society, Berlin-Dahlem

1931
Carl Bosch and Friedrich Bergius receive the Nobel Prize for the development of high-pressure technology used to synthesize ammonia and to hydrogenate coal.
Kaurit adhesive is launched onto the market and revolutionizes the wood processing industry. It paves the way for chipboard and thus opens up new possibilities in wood processing.
Top: Nobel Prize certificate for the development of high-pressure technology

1933
Adolf Hitler is appointed chancellor of Germany on January 30, 1933. Over the following months, the Nazi party takes control of the social policy and "opinion-forming" organs at the individual sites of I.G. Farben. National Socialist ideology also shapes day-to-day operations in Ludwigshafen and Oppau. The works library is "cleansed," the company newspaper is reorganized, and on May 1, all employees take part in German Labor Day parades. Military style roll calls become part of the daily routine at the sites. When labor unions are banned, both employers ("factory leaders") and employees ("followers") are enrolled in the "German Labor Front." In the following years, these developments even leave I.G. Farben entangled with the Nazis.
Bottom: German Labor Day parade in front of the Feierabendhaus



1931
Oppanol, a perennial favorite and all-rounder in the BASF product range, is patented in 1931. Here, the production of polyisobutylene is still discontinuous in the “pot process,” 1938.


WERKZEITUNG
I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT
WERKE: BADISCHE ANILIN- & SODA-FABRIK LUDWIGSHAFEN A/RH.
22. Jahrgang Ludwigshafen a. Rhein, Juni 1934 Nummer 6
Herausgegeben in Zusammenarbeit mit dem DINTA in der Deutschen Arbeitsfront

1934
The expertise from different areas of work is ideally combined into a new groundbreaking development, the magnetic audio tape: since 1924, extremely fine carbonyl iron powder had been produced in Ludwigshafen to make induction coils for telephone cables. The ability to produce extremely fine dispersions originates from the experience of making dyes and finally the new plastics activities lend themselves to develop a suitable carrier medium in the form of film. In 1932, AEG and I.G. Farben had agreed to work together to produce a magnetic recording device (then called magnetophone). The first 50,000 meters of magnetic tape are supplied in 1934.
Top: The swastika, as the symbol of the new rulers, on a company newspaper in 1934
Bottom: The magnetic recording device developed by AEG with the new magnetic tape from Ludwigshafen causes a sensation at the Berlin Radio Fair in 1935.

1936
Buna, the synthetic rubber, is presented to the public for the first time. The cornerstone for the first Buna factory of I.G. Farben is layed in Schkopau, Germany.

1939
With the start of the Second World War in September 1939, Germany shifts to a war economy. I.G. Farben is also embedded into this self-sufficiency and compulsory system with its synthetic products, especially nitrogen, rubber, and gasoline. During the war, many male employees are conscripted for military service. They are replaced by females drafted for work, prisoners of war, and forced laborers, especially from occupied countries in Eastern Europe. Moreover, concentration camp inmates are put to work at I.G. Farben's Buna plant in Auschwitz, Poland, commissioned by order of the German army high command in 1940.
Top: Forced laborers at the site in Auschwitz, Poland, in 1944

1940
In June, the first air strikes by Allied bombers on factories in Ludwigshafen and Oppau begin. The attacks do not yet have a serious impact on production.
Bottom: The Ludwigshafen and Oppau sites in 1939

1941
I.G. Farben's third Buna plant is built at the Ludwigshafen site according to the three-step process developed by Walter Reppe. It connects the factories in Ludwigshafen and Oppau, which have been distant from each other until now.
Left: Workers lower the head of a butynediol reactor tower at a Buna plant.

1943
Ludwigshafen is the target of massive air raids from 1943 to 1944. More and more plants are hit; production drops dramatically as of mid-1944, and comes to a virtual halt by the end of that year.
Top: Factory site in ruins. A view of gate 3 after the war

Solutions

BASF has been seeking and finding solutions to global challenges since its founding. The needs of society have changed since 1865 – BASF and its business operations have changed with them. Research and innovation are still the key to success.

2

Solutions for societal needs

Identifying social trends and requirements and finding solutions with research and development – this is the engine that has been driving BASF since 1865. Just like 150 years ago, BASF is still developing new processes and products on this basis. Its innovations help to improve people's lives.

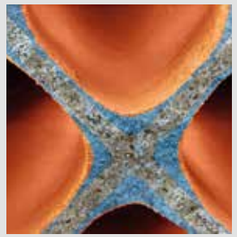
At BASF it all began with dyes. Natural dyes are expensive at that time, and only a few can afford them. BASF makes people's lives more colorful with its new synthetic dyes.

As the world population is growing rapidly around 1900, the increasing demand for artificial fertilizers is the starting point for a new chapter in BASF's history. It presents a solution with ammonia synthesis in 1913.

Since the 1950s, BASF plastics have been granting customers new opportunities for product development. Everyday life soon becomes unimaginable without them. As lightweight components, they have been shaping a new design principle in the automotive industry since the 1960s.

The 21st century also poses special challenges. Products and solutions from BASF help to conserve resources, to secure healthy food and nutrition and to improve the quality of life.

Researach
The foundation for BASF's innovations is the research conducted in its own laboratories. Here's a look at a textile laboratory in 1965.



Three-way catalyst
Mobile emissions catalysts – here a three-way catalyst in detail view – clean exhaust gases and, in this way, have significantly reduced pollution through emissions over the past four decades.

On water and land
Palatal is very versatile and is not only suitable for use in the automotive industry. Boats are also made from the BASF plastic.

Mobility and housing

Antifreeze – mobile with ice and snow

As people increasingly drive cars in the 1920s, cold temperatures are regularly a problem when the cooling water freezes. Glysantin, the first antifreeze, is launched onto the market in 1929. Today it is Europe's best-selling engine coolant.

Plastics, catalysts and additives for fewer exhaust emissions

In 1964, the BASF plastic Palatal causes a sensation in the body of a new Porsche model. Initially a curiosity, lightweight construction has become one of the major trends of the automotive industry and for a long time now, BASF plastics are not only found in auto bodies, but in the chassis, car interiors, and motor components of cars. As a result, they are lighter, consume less fuel, and emit fewer pollutants. The most recent examples are innovative components from BASF plastics for the BMW i3, the electric vehicle from the BMW Group.

Catalysts remove pollutants (carbon monoxide, nitrogen oxides and hydrocarbons) from tailpipe emissions. A milestone in exhaust technology comes in 1976 with the three-way catalyst of the US firm Engelhard, which has been part of BASF group since 2006. In 2013, BASF researchers continue the success story with the FWC™ four-way conversion catalyst, which also filters fine dust out of the emissions of gasoline engines.

Fuel additives have been produced in Ludwigshafen since the 1920s. They also help protect the environment by reducing fuel consumption and the emission of pollutants and greenhouse gases.

Efficient thermal insulation through foamed plastics

When BASF begins producing Styropor in 1951, the application for which it will be famous is not yet envisioned. For the time being, the foamed polystyrene ekes out a niche existence as cable insulation and lifebuoys are initially made from Styropor. Its breakthrough as insulation material only comes towards the end of the 1950s when, due to the excellent insulating properties of Styropor, it is increasingly used in the construction industry or for refrigeration. Today, Styropor is the classic among insulation materials. BASF improves Styropor and launches Neopor, a product that provides even better insulation, onto the market in 1998.

Simplifying the insulation process
Many homeowners have already done it like this or in a similar way. Buildings can be easily insulated with the classic Styropor not least because of its light weight, as seen here in 1980 (top left).

The classic
Styropor not only insulates against impact sound, but especially against heat and cold. This advertisement from 1960 discusses the merits of BASF's classic among insulation materials in home construction (top right).

Test center for catalysts
Computers analyze the exhaust gas values of test vehicles as part of catalyst research in Union, New Jersey, under realistic conditions (bottom left).

Porsche 904 Carrera GTS
In 1964, a new Porsche model celebrates its premiere. Its special feature is the exterior, which consists of the BASF plastic Palatal, which reduces its weight by 150 kilograms. This results in less fuel consumption and fewer emissions (bottom right).

Innovative active ingredient
Since 2001, BASF has been producing the fungicide F 500 in Schwarzheide, Germany. It has the effect of increasing the yield of field crops, going beyond purely fungicidal action (top left).

For a larger crop yield
BASF contributes to food security with research on fertilizers and crop protection agents. The slogan – research creates food – of this advertisement from 1963 gets to the heart of it (top right).

Agricultural Research Station
Established in 1914, the Agricultural Research Station in Limburgerhof examines the effectiveness of fertilizers and crop protection agents from BASF, as seen here in a photo from circa 1925 (below).

Food and nutrition

Better crops with fertilizers and crop protection agents

As the world population grows more rapidly by 1900, more fertilizers are needed to grow sufficient grains, fruits, and vegetables. Organic fertilizer is becoming scarcer and scarcer. With great entrepreneurial risk and a lot of perseverance, BASF develops a solution to the problem, putting the world's first ammonia plant into operation in 1913. Fertilizer can be produced industrially from then on; the crucial step in the era of mineral fertilization has been made. To date, BASF's Haber-Bosch process secures the food of billions of people.

BASF's crop protection agents secure crop yields by protecting against fungal diseases, insects, and weeds. Its first herbicide, U46, is launched onto the market in 1949. Many more innovations follow. Fungicides from the new class of strobilurins are one recent example. The first among them is introduced onto the market in 1996; F 500 follows in 2002. Since then, the latter has been used in Brazil to protect the soybean harvest.

Healthier diet – vitamins for food supplements

The shortage of vitamin A is still an urgent problem in over 70 countries. The process of enriching everyday food with additional nutrients, called food fortification, offers a way forward. At the BASF site in Ballerup, Denmark, vitamin A is coated in a special process with starch or gelatin to protect it from being decomposed by light or oxygen. When it is protected in this way, it can be delivered all over the world and added to the basic food supply on site.

Longer shelf life with plastic – food packaging

The triumph of the supermarket beginning in the 1950s places new demands on food packaging. Food packaged in BASF plastics Lupolen and Ultramid stays fresh longer. BASF has also developed a range of packaging products, sealants and light stabilizers to protect food. Apart from offering a longer shelf life, they seal in freshness. So food is still at its best long after the pack has been opened.

Vitamin A
Vitamins from BASF contribute to healthy nutrition. BASF succeeds in entering this field of business with the industrial synthesis of vitamin A in 1970.

A true packaging artist
Plastic packaging revolutionizes retail. Among BASF's range of plastics, the polyethylene Lupolen is especially recommended for retail use, as this advertisement from 1961 shows.

For the protection of crops
Crop protection agents from BASF help to protect crops, thereby securing crop yields. Pictured here is an ad for one of BASF's first insecticides in the 1950s.

Sample case
In the 19th century, BASF's comprehensive product range brings color into everyday life. Here is a sample case of a BASF salesman.

Entertainment with BASF
The BASF audio tape is ideal for a fun evening at home, as this ad from 1962 demonstrates.

Luran tableware
A novelty in the 1960s: Household articles of lightweight and sturdy plastics, which also have an impressive modern design.

Chemistry in everyday life

Dyes – the world becomes more colorful

BASF owes its foundation in 1865 to the need for synthetic dyes. Thanks to its innovations, colorful clothes are no longer luxury items. Milestones of dye chemistry are the syntheses of alizarin, the first synthetic red dye (1869), indigo (1897) and indanthrene (1901). BASF dyes are soon to be found on markets worldwide. Especially in Asia, indigo has a long tradition in the blue color of work clothes. It is still used to dye blue jeans today. Indanthrene dyes, on the other hand, make colored fabrics easy to care. The special feature is their colorfastness.

Synthetic fibers – easy to care for and elastic

In the 1950s, textiles and stockings made of synthetic fibers come very much into vogue. Perlon, whose fibrous raw material (Polyamide 6) is produced by a process invented at Ludwigshafen in 1939, is one of them. Today, a high degree of wearing comfort is ensured by spandex fibres in sportswear and functional clothing. Spandex fibers to a large extent consist of PolyTHF produced by BASF since 1983.

Magnetic tape – storage medium with history

As audio tapes or audio and video cassettes, BASF's magnetic tapes are a synonym for home entertainment in the second half of the 20th century. The first magnetic tapes leave the Ludwigshafen plant in 1934. They have now given way to digital successors. However, a product from the age of BASF storage media is still used in consumer electronics today: Carbonyl iron powder protects the sensitive electronics in cell phones and other devices from power fluctuations.

Plastics – modern materials

Beginning in the 1950s, plastics are used increasingly in all areas of daily life. In particular, households soon become unimaginable without them. Whether in refrigerators or vacuum cleaners, BASF's Ultramid and polystyrene plastics fuel the plastic boom. Shortly after Luran is launched onto the market in 1962, new designs for tableware and furniture become a reality. A particular example is the Panton Chair, a cantilever chair and legendary icon of Pop Art produced using Luran in the 1970s. In 2007, it is followed by the innovative Myto cantilever chair made from BASF's Ultradur, which is developed in close collaboration with the designer.

Stress test for a chair
A Panton Chair made of Luran is tested under extreme conditions by the Application Technology Department in 1971. It is the first all-plastic chair made in one piece (top left).

Examination of dye patterns
In order to uphold its promise in everyday life, BASF conducts many application tests on its wide range of dyes, such as here in 1962 in the textile laboratory (top right).

Indigo label for China
The dyes of BASF are initially recognizable worldwide from their colorful labels. Scenes from everyday regional life or application examples are often portrayed on the labels. Here's a label for the Chinese market (below).

1945–1964

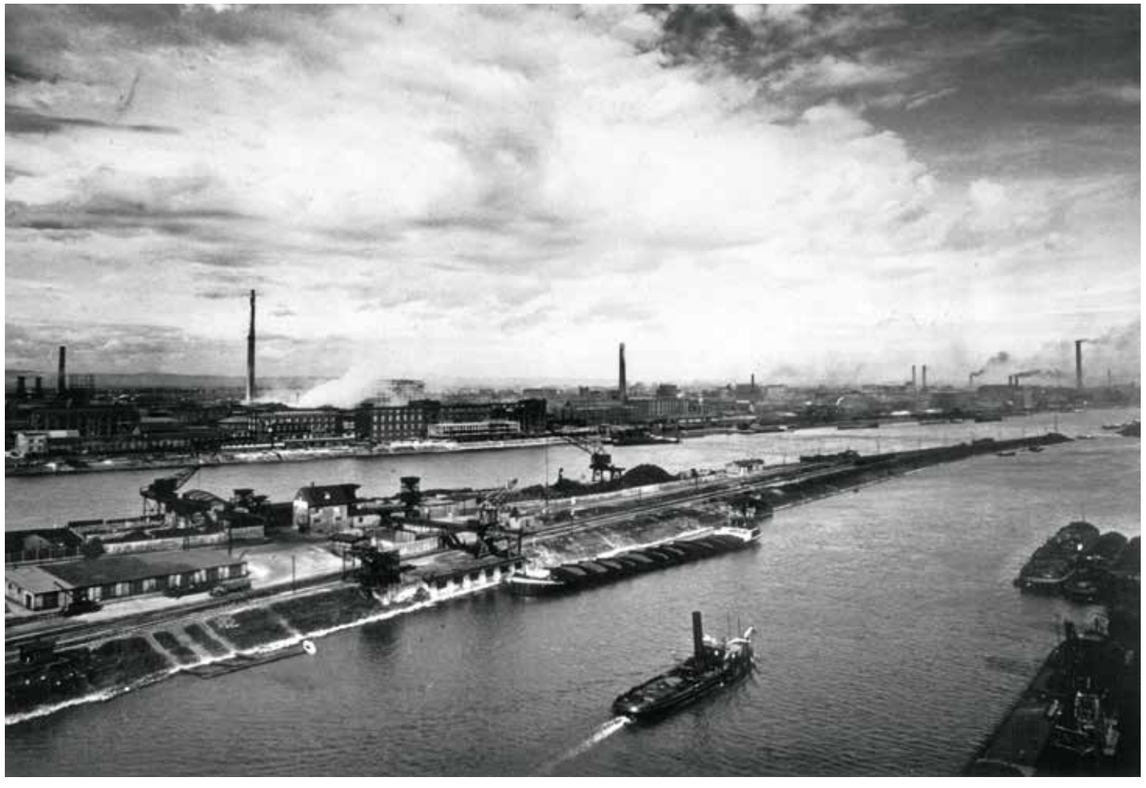
After the French military occupation and many years of negotiating the demerger of I.G. Farben, the Badische Anilin- & Sodafabrik Aktiengesellschaft is reestablished on January 30, 1952. Initially reduced to its Ludwigshafen and Oppau sites and its traditional product lines, BASF still contributes to the economic boom that gets underway in the 1950s.

1945

By the end of the war in 1945, there is an enormous amount of destruction in Ludwigshafen and Oppau. Of the 1,470 buildings on the premises, 33 percent are completely destroyed, 61 percent are damaged, and only 6 percent are unscathed. The factories have lost 45 percent of their total production capacity. But little by little, the buildings are repaired, and production lines put back into operation.
Bottom: View of the southern tip of the Ludwigshafen site after reconstruction, 1955

1947

The first post-war elections for the works council are held in 1947. Close cooperation between employee representatives and management, especially during the years of reconstruction, leads to a series of social policies that are formalized in the first works agreement in 1955.
Starting in 1972, the company's top-level management is represented by a committee of executive representatives.



1948

The currency reform of 1948 brings the first signs of stabilization. Funding made available by the Marshall Plan serves as a major impetus for rapid economic recovery in West Germany. The ensuing economic boom continues into the 1960s, aided by the fact that the citizens of the Federal Republic of Germany founded on May 23, 1949, identify with its aims and structure.
Carl Wurster (1900 – 1974, chairman of the Board of Executive Directors from 1952 to 1965) notes: *"The years of reconstruction from March 1945 to the currency reform of June 21, 1948, have surely been the most difficult in BASF's history. What we have achieved would have been unthinkable without the dedication of the entire workforce, who carried out their challenging duties loyally under difficult conditions and with far too little in the way of food."*
In 1948, BASF again employs 21,951 workers at the former Ludwigshafen and Oppau works, which now form the southern and northern parts of the Ludwigshafen site.
The severe explosion of a tank car in the southern part of the site claims more than 200 lives and destroys many newly erected buildings.
Top: BASF employees at work. Foreman Rudolf Schuster and pipefitter Otto Sößer at the Oppau gas plant in the 1950s
Right: The herbicide U46 brings BASF into the crop protection business in 1949.

1951
BASF starts production of its globally successful product Styropor.
Left: Styropor is developed in shoe polish tins like these.
Bottom: Lightweight champion Styropor, 1950s

1952
After lengthy demerger negotiations, the Badische Anilin- & Sodafabrik Aktiengesellschaft is founded anew on January 30, 1952. But a new company philosophy is also needed. In the past few years, Ludwigshafen had become the main supplier of basic products and the manufacturer of high-pressure machines within I.G. Farben. Work areas must be reorganized, expanded, and newly developed. Moreover, export markets will also have to be developed.
Left: BASF stock issued in 1955

1953
Together with Shell AG, BASF establishes the Rheinische Oelfinwerke (ROW) in Wesseling on the Rhine, Germany.

1955
Ten years after the war, the German economy is back on its own feet: in 1955, the growth rate peaks at 11.7 percent.
In 1955, BASF acquires and opens new recreation facilities for its employees. Along with the original facilities close to Ludwigshafen, vacation homes now also exist in Breitnau in the Black Forest, and in Westerland on the North Sea island of Sylt.
For the first time since the war, BASF resumes production activities outside Germany. The Companhia de Produtos Químicos Idrongal is established in Guaratinguetá, Brazil. Today, Guaratinguetá is BASF's largest site in South America.
Right: Arrival of the first guests at the recreation home in Breitnau in 1955

1956
The synthesis of hydroxylamine by means of catalytic hydrogenation of nitrogen oxide in 1956 enables the cost-effective production of caprolactam, a precursor product needed to make synthetic fibers and engineering plastics from polyamide 6. As a result, stockings made of this material become affordable.
Top: Advertising for easy to clean clothes made of Perlon (polyamide 6), circa 1955
Left: Whether in small machine parts or large propellers as seen here, BASF's engineering plastics polyamide 6 and polyamide 6.6 conquer many application areas under the brand name Ultramid.

1957
As a clear symbol of its reconstruction and fresh start, BASF moves into an office tower that is 102 meters high. In 1957, the Friedrich Engelhorn Building is the first high-rise built with reinforced concrete in Germany. It is an emblem of the city of Ludwigshafen. In 2013, the demolition of the BASF high-rise begins. In the same year, an architectural competition for the new building is advertised.
Top: The Friedrich Engelhorn Building in 1957

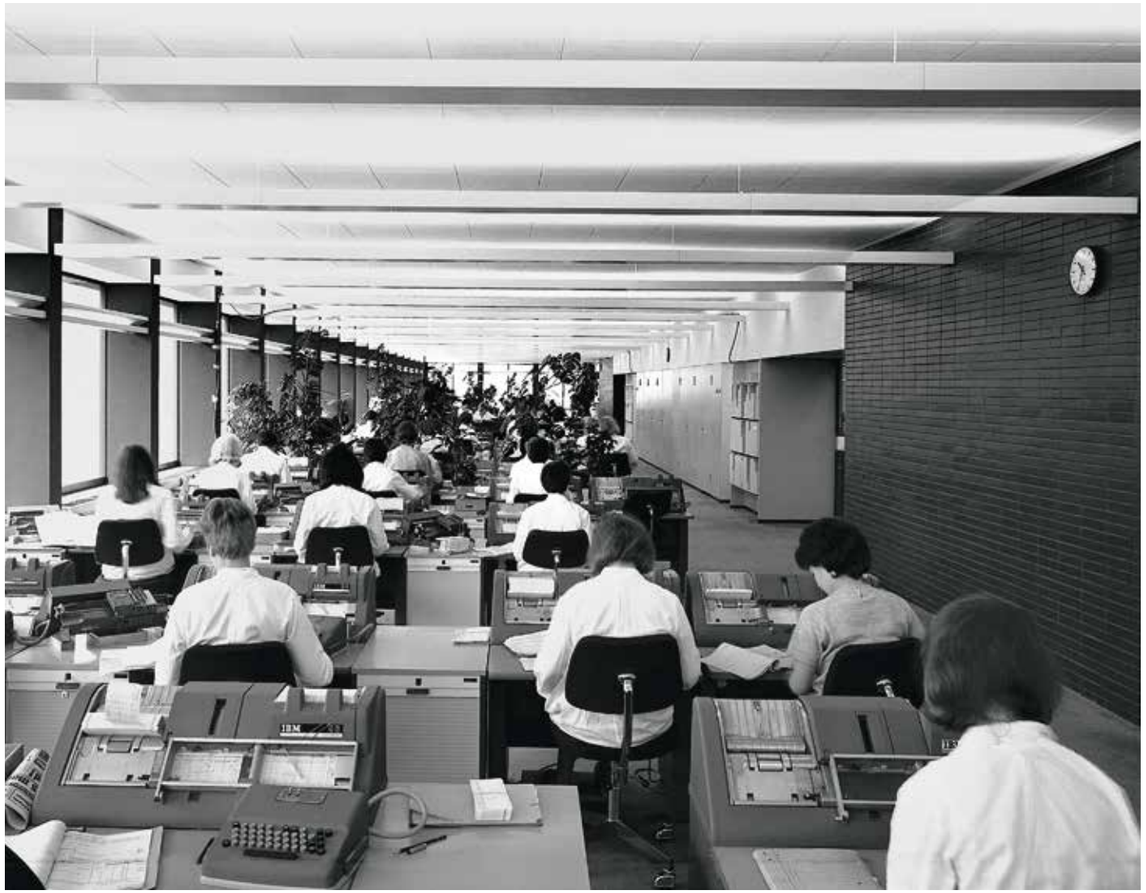
1958
Together with the Dow Chemical Company, BASF establishes the joint venture Dow Badische Chemical Company in the United States and lays the foundation for BASF's operations in the US today.
Left: Site in Freeport, Texas. Dow Badische starts operation here in 1959.

1960
BASF expands its product range of dyes in line with development in the textile fiber sector, adding Palanil and Basacryl collections for dyeing fully synthetic fibers. More developments follow: six years later the first Cottestren dyes are produced, with which blended fabric from cotton and polyester fibers can be dyed.
Since the sweeping growth experienced during Germany's "economic miracle" leads to a labor shortage in the country, workers are recruited from abroad. In 1960, the federal labor agency opens the first branch office in Italy, which is part of the European Community, and BASF hires its first Italian employees that year. They are followed by workers from Spain, Greece, Yugoslavia, and Turkey as well as Brazilians of German descent and Vietnamese refugees.
As of December 31, 2013, BASF SE has employees from 90 nations.
Left: Empirical testing of new dyes at the dyeing facility of BASF's Application Technology Department, 1957

1962
In Japan, Yuka Badische Company Ltd. is founded and begins producing Styropor one year later. Due to the Japanese market's difficult requirements for foreign companies, it becomes a joint project with a Japanese partner. On this basis, BASF becomes more active in Japan. It is not until 1988 that the company opens its own plant in the country, which makes auxiliary products.

1963
BASF organizes the first International Luran Competition, in which the designers make breakfast tableware from the new plastic.
Bottom: One of the five prize-winning entries in the Luran Competition comes from Henry Vienot from Paris, France.

1964
Under the name of Pyramin, a brand new selective herbicide for combating weeds in sugar beet cultivation enters the market in 1964.
BASF's first data center offers new technology as the last tabulating machines are replaced by electronic mainframe computers. In 1911, BASF was one of the first companies in Germany to introduce automated data processing.
New horizons in environmental protection: following lengthy trials with different types of furnaces, the first two rotary furnaces for incinerating residues from chemical production plants go into operation. Six of these furnaces are running in 2014, playing a key role in BASF's waste disposal concept.
BASF founds a site in Antwerp, Belgium, for fertilizers, fiber precursors, plastics, and chemicals. Within a short period of time, the new site develops into BASF's second largest Verbund site in Europe.
Bottom: Punch card machine room in the data center in 1965



Global Presence

BASF's success story begins in Ludwigshafen on the Rhine in 1865. From here, it ships its products to nearly everywhere in the world. With about 380 production sites and six Verbund sites worldwide, BASF is the world's leading chemical company today.

3

Everywhere, all over the world

BASF is export-oriented from the beginning, selling its products worldwide. To do this, it operates a network of representatives, agencies and its own sales offices around the globe. In contrast, BASF decides to produce overseas only as an exception during the 19th century and only if customs or patent provisions make this unavoidable.

It's a different story after 1945. After rebuilding the sales organization becomes the main focus during the postwar years and only a few production sites emerge abroad, BASF has been increasingly expanding into key markets with its own production sites since the 1960s. Initially, the focus is on Europe, and North and South America, but the focus shifts to Asia during the mid-1990s. BASF often relies on local partners – especially in Asia.

Sales and production are followed by the establishment of research and development facilities abroad, commencing with agricultural research stations on four continents in the 1960s.

Today, BASF is represented with companies in more than 80 countries, operates six Verbund sites worldwide as well as approximately 380 other production sites, and maintains approximately 70 research and development sites.

International business
Boxes of BASF products ready for shipment in the warehouse and packing compound in Ludwigshafen reveal their international destinations in 1951.

World exhibitions
With extensive product and company presentations, BASF uses international fairs and expositions as a form of direct customer contact. The exhibition catalog for the world exhibition in Paris in 1900 is shown here.

From Ludwigshafen to the whole world

Headquarters in Ludwigshafen

BASF is founded in 1865 and starts its production operations in the Palatine city of Ludwigshafen, where it is headquartered, and products manufactured here are sold worldwide. Research and development are located here and this is also where BASF gradually develops its characteristic Verbund principle.

Around 1900, BASF's headquarters in Ludwigshafen is already "the largest establishment of its kind", as it is called at that time. Today, the Ludwigshafen site is the largest integrated chemical complex that belongs to a single company.

International sales markets
Supported by ads, such as this for Latin America in the 1960s, fertilizers and other products of BASF are sold on markets worldwide.

Highlights

BASF in Europe

From the outset, Europe is the domestic market of BASF, where it achieves a large part of its sales until today. BASF's first international production sites also emerge here even if initially only in exceptional cases and due to customs or patent provisions such as in Butirki near Moscow, Russia, in 1877, in Neuville-sur-Saône in France in 1878, and in Bromborough, United Kingdom, in 1907.

BASF only starts strategically building production sites in Europe outside of Germany in order to be closer to the customers in the 1960s. The current BASF Antwerpen SA (1964) and BASF Española S.A. (1966), with its location in Tarragona opened in 1969, are among the most important European establishments.

Today, BASF operates production sites in 34 European countries.

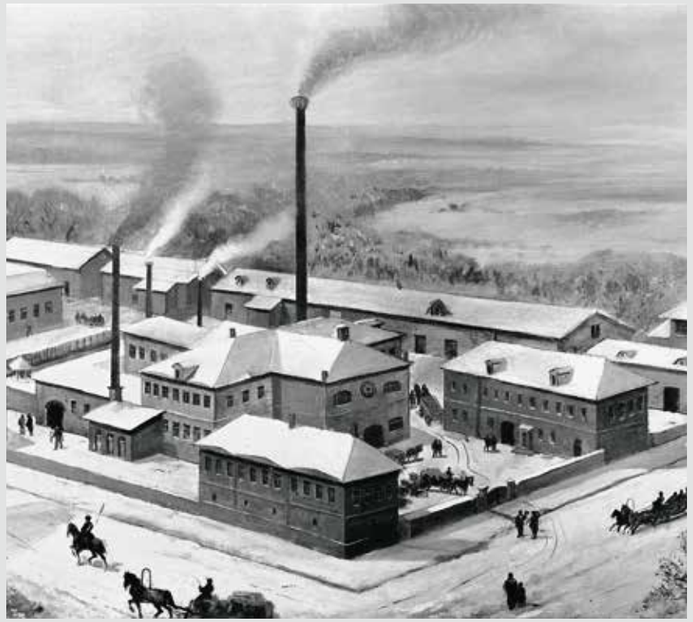
BASF in Africa

BASF is active in Africa starting in the late 1920s, when dyes are sold from Ludwigshafen to Kenya. Its operations on this continent are limited to sales for a long time. Compared to other regions, the company builds productions sites much later – in South Africa in 1974, for example. In 2014, BASF opens its most recent African production site with the first production plant for admixture in Nairobi, Kenya, in East Africa.

Butirki, Russia
In 1877, BASF establishes the first foreign site in Butirki near Moscow. BASF's operations in Russia dwindle during the revolutionary turmoil in 1917. BASF is not able to restart its operations in Russia until the 1990s (top left).

In all continents
In the 1960s, BASF increasingly begins to position its production internationally. It already exports to all continents, as this ad from 1961 illustrates (top right).

Antwerp, Belgium
For the first time, BASF "exports" the Verbund principle, its characteristic strength developed at its headquarters in Ludwigshafen, by expanding the Antwerp facility into a Verbund site. Today, Antwerp is its second-largest production site worldwide (below).



Port Arthur, Texas
In 2001, the world's largest naphtha-based steam cracker goes into operation in Port Arthur, Texas. It supplies the BASF Verbund sites in Geismar and Freeport with propylene and ethylene (top left).

Audio tapes in Mexico
BASF tapes are popular in Mexico as well. Storage media is one of the few product groups that represents BASF on the global consumer market until 1997 (top right).

Guaratinguetá, Brazil
In 1958/1959, BASF takes up production in Guaratinguetá, where this picture was taken in 1970. To this day, Guaratinguetá remains BASF's largest site in South America (bottom left).

Nanjing, China
Traditional dragon dances are performed at the opening ceremony for the Verbund site in Nanjing in 2005. Nanjing is BASF's sixth and most recent Verbund site (bottom right).

BASF in North America

In 1873, BASF becomes a partner of the American agency Pickhardt & Kuttroff, based in New York. The Company builds its first production site together with the Dow Chemical Company in Freeport, Texas, after establishing the joint venture Dow Badische Chemical Corporation in 1958. More sites are established and more acquisitions also follow. Particularly, the acquisition of Wyandotte Chemicals Corporation in Wyandotte, Michigan, in 1969 leads to a strong expansion of BASF's activities in the US. In 2006, BASF acquires the Engelhard Corporation based in Iselin, New Jersey, the largest acquisition in BASF's history until then.

BASF in South America

BASF has been delivering its products to the textile and leather industry in Brazil since about 1890. In 1911, it establishes a sales office in Rio de Janeiro.

When BASF resumes production activities abroad after 1945, it does so first in South America. In 1955, the company founds the forerunner of today's BASF S/A with a joint venture in Brazil and starts production shortly thereafter. A year later, BASF establishes a joint venture in Argentina. Today, the company is represented in all South American countries.

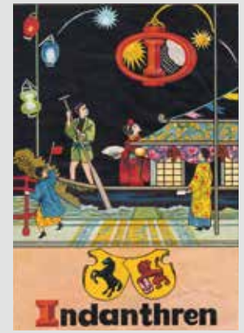
In 2005, BASF establishes the Espaço ECO Foundation, the first competence center for applied sustainability in South America, with partners in São Bernardo do Campo, Brazil.

BASF in Asia

BASF already begins selling products in the Far East at the end of the 19th century. BASF acquires the first production site in Asia in 1961 in the Indian Thane through a shareholding. In 1996, BASF's largest production site in South Asia to this day goes into operation in Mangalore, India. However, the overall focus in the region until the 1990s is Japan, where a first joint venture is established in Yokkaichi in 1962. Thereafter China becomes increasingly important. The first plant is inaugurated there in 1992.

Today, BASF has over 100 different production sites throughout Asia and has operated Verbund sites in Kuantan, Malaysia, since 2001 and Nanjing, China, since 2005. It also has important research and development facilities in Asia.

More about BASF's development in China in:
Michael Grabicki, Breaking New Ground. The history of BASF in China from 1865 to now, Hamburg: Hoffmann und Campe, 2015.



Indanthrene label around 1900
At the beginning of the 20th century, many of BASF's customers in Asia are illiterate. Therefore, the company designs particularly colorful and catchy labels for its dyes.

Advertising in India
BASF's advertising strategy is adjusted to the various sales markets. An advertisement for BASF's agricultural products from the 1970s is shown here.

Snake charmers for Indians
Customers should recognize their own world in the dye labels. Therefore, BASF designs special labels for each country at the beginning of the 20th century.

Better, healthier plants
Soybean seeds are prepared for genetic modification with so-called “agrobacteria.” Agrobacteria are common soil bacteria that possess the ability to transfer genes to the genetic information of a plant.

Laboratory for polymer additives and pigments in Mumbai, India
Preparing a sample to determine the suitability of a BASF pigment used for printer ink.

International research & development (R&D)

First beginnings

To examine its crop protection agents for the main crops of the world, such as wheat, rice, or soy under their natural growth conditions, BASF also establishes facilities outside of Germany that are similar to its Agricultural Center Limburgerhof founded in 1914. An agricultural research station emerges in 1966 in Greenville, Mississippi, followed by the opening or establishment of research stations in Utrera, Spain, and Nelspruit, South Africa, in 1969. The first Asian agricultural research station is added only a year later in Taiwan. Later on, the site in Raleigh, North Carolina, established in 1986, is expanded into a second agricultural research center, in addition to the one in Limburgerhof.

Increasing globalization

Since the 1990s, BASF has also been strengthening the international focus of its R&D activities in other areas in order to enable market-oriented product developments. Moreover, better access to international knowledge centers becomes an important motivation.

R&D sites for plastics in Yokkaichi, Japan (1993), and Wyandotte, Michigan, pave the way. While application- and market-oriented development centers are still the focus in the 1990s, BASF increasingly builds global research institutions abroad, particularly in Asia, in the new millennium.

One example is the first research center for nanotechnology, opened in Singapore in 2006. In the same year, a catalyst research center is added through acquisition of the Engelhard Corporation in Iselin, New Jersey. BASF researchers at the Innovation Campus Asia-Pacific begin their work in Shanghai, China, in 2013. It is expanded into a BASF R&D center in the region and becomes one of the largest R&D centers outside of Germany. In 2014, BASF also opens a new global center for R&D at the Thane site in India. BASF thereby takes a significant step towards reaching its goal of globalizing its R&D activities.

Transformation lab in Raleigh, North Carolina
Scientists transfer genetic material carrying specific traits selectively into plant cells, in this case corn. They use certain soil bacteria (top left).

Innovation Campus Asia-Pacific in Shanghai, China
Checking the quality of a rain boot made of polyurethane. Polyurethane offers processing advantages in combination with excellent physical properties. Its high flexibility over a broad temperature range is one of them (top right).

R&D Center in Mumbai, India
The research platform in India develops innovative solutions for both the Indian and global market. BASF's future research and development activities will be oriented even more closely to the market and the requirements of customers in the region (bottom left).

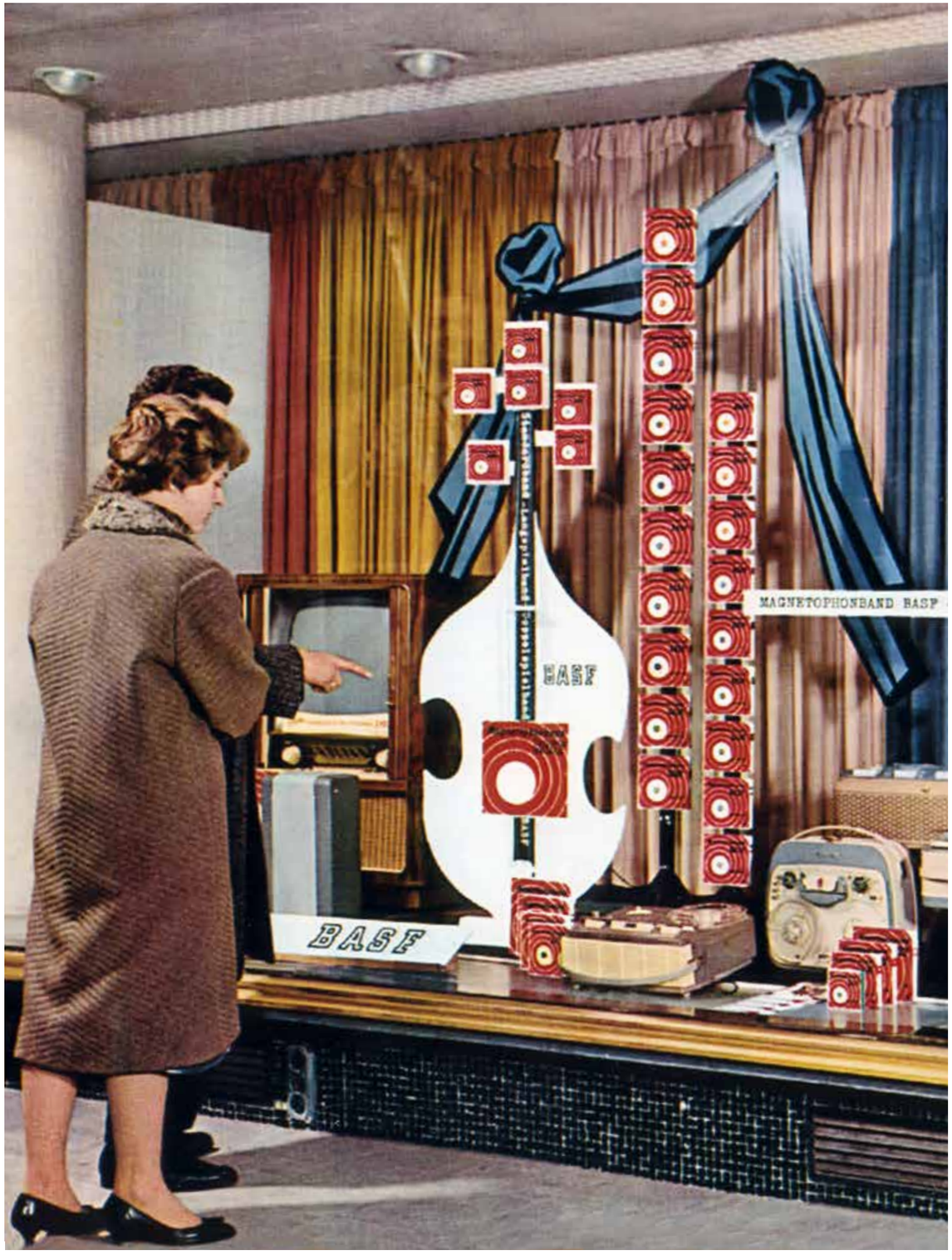
Organic solar cell technology
Joint Innovation Lab, Ludwigshafen: Organic photovoltaics are among the innovative fields of research pursued by its scientists. Solar cells are produced on the basis of organic materials and tested (bottom right).

1965–1989

On its 100th anniversary in 1965, BASF is already on its way to becoming a transnational company: with the launch of production sites abroad and further investments in the US, the company is strengthening its presence in highly industrialized countries and markets worldwide. An ever greater priority is given to securing raw material supplies and expanding its portfolio to include consumer and higher quality products.

1965
The company's strategy moves increasingly towards a focus on more highly refined products.
BASF acquires Glasurit Werke M. Winkelmann AG, a leading coatings company. The takeover lays the foundation for BASF's development into Europe's largest coatings producer in subsequent years.
Left: "In the Realm of Chemistry" (Im Reiche der Chemie), publication on the occasion of BASF's 100th anniversary
Bottom: Coatings production on site in Münster, Germany, (now BASF Coatings) in 1977

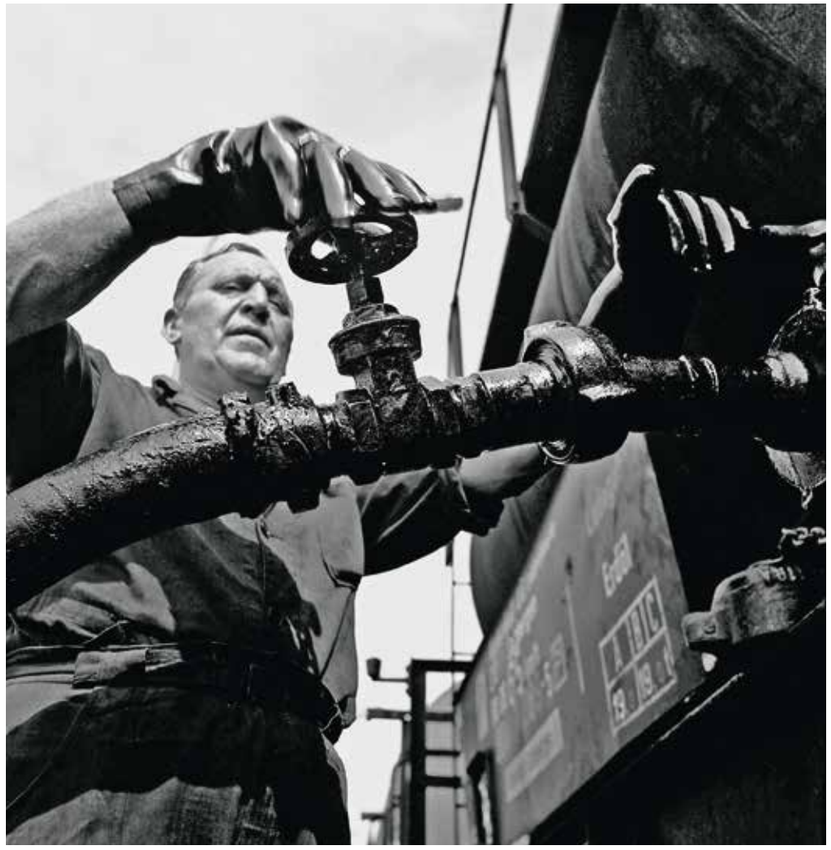
1966
BASF's magnetic tape factory in Willstätt, Germany, begins operating in 1966. It produces audio and video cassettes, electronic storage media, and printing plates for the graphics industry.
In Barcelona, BASF Española S.A. is founded. In 1969 it takes on the production of Styropor in Tarragona. Today, Tarragona is one of BASF's most important sites in Europe. In addition to Styropor, it produces dispersions, catalysts, agricultural pesticides, and UP resins. In 2003, one of the world's largest propane dehydrogenation plants goes into operation in Tarragona.
Right: The magnetic audio tape – the tape of limitless opportunities – displayed in a shop window in 1959



1967
Phthalic anhydride, an important precursor for plasticizers, is produced in 1967 by a new continuous process, namely based on o-xylene instead of naphthalene as a raw material.
Bottom: Phthalic anhydride plant. In the middle the freestanding exhaust gas stack from Palatal, in front the exhaust gas purification facility in 1968

1968
BASF's pharmaceutical activities begin with the acquisition of Nordmark-Werke. In 1975, the acquisition of Knoll AG broadens its involvement.

1969
The merger with Wintershall AG, one of Germany's oldest oil and gas companies, gives BASF access to its own petrochemical feedstocks as of 1969.
BASF acquires the Wyandotte Chemicals Corporation in Wyandotte, Michigan, with major plants in Wyandotte, and in Geismar, Louisiana, to strongly expand its US operations.
Combined with the expertise at BASF, the American company's strong position in chemical raw materials and polyurethane chemistry opens the door to refinement chemical activities that lead to lucrative products such as agricultural pesticides and organic intermediate products.
The simultaneous acquisition of the Elastomer/Elastogran Group in Europe (100 percent stake acquired in 1971) paves the way for BASF's entry into polyurethanes – foamed plastics that are used widely in automotive production as well as in sports and leisure items.
The engineering plastics portfolio is expanded: at Ultraform GmbH, founded together with Degussa in 1969, the production of acetal copolymer begins in 1971. Ultraform is suitable for all applications in which rigidity, accuracy, and plenty of friction and deterioration play a big role. Since 1974, it has been part of Playmobil figures in heavily used parts such as hip joints and hands.
Top: Crude oil filling at Wintershall AG in 1970
Right: Among others, BASF's plastic Ultraform is used in Playmobil.



1970
Vitamin production begins in Ludwigshafen.

1974
BASF's first wastewater treatment plant goes into operation in Ludwigshafen.
Another important step in weed control: the herbicide Basagran is launched onto the market.

1976
The northern inland port is opened in 1976. As a transfer point for combustible liquids such as naphtha, methanol, and gases liquefied under pressurized conditions, it is of major importance to BASF. Now, 20 riverboats are checked in here daily at landing places directly on the Rhine River.
Left: The northern inland port in 2009

1977
A plant in Ludwigshafen starts producing acrylic acid derived from polypropylene. The new facility replaces a previously used method of Reppe chemistry based on acetylene and leads to a breakthrough for process technology. In 2014, BASF is the world market leader in pure acrylic acid and acrylic esters. They are the raw materials for a wide variety of applications and end-products, ranging from coatings to adhesives, water treatment products and plastics, to detergents and textile fibers. Acrylic acid is found in the form of polyacrylate as well in superabsorbent diapers.

1978
BASF acquires 100 percent of Dow Badische Chemical Company. This broadens the base for further expanding BASF's chemical operations and its fiber business, which was considerable in North America at the time.

1980
One of BASF's largest single investments in Ludwigshafen goes into operation. The Steam Cracker II costs 400 million German Marks. Like Steam Cracker I completed in 1965, Steam Cracker II generates the key products ethylene and propylene from straight-run gasoline (naphtha).
BASF establishes a joint venture in South Korea with Hyosung. It takes on the production of Styropor in 1982 and Polystyrol in 1985. In 1988, a second joint venture is set up to make MDI, a polyurethane preliminary product.
Left and right side: The Steam Cracker II. The two steam crackers are the largest production plants at the Ludwigshafen site and form the heart of it.

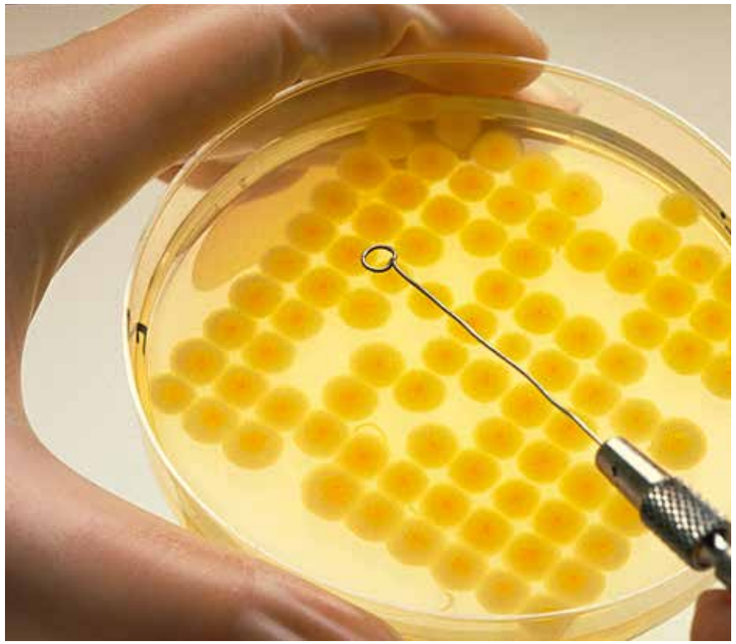
1982
The development of BASF's fragrance products: plants that use proprietary BASF processes to make citronellal, citronellol and hydroxycitronellal go into operation in Ludwigshafen in 1982. These substances are used for fragrance ingredients in soaps and detergents.
Top: Testing fragrance compositions at a laboratory in 1991

1984
In 1984, Hungary becomes the first European state-controlled economy in which BASF invests. Kemipur GmbH, a joint venture by the BASF Group member Elastogran GmbH and Hungarian partners, produces polyurethane components. Elastogran acquires a majority stake in 1991. In the same year, BASF Hungaria Kft. is founded as an independent distribution company.
Right: 20 years after its founding, BASF Poliuretan Hungaria Kft. in 2011

1985
At the turn of 1985/86, BASF's activities in North America are consolidated in BASF Corporation, a new Group company.

1986
The aim of modern personnel policies is to achieve a better balance between work and family life. In 1986, BASF introduces its "Parent and Child" program to enable employees to take extended parental leave after the birth of a child. In the following years, BASF steadily expands its commitment. Nurseries and childcare, part-time and flexible working schedules facilitate a work-life balance.
Left: In 2005, BASF opens the nursery "LuKids," a new component of its family-oriented personnel policy.

1987
BASF is a pioneer in the biocatalytic production of vitamin B_2. In 1987, a procedure becomes available; three years later, the chemical synthesis of vitamin B_2 is replaced by the fermentative process at the Ludwigshafen site. One advantage is that it uses renewable resources. Since 2003, BASF has been producing vitamin B_2 at its site in Gunsan, South Korea, using this procedure. The additive for animal food, Lutavit B_2, is one of its main uses.
Right: Synthetically produced vitamin B_2



1988
In 1988, BASF acquires the polymer dispersion business of Polysar Ltd., a Canadian company with production sites primarily in North America. Polymer dispersions are used, among other things, as a binder for the production of coated papers and cartons, for adhesives and coating materials, in the construction industry, and for a variety of special uses.
A major investment for environmental protection: the flue gas desulfurization facility for the coal-powered central power plant in Ludwigshafen goes into operation. The second part of the facility, a system for removing nitrogen oxides, is added in 1990.
Right: A collosus protecting the environment. A scrubbing tower for assembly in the flue gas desulfurization facility in 1987

1989
The new environmental monitoring center goes into operation at the Ludwigshafen site.
Left: The environmental monitoring center is staffed around the clock, here in 1992.

Joint Success

Finding solutions together – this recipe for success laces the history of BASF as a common thread. It shows up in collaboration with scientists and other innovative companies, as well as in interdisciplinary collaboration within the BASF team.

4

Partnering for success – diverse collaboration

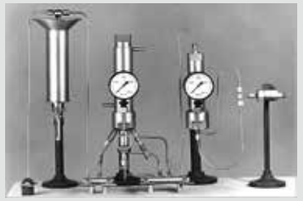
BASF's history shows that it not only fosters collaborations with university chemists early on, but also that they result in outstanding milestones in its history of research. However, for a long time research collaborations have a rather selective character without strategic value and systematic development – unlike today.

Collaboration becomes important both across company boundaries and within BASF; the tasks become more complex on the one hand and BASF becomes more internationally organized on the other.

Also with regard to the customers, the principle of collaboration has its tradition at the company. Particularly since the 1960s, increasing customer orientation develops from the customer advising services institutionalized in 1891, which goes hand in hand with the development of customized system solutions.

Corporate shareholdings represent a special form of collaboration which blurs the boundaries between the investing companies and pools their expertise. Historically, they are very important for the development of international production sites and the expansion of the product portfolio.

Exchange among experts
Experts from all over the world discuss their ideas with BASF's chemists and application engineers, as seen here at a workshop on the subject of leather in 1964.



Experiment apparatus
Small equipment, great effect: the apparatus of Fritz Haber (shown here in a replica) lays the foundation for BASF's ammonia synthesis on a small scale.

Always ready
In 1960, fast and reliable customer advisement on using a BASF product, as shown here, is still at the heart of the company's customer service.

Bundling knowledge

The synthesis of ammonia is a prime historical example that the bundling of external and internal expertise, as well as interdisciplinary expertise leads to success. A university chemist designs the procedure on a laboratory scale; the large-scale implementation takes place at BASF. Only through the intense collaboration between chemists and engineers is this procedural mammoth task a success, allowing the first synthetic ammonia to be produced in 1913. This research collaboration and interdisciplinary problem-solving within the company give some idea of what BASF realizes today in much larger dimensions as its Knowledge Verbund.

System solutions for customers

Customer relationships are changing and have included increasingly specific solutions to problems since the 1960s, which have been developed together with customers in most cases. This is especially true for the automotive industry. After its introduction as a prototype in 1967, the first plastic gas tank for cars is produced on a large-scale in 1973 at Volkswagen. Water-borne basecoats from BASF are another example and begin to be used for series production in 1987. The prerequisite for this is not only BASF's offering of coatings, but also the development of suitable system concepts together with its customers.

Corporate shareholdings

BASF uses joint ventures and majority shareholdings as an admission ticket to foreign markets in the second half of the 20th century. Quite often, the complete acquisition of the companies concerned, such as in Chile, India, or the United States, evolves from this cooperation with foreign partners. By means of shareholdings and acquisitions, BASF also repeatedly expands its product range. One example of this is Ultraform GmbH, a joint venture founded in 1969 that would completely belong to BASF 30 years later.

Carbon Materials Innovation Center, Ludwigshafen
In 2012, together with the Max Planck Institute for Polymer Research, BASF opens a research laboratory to explore innovative carbon-based materials (top left).

Fuel tank
In 1967, BASF introduces the first automobile fuel tank made of plastic. It is developed together with the car manufacturer Porsche for a few racing and rally cars (top right).

BASF as a meeting place
In the 1960s, BASF regularly invites leather professionals from all over the world to Ludwigshafen to discuss the issues of research and application technology (bottom left).

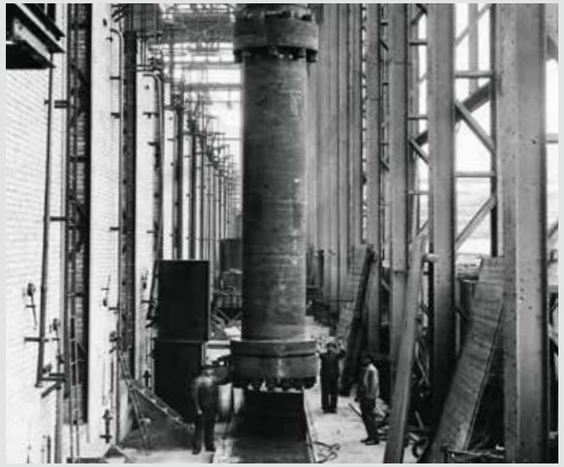
Smart forvision
In 2011, BASF and Daimler introduce the jointly developed concept vehicle. It combines innovations in energy efficiency, light-weight construction, and temperature management (bottom right).

Research collaborations

Innovation through collaboration with scientific partners

Indigo synthesis
In 1880, BASF starts work on the synthesis of the popular blue dye based on the procedure developed by Adolf von Baeyer (1835–1917). But the industrial implementation seems to fail. Only another impulse from university research, this time by Karl Heumann (1850–1894), leads to a breakthrough. After 17 years of research, “Indigo Pure BASF” is introduced to the market in 1897. Here is a glance of the Indigo Laboratory and the research done there around 1900.

Vitamin A
In 1953, BASF begins researching the synthesis of vitamin A, here in the crystalline form. A group of researchers around Horst Pommer (1919–1987) soon works out a procedure, but it is not economical enough. An impulse from outside, the “Wittig reaction,” results in a breakthrough, and by 1963 there is a new technical process available. When the large-scale production begins in 1970, BASF successfully enters a new area of work.



Ammonia synthesis
Starting from the laboratory procedure of its Karlsruhe partner Fritz Haber (1868–1934), a BASF team headed by Carl Bosch (1874-1940) has been working on the realization of ammonia synthesis on an industrial scale since 1908. With the world’s first plant, BASF becomes the pioneer of high pressure chemistry, the basis for other groundbreaking procedures, in 1913. This photo shows the installation of an ammonia reactor in 1921.

Strobilurin
Fungicides of the class of strobilurin active ingredients owe their development to the collaboration with professors Timm Anke and Wolfgang Steglich. Anke discovers that a wild mushroom produces a fungicidal antidote, whose structure is examined by Steglich. At BASF, Hubert Sauter has been developing a crop protection agent on this basis since 1983. In 1996, the first product containing the active substance Kresoxim-methyl from the strobilurin class is launched.

Development partnerships

Developing solutions together with customers and partners

Storage media
Since 1932, the “magnetic audio tape” is developed in the scope of collaboration with AEG. The electronics manufacturer receives the first meters of tape in 1934 and introduces the tape recorder with the sound storage medium from Ludwigshafen to the public in 1935. It becomes a sensation. The magnetic tape is a starting point for further developments in the field of storage media. In 1997, BASF abandons these activities.

Picture: Volkswagen Aktiengesellschaft

Volkswagen
BASF Coatings GmbH enjoys a long partnership with Volkswagen AG. Even the legendary Beetle gets shine and protection with BASF coatings, as here in 1966. In 1997, BASF Coatings becomes the first official system partner for paint jobs at a VW factory. BASF also develops plastic parts with Volkswagen starting with fuel tanks, which begin to be used in a pilot series of Beetles in 1972 before they are used in the VW Passat on a large scale in 1973.

Playmobil
BASF is a partner of the toy manufacturer geobra Brandstätter, as the latter brings Playmobil onto the market in 1974. From the beginning, BASF not only supplies the material, e.g. Ultraform, for the plastic play worlds which place high demands on design, robustness and hygiene. Rather, BASF’s advice is welcome at that time and whenever new game figures place new demands on the material.

adidas
In 2013, the sporting goods manufacturer adidas launches a new running shoe onto the market after less than three years of joint development with BASF. It owes its running features to the midsole from the new BASF plastic Infinergy™, the first expanded thermoplastic polyurethane in the world. It is not the first new generation of shoes adidas develops during its more than 30 years of collaboration with BASF.

Teamwork
BASF employees share expertise within the framework of Knowledge Verbund – all over the world or onsite.

Acquisitions

More expertise and new markets through acquisitions

Coatings
In 1965, BASF purchases Glasurit-Werke M. Winkelmann AG with its long-standing site in Münster, Germany – here to be seen in the year of acquisition. Since then, BASF no longer provides just the raw materials for coatings to the processing industry, but manufactures coatings itself. Until 1968, BASF expands the coatings program with more acquisitions and majority shareholdings and lays the groundwork for the current BASF Coatings GmbH.

Pharma
BASF's activities in the pharmaceutical market begin with the acquisition of the Nordmark-Werke in 1968. In 1975, they are placed on broader footing with a majority shareholding in Knoll AG (100 percent ownership since 1982). This example in the pharmaceutical industry shows that the strategy associated with an acquisition is not always fruitful. In 2001, BASF separates from the pharmaceutical branch. However, it still offers active pharmaceutical ingredients and excipients.

Dow Badische
In 1958, BASF and Dow Chemical Company set up the joint venture Dow Badische Company with headquarters and a factory site in Freeport, Texas, here at the beginning of the 1970s. While BASF brings technical expertise to the joint venture, Dow provides its knowledge of the market and carries out most of the management operations. 20 years later, the company, with which BASF takes up production in the United States, is completely handed over to BASF.

Catalysts
In 2006, BASF acquires the Engelhard Corporation in Iselin, New Jersey. With its biggest takeover up to this time, BASF brings together the experiences and technologies of two companies and becomes the world's leading supplier of catalysts. A research and development center is operated in Iselin. BASF maintains a testing center for mobile emissions catalysts in Union, New Jersey, seen here in the picture.

1990 – 2015
Around the turn of the millennium, BASF further strengthens its global presence and its core business and optimizes its product portfolio. Sustainability becomes a ground-breaking business strategy.

1990
BASF acquires the German company Synthesewerk Schwarzheide AG. This new subsidiary, renamed BASF Schwarzheide GmbH, manufactures polyurethane basic materials and specialties.
Left and bottom: Main gate of the site at Schwarzheide in 2005 and 1991

1991
The ultimate end of the coal era: The Auguste Victoria mine in Marl, Germany, which has supplied BASF with coal since 1907, is sold to Ruhrkohle AG.

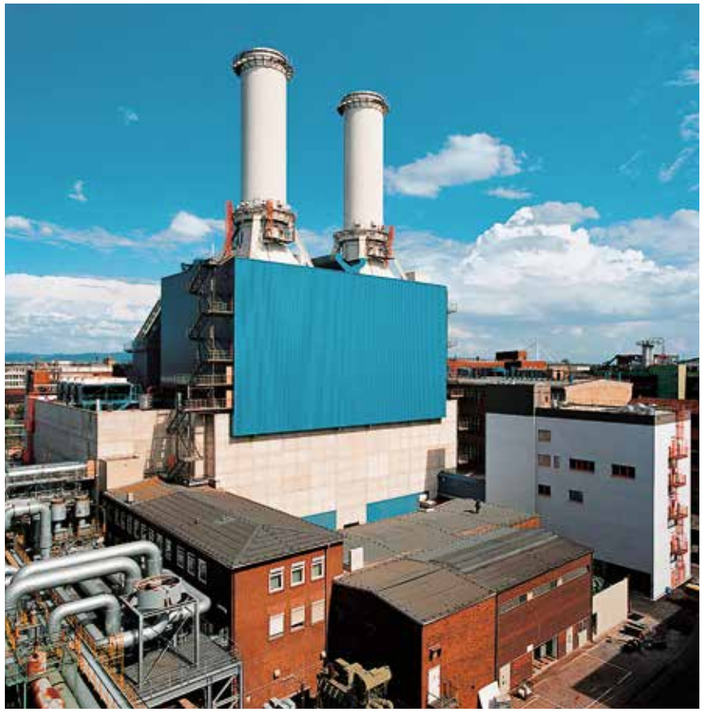
1992
BASF's first plant in China, which it designs in-house and erects together with a Chinese partner, is inaugurated in Nanjing in 1992. It produces unsaturated polyester resins (UP resins). In 1996, BASF sells its shares in the Jinling BASF resins Co. Ltd.

1993
BASF presents the first "BASF Innovation Award". In 1993, the award is given for the development of Opus, a cereal fungicide, and for the development of the Paliocrom effect pigments.

1994
BASF's new steam cracker goes into operation at the Belgian site in Antwerp in 1994. The largest single investment of BASF ever, the steam cracker completes the product Verbund and ensures a reliable in-house supply of petrochemical raw materials.
BASF commits itself to the principle of sustainable development.
Right: Steam cracker in Antwerp, Belgium, in 1994

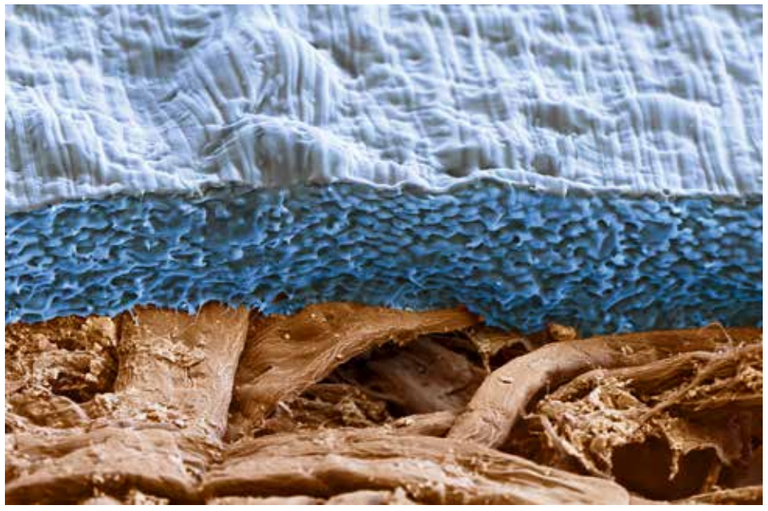
1995
BASF opens its new site in Altamira, Mexico. It initially produces dispersions, process chemicals, Styropor, and dyes.
Top: View of the new site in Mexico in 1995

1996
With Brio, BASF launches the first fungicide from the new class of Strobilurine onto the market. Opera, the broad-range fungicide containing a new active substance from the same class, follows in 2002.
Left: Opera fights fungal diseases with the new active ingredient F 500 and is especially successful in Brazil.



1997
A combined heat and power (CHP) plant starts operations at BASF's Ludwigshafen site. It produces steam and electricity at the same time, allowing up to 90 percent efficiency. In 2013, the BASF Group covers 70 percent of its electricity requirements with gas and steam turbines.
The Korea-based KOHAP Group acquires BASF's worldwide magnetic tape business.
Top: The combined heat and power (CHP) plant in Ludwigshafen conserves resources using the latest technology, here in 1997.

1998
The BASF Corporation in Mount Olive, New Jersey, and FINA Inc. in Dallas, Texas, begin constructing the world's largest naphtha steam cracker in Port Arthur, Texas, in 1998. After starting up in December 2001, the facility pipes propylene and ethylene as well as other basic products to BASF's Verbund sites in Freeport, Texas, and Geismar, Louisiana.
Elenac is founded by Shell and BASF as a joint venture for ethylene production including ROW. In October 2000, BASF and Shell decide to merge Elenac, Targor, and Montell into a joint venture for polyolefins known as Basell. Both companies sell their joint venture in 2005.
The biodegradable plastic Ecoflex enters the market. The development of Ecovio follows eight years later, up to 75 percent of which consists of renewable raw materials. These polymer substances are used to make carrier bags and biodegradable garbage bags. With Ecoflex and Ecovio, BASF is one of the world's leading suppliers of biodegradable and bio-based plastics.
Right: The steam cracker in Port Arthur, Texas, in operation since 2001
Bottom: Cross section of paper coating with Ecovio in the scanning electron microscope



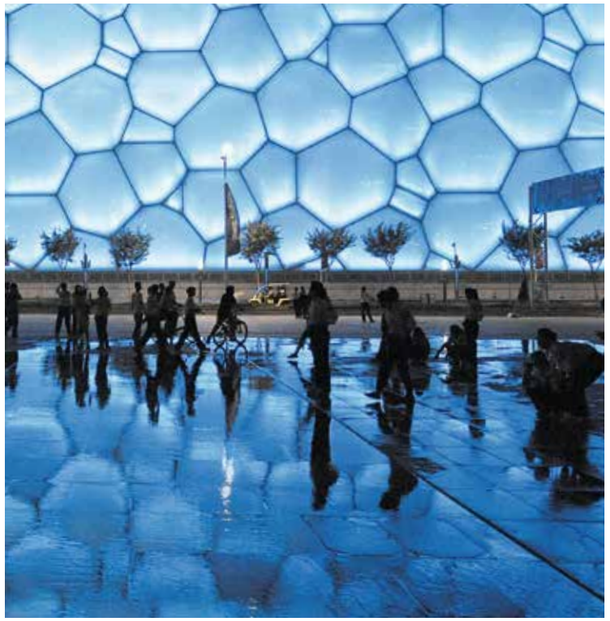
1999
Together with its Swedish partner, the seed producer Svalöf Weibull, BASF establishes its own company to conduct plant biotechnology research: BASF Plant Science GmbH. The 85-percent share of BASF aims to develop new business fields in the agricultural and food sector. In 2008, BASF acquires 100 percent of the company.
BASF is one of the 16 companies to found the German industry's foundation initiative "Remembrance, Responsibility and Future" (Erinnerung, Verantwortung, Zukunft; short: EVZ). In 2000, the initiative gives way to the EVZ foundation with the main purpose of making payments to former forced laborers. BASF participates with around 70 million euros.
Left: Research at BASF Plant Science in Raleigh, North Carolina, in 2012

2000
In 2000, BASF reaches an agreement with the American Home Products Corporation (AHP) to take over its crop protection business. BASF doubles the sales of its worldwide crop protection business.
In Kuantan, Malaysia, the first BASF Verbund site in Asia goes into operation. With three value-adding chains (acrylic monomers, oxo alcohols, and butanediol), this Malaysian Verbund site is a key component in BASF's strategy for the Asia Pacific region.
BASF is one of the founding members of the United Nations initiative, "Global Compact". By joining the initiative, BASF commits to promoting and implementing the Global Compact's principles of human rights, labor relations, environmental protection, and anti-corruption.
To increase its competitiveness, BASF merges its textile dye operations (indigo and the remaining range of vat, disperse, and reactive dyes) with those of DyStar, a joint venture of Bayer and Hoechst. In 2004, the three companies sell their holdings.
Top: Employees of the acrylic plant on the site of Kuantan, Malaysia, in 2006
Right: The Verbund site in Kuantan, Malaysia, in 2004

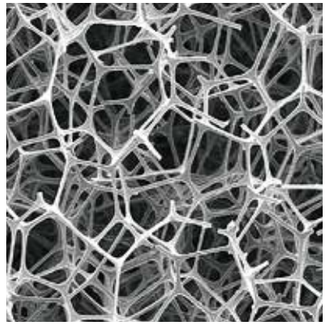
2001
With its acquisition of the vitamin business of Takeda Chemical Industries Ltd. in Japan, BASF becomes the second-largest producer of vitamins in the world. Today, BASF continues to be one of the leading manufacturers of vitamins for human and animal nutrition worldwide.
Abbott Laboratories Inc. based in Illinois acquires BASF's pharmaceuticals business.

2002
In 2002, construction of an integrated production complex for polytetrahydrofuran (PolyTHF) and tetrahydrofuran (THF) begins in Shanghai, China. The new PolyTHF plant is the largest in the world at the time of its commissioning in 2005.
BASF strengthens its position on the world market for acrylic acid and derivative products by launching the world's largest superabsorbents plant in Antwerp, Belgium.
Bottom: Spandex fibers made of PolyTHF

2003
In 2003, a new state-of-the-art logistics center opens at the Ludwigshafen site. It is Europe's largest chemicals terminal for the optimized delivery of packaged products.
The Russian company Gazprom – the world's largest producer of natural gas – and BASF subsidiary Wintershall found the joint venture Achimgaz, to develop natural gas in the Urengoy field in western Siberia. For the first time, a German producer becomes active in the production of natural gas in Russia.
A new world-scale plant for producing high-purity methanesulfonic acid begins operations at the Ludwigshafen site. The product is mainly used in the electronics industry and is manufactured by using a novel process that produces virtually no emissions.
Bottom: Borehole in the West Siberian Urengoy field in 2008



2004
BASF's Basotect foam is launched on the European market by Procter & Gamble under trademarks that include "Meister Proper Magischer Schmutzradierer" (Mister Clean Magic Eraser). Basotect is also used today as a fireproof and environmentally friendly acoustic insulating material.
Left: Basotect for soundproofing the swimming stadium in Beijing, China, 2009
Bottom: Open-cell structure of wafer-thin bars. Detailed image of the melamine resin foam Basotect



2005
In January 2005, BASF acquires the worldwide electronics chemicals business from Germany-based Merck KGaA. This makes BASF a leading supplier of electronics chemicals for the rapidly growing semiconductor and flat screen industries.
Together with the Chinese company SINOPEC, BASF launches its new integrated Verbund site in Nanjing, China. Here a steam cracker and nine downstream plants start operations according to plan. The new site represents BASF's largest single investment up to this point.
BASF and Gazprom come to a groundbreaking agreement on the European energy supply, including the participation in the German-Russian Nord Stream Baltic Sea pipeline, whose first line enters into operation in 2011. BASF and Gazprom also arrange the development of the Western Siberian natural gas field, Yuzhno Russkoye, that takes up its production in 2008.
Right: Work on the Nord Stream pipeline in 2008

2006
BASF takes over the worldwide construction chemicals business of Degussa AG headquartered in Germany.
BASF and Dow Chemical Company lay the foundation for the production of propylene oxide (PO) based on hydrogen peroxide (HP) in the world's first HPPO plant at the BASF site in Antwerp, Belgium. Propylene oxide is an important precursor for the polyurethane industry. The plant begins operations in 2008.
With the acquisition of the US-based Engelhard Corporation, BASF makes its largest acquisition to date and becomes the world's leading supplier of catalysts.
Top: Burj Khalifa, the tallest building in the world in 2009. For the construction of the nearly 820 meter tower, BASF develops a concrete mixture that can be pumped at a height of 600 meters without demixing.

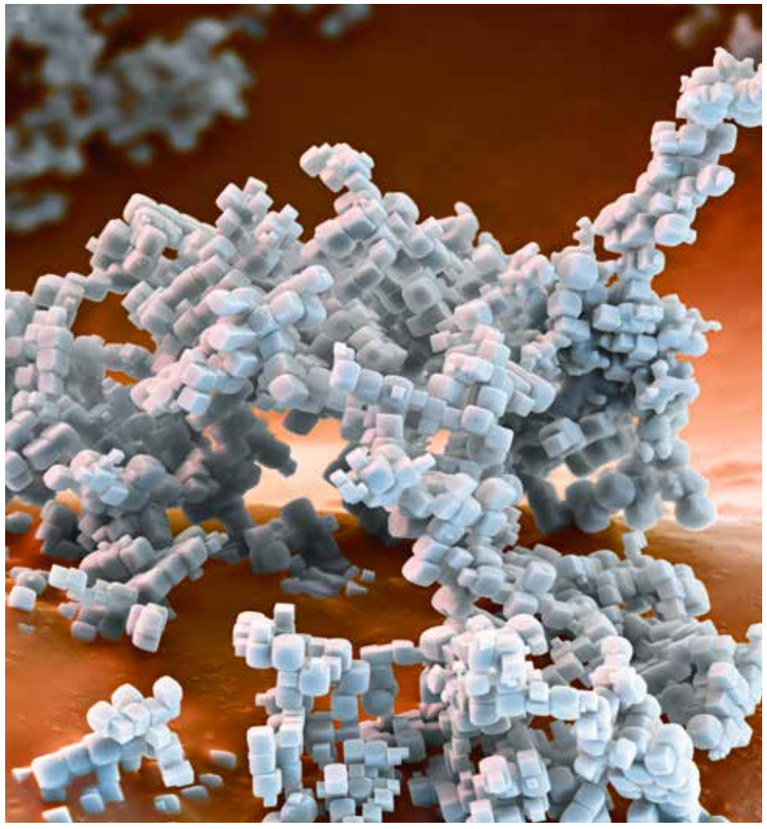
2007
BASF and Monsanto resolve on long-term research and development cooperation in the field of plant biotechnology.

2008
In 2008, the conversion of BASF into a European stock company is effective as a "Commitment to Europe." It is known ever since as BASF SE (Societas Europaea).
BASF products contribute to climate protection, which can save three times more greenhouse gas emissions than are emitted during their production, application, and disposal. This is documented by its comprehensive CO_2 footprint – BASF is the first company in the world to present it.

2009
BASF acquires Ciba Holding, based in Basel, Switzerland. Its product range complements BASF's business in personal care and coating products and extends the portfolio to include products for water treatment as well as paper chemicals.

2010
At the end of the year, BASF finalizes its purchase of the German chemical specialist company Cognis, Monheim. Thus, it becomes the market leader for ingredients for personal care products, especially those based on renewable raw materials.

2011
The new "We create chemistry" strategy builds on the successful past and defines ambitious goals for the future. From BASF's point of view, innovations in chemistry will play an important role mainly in three areas: resources, environment and climate; food and nutrition, and quality of life.
Center: Symbols illustrate BASF's strategic principles.



2012
The activities in the field of plant biotechnology are concentrated in the main markets of North and South America. Therefore, BASF realigns its product portfolio and the location strategy of BASF Plant Science. The corporate headquarters of BASF Plant Science is moved from Limburgerhof, Germany, to the United States. Its activities in the field of research and development are concentrated at its locations in Raleigh, North Carolina, Ghent, Belgium, and Berlin, Germany. The development and commercialization of all products that are focused only on the European market (including Amflora) are stopped.
The official groundbreaking ceremony for the construction of a plant for the production of TDI (toluene diisocyanate) in Ludwigshafen takes place in 2012. BASF sets new standards: it will be the world's largest single-train plant with the latest technology. TDI is used for the production of polyurethanes.
Left: In order to examine their development, genetically modified crops are photographed from all sides in a photography room once a week.

2013
BASF introduces the first FWC™ four-way conversion catalyst for gasoline engines. Hydrocarbons, carbon monoxide, and nitrogen oxides, but also fine dust from the exhaust can be reduced by this new technology. Thereby, BASF further develops an innovation of the Engelhard Corporation acquired in 2006. This company brought the three-way catalytic converter on the market in 1976, and thus facilitated a breakthrough for emission control of vehicles.
BASF opens Germany's first staff center for work-life management, "LuMit," in Ludwigshafen. With this center, BASF concentrates and expands its many offerings for balancing work and private life.
Top: BASF develops mobile emission catalysts for gasoline, but also for diesel engines. Specialty Zeolite, here to be seen in extreme magnification, play a key role in this.

2014
BASF introduces a new claim “We create chemistry” in its logo. This change to the company’s brand identity underlines how BASF collaborates and innovates with customers and partners to contribute to a sustainable future.
BASF inaugurates a new global Research and Development (R&D) Center at its Thane site in India. BASF breaks ground on the second phase of its Innovation Campus Asia Pacific that was inaugurated in Shanghai, China, in 2012. The Innovation Campus is BASF’s most important R&D center in the region and is expected to become one of its largest R&D sites outside of Germany. BASF takes a significant step closer to its globalization goal in R&D.

2015
BASF celebrates its 150th anniversary. It is the world’s leading chemical company.
Right: The Verbund site in Ludwigshafen, BASF headquarters, at night. It is the largest integrated chemical complex in the world that belongs to a single company.

Development of BASF's Logo

1873

1922

1952

1953

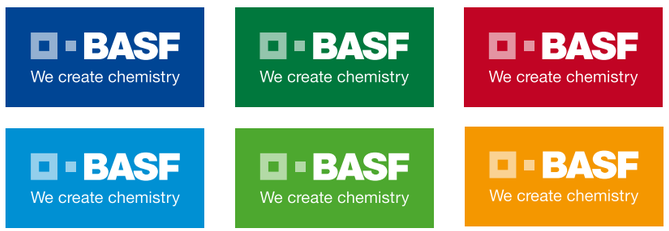
1955

1968

1986

2004

2015



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