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INDUSTRIEPARK HÖCHST

PEOPLE
INNOVATION
FUTURE



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PROGRESS IS OUR BUSINESS

Dear Visitor,

Welcome to Industriepark Höchst, one of Europe's most important chemical and pharmaceutical parks.

For over 150 years, this industrial estate has been a driver of innovation, world-class research and cutting-edge products in fields such as medicine, specialty chemicals and agriculture.



Many of the products made at Industriepark Höchst maintain our living standards and keep our world livable for future generations through innovative technology. These trailblazing innovations include life-giving insulin for diabetics, made in one of the world's most advanced insulin plants, all the way to vivid dyes, effective pesticides and high-performance plastics.

Over 90 manufacturing and research-based companies with around 22,000 employees are located at the 4.6 square kilometer industrial park. Here, people from

many different nations work hard every day to achieve lasting, sustainable growth. Industriepark Höchst is a dynamic, vibrant industrial and business center whose impact radiates well beyond the Rhine-Main Region. It thrives on the diversity of large, multinational corporations, medium-sized enterprises and small service providers. They invest in our future.

With its mature infrastructure, the park is an ideal setting for manufacturing and research-based companies, featuring excellent access to international transportation networks, close proximity to valuable procurement, sales and financial markets and a dense regional network of world-class universities and research institutions. A broad array of training institutes – including its very own private university – mark Industriepark Höchst as a high-level developer of future industry talent.



For more than 20 years, Infracor Höchst has been building the infrastructure that companies need: from utilities, training and logistics facilities to health, safety and waste management to environmental and safety equipment. One theme runs through all these services: the importance of sustainability. We generate environmentally responsible steam and electricity for our customers at our state-of-the-art waste-to-energy plant. We also have a biogas plant that converts sewage sludge and organic waste into biogas for power and steam production.

This brochure is full of interesting information about the activities, history and prospects of the industrial park. For details, visit www.industriepark-hoechst.com

We're happy to have you here!

The Managing Directors of Infracor Höchst on behalf of all the companies at Industriepark Höchst

A handwritten signature in black ink, appearing to read "J. Vormann".

Jürgen Vormann

A handwritten signature in black ink, appearing to read "Dr. Kreysing".

Dr. Joachim Kreysing

INDUSTRIEPARK HÖCHST BY THE NUMBERS



PEOPLE & COMPANIES

- 22,000 workers, including over 4,000 employees in research and development
- 1,400 vocational trainees in over 40 programs
- Around 60 nationalities at more than 90 multinational corporations

INFRASTRUCTURE & LOGISTICS

- 72 kilometers of roads, 57 kilometers of railroad tracks and a state-of-the-art container port connected to the German railway system
- 32,000 containers, 1.9 million metric tons of fluids and 1.4 million pallets handled per year
- Enough storage space for 180,000 pallets
- Largest storage facility for chemical products in Hesse: the high-bay warehouse holds 70,000 pallets
- 4 bus lines circulate within Industriepark Höchst every day
- Excellent access to transportation: only a few minutes from Frankfurt Airport

READY FOR THE FUTURE

- Around EUR 7.3 billion invested in the park since 2000
- Tenants hold several thousand patents

IMPRESSIVE SIZE

- 460 hectares of space – as large as a small town
- 50 hectares of vacant improved plots ready for new construction
- Over 980 rental properties, including 259 production plants and facilities and more than 90 laboratory and office buildings

SMART THINKING

- Well-integrated system connecting tenants and site operator Infracore Höchst:
- Over 250 raw materials circulate within Industriepark Höchst
 - Over 830 km of supply lines and pipelines for raw materials and intermediate products

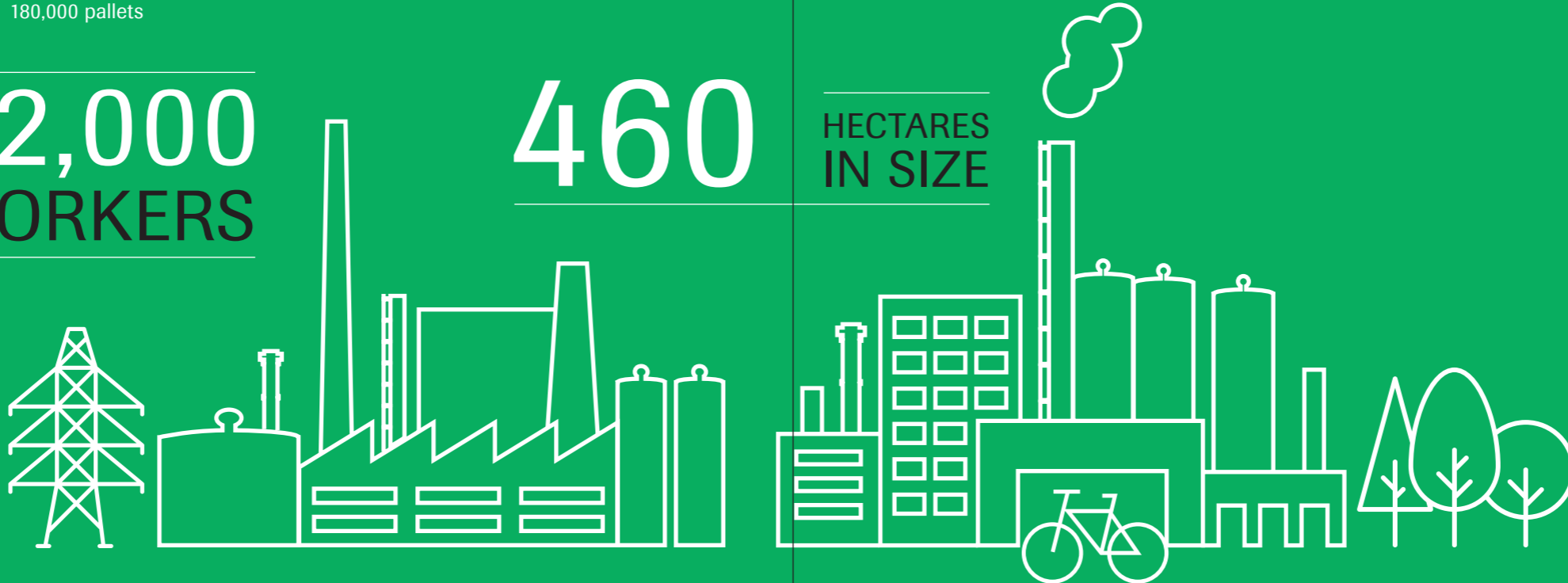
OVER
90
COMPANIES

22,000
WORKERS

460

HECTARES
IN SIZE

AROUND EUR
7.3
BILLION
INVESTED
SINCE 2000



INFRASERV HÖCHST – A PIONEER IN SITE MANAGEMENT



Industriepark Höchst is the size of a small city. This highly focused environment is tailored to the needs of its tenants and the well-being of their employees so everything runs smoothly and tenants can concentrate on their core business. At Industriepark Höchst and other locations, site operator Infracore Höchst supplies a wide range of services to support companies: from consulting to site operation to full-service site management. Infracore Höchst's specialists reliably meet the needs of various industries. They supply energy, fluids and raw materials, dispose of waste and wastewater in compliance with all laws and permit conditions, maintain safety and security, and provide and operate facilities, laboratories or vacant land for new plants or buildings. Their logistics services are also world-class – Industriepark Höchst, being centrally located, makes an excellent logistics hub.



In addition, the site operator offers vocational training and continuing education courses, including a state-recognized university with international bachelor's degree programs. Experts at Infracore Höchst also provide occupational medical care to over 22,000 people. Infracore Höchst tirelessly improves the site's infrastructure so tenants have the edge they need to succeed. Industriepark Höchst is ready for the future.

»WE CARE DEEPLY ABOUT EFFICIENT, RELIABLE ENERGY GENERATION.«

Dr Joachim Kreysing, Managing Director of Infracore Höchst



SUPPLYING UTILITIES – RELIABLY, FLEXIBLY AND INNOVATIVELY

Supplying utilities is a complicated job. It involves a lot of questions. What energy sources will be reliably available and competitively priced over the long run? What's the cleanest and most efficient energy generation method? How can you make the most of risks and opportunities posed by regulatory changes, particularly when transitioning to a clean energy economy?

Industriepark Höchst's tenants rely on dependable, efficient utilities to run their research, development and production operations smoothly and competitively. Reliable utilities are particularly important in the chemical and pharmaceutical industry.

Infracore Höchst, the park's operator, draws on its extensive experience in this demanding field to deliver utilities in a way that benefits all the companies based at the park. Its future-proof solutions are holistically engineered for efficiency, sustainability and security of supply. They cover the full range of utilities, too: from heat, power and natural gas to cooling, water, compressed air and industrial gases. Thanks to its broad, deep portfolio, it can translate niche customer requirements into end-to-end solutions at Industriepark Höchst. This commitment to efficiency, sustainability and internationally competitive pricing has been honored by an award, given by the German Federal Ministry for the Environment as part of the Rhine-Main Region Energy Efficiency Network.





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WASTE MANAGEMENT — SAFE, EFFICIENT AND SUSTAINABLE

Wherever you have chemical and pharmaceutical manufacturing, you also have complex, challenging waste. Infracore Höchst helps park tenants manage their waste with high-performance treatment and disposal facilities. They marshal all of the site operator's experience optimizing non-core processes like waste management in order to improve their own process chains.

In and outside Industriepark Höchst, customers turn to Infracore Höchst for custom-engineered waste management solutions along their sophisticated production processes in chemical and pharmaceutical manufacturing. Whatever waste stream they may have – from wastewater, biogenic waste and sewage sludge to refuse-derived fuel and hazardous waste – they can entrust it to Infracore Höchst for treatment or energy recovery at its highly efficient disposal facilities.

When it comes to disposal, after all, safety and efficiency aren't enough. Waste management should also be highly sustainable and conserve resources. This is why waste-to-energy solutions are used throughout Industriepark Höchst. Biogenic waste is transformed into biogas, electricity and steam. Refuse-derived fuel powers a combined heat-and-power plant.

Energy, in other words, is produced in environmentally responsible ways at the park. Together, these facilities form an integrated waste management system that not only reduces the carbon footprint of many of the products made at Industriepark Höchst, but also makes a significant contribution to resource conservation and sustainability.

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01 | Industriepark Höchst has state-of-the-art disposal and treatment facilities.

02 | Work never stops here.

03 | Infracore Höchst's experts care about sustainable waste management.



FOR NEW TENANTS – INTELLIGENTLY INTEGRATED, EASILY ACCESSIBLE

Industriepark Höchst lies at the center of the booming Frankfurt Rhine-Main Metropolitan Region. Its locational strengths and strong track record for investors have made the site in Europe's heartland an internationally competitive business location.

Frankfurt Airport, Europe's largest air cargo hub, is a stone's throw away, ideally supported by ready access to road, rail and waterway networks. Key sales, supply and financial markets are within close reach. Industriepark Höchst is clearly embedded in an ideal business environment.

The environment within the park is equally supportive. Here, a dense network pulses with innovative energy supplied by over 90 companies in the chemical, pharmaceutical and related process industries along with a host of outstanding universities and research institutions in the Rhein-Main Region. Infracore Höchst, for its part, provides all the services needed to keep a high-quality, high-availability infrastructure running smoothly. Indeed, the infrastructure's various sub-systems (steam/energy generation, integrated waste

management network) go a long way toward explaining the four square kilometer site's strong position in international rankings.

When new tenants arrive from in and outside Germany, they appreciate the clever techniques used to slash idle infrastructure capacity, the focused development of integrated supply and disposal networks and the attractive opportunities to collaborate with other tenants. They find that cross-company synergies, once unleashed, can drive powerful growth. Infracore Höchst cultivates Industriepark Höchst's status as a leader in the production site market by engaging in active investor management and working closely with industry associations, worldwide intermediaries and regional and national economic development agencies. It supports large relocations or expansions, including those with particularly complex requirements, with fast response times, even during intensive development phases.



INFRASERV HÖCHST INVESTS IN CUTTING-EDGE INFRASTRUCTURE

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SITE DEVELOPMENT

The Site Development team professionally supports every expansion or relocation project – from the initial idea to the finished production plant:

Site Development
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Germany

Phone: +49 69 305-46300
Fax: +49 69 305-29029
sitemarketing@infraserv.com



FOR GREEN ENERGY – BIOGAS PLANT

Who says that cutting carbon dioxide emissions and protecting the **climate and environment** can't spark innovation? The cutting-edge biogas plant shows how to eliminate conventional fossil fuels. Every day, it produces roughly **75,000 m³ of biogas**. Some of the gas is upgraded to biomethane and injected into the public gas grid. The remainder is converted to heat and electricity in 3 packaged co-generation plants that each output 1.4 MWel.



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01 | Biogas plant, Infraserv Höchst.
02 | Biogas upgrading plant, Infranova.

Infraserv Höchst engineers developed the underlying process: Sewage sludge from the park's wastewater treatment facility is combined with organic waste such as fermentation residues or spoiled food. The mixture is then anaerobically digested to produce biogas. The facility can process 200,000 m³ of sewage sludge and 180,000 m³ of co-substrates per year.

» OUR FUTURE DEPENDS ON CONSERVING RESOURCES.«

Jürgen Vormann,
Managing Director,
Infraserv Höchst

CLIMATE-FRIENDLY ENERGY – BIOGAS UPGRADING

Infraserv Höchst has joined forces with Mainova AG, a public utility, and invested roughly EUR 5 million in a biogas upgrading plant at Industriepark Höchst. The plant upgrades biogas generated from waste and sewage sludge at the biogas plant to pipeline-quality methane and injects it into the Frankfurt public gas grid. Operated by Infranova Bioerdgas GmbH, a joint venture, the plant produces up to **80 million kilowatt-hours** of biomethane per year – enough to supply around **8,000 households**. Replacing conventional natural gas with climate-friendly biomethane cuts carbon dioxide emissions by around 16,000 metric tons each year.



“Waste-to-Energy”

All these exemplary, cutting-edge programs form part of Infraserv Höchst's comprehensive waste-to-energy strategy.





EFFICIENTLY SUPPLIED – GAS TURBINE PLANT

Industriepark Höchst is filled with power-hungry plants and production facilities. Production plants receive much of their electricity and process steam, and building heating systems much of their heat, from the park's combined heat-and-power (CHP) plant. In 2011, Infracore Höchst, the park's operator, augmented the CHP plant with a high-efficiency gas turbine plant – an investment of some EUR 70 million.

The plant consists of two gas turbine sets and a heat recovery steam generator. Each turbine set can generate 50 megawatts of electric power. Heat extracted from 550°C turbine exhaust gases powers the downstream heat recovery steam generator, which produces 130

metric tons of high-pressure steam, 30 metric tons of low-pressure steam and 135 metric tons of hot water per hour. That's enough electricity to power a city of around 200,000 households, and enough heat to warm 10,000 single-family homes.

Because the plant uses co-generation, it consumes nearly 25 percent less primary energy than if the heat and power were produced separately. That directly **reduces CO₂ emissions by 224,000 metric tons a year**. And since the gas turbine sets generate electricity right by major power consumers, they reduce the load on Germany's power transmission system.



01 | Gas turbine plant, Infracore Höchst.



02 | Waste-to-energy plant, Infracore Höchst.



INTELLIGENT HEAT AND POWER – WASTE-TO-ENERGY PLANT

Investments in efficient and resource-friendly generating units are integral to Infracore Höchst's innovative energy strategy. Tenants can then buy heat and power at internationally competitive rates. No wonder the single largest investment project in the Industriepark Höchst Group's history is a waste-to-energy plant, representing around EUR 300 million in investment. This state-of-the-art "energy machine" covers an area the size of five soccer fields.

The plant meets an urgent need, too. In 2005, Germany's parliament passed a law in 2005 banning the landfilling of combustible waste and only permitting its incineration. Now, the Infracore Höchst facility fires "refuse-derived fuel" (RDF) – specially prepared, high-calorific-value municipal solid waste that cannot be recycled – to produce around 70 megawatts of power and 250 tons of steam per hour.

BETTER HEAT RECOVERY

Soon, the plant will burn sewage sludge as well. Recent amendments to the German Sewage Sludge Regulation (AbfKlärV) phase out the use of sewage sludge as farmland fertilizer over the medium term. Instead, the sludge will have to be sent off for environmentally responsible treatment and disposal at suitable facilities – facilities like the waste-to-energy plant. The Industriepark Höchst plant needs no prior modifications or expansions, either. In fact, the addition of sewage sludge could help optimize the plant's combustion processes. It will help absorb occasional fluctuations in the heating value of refuse-derived fuel that prevent the plant from making full use of the fuel's energy.



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SUCCESSFUL SITE DEVELOPMENT



Industriepark Höchst has received tremendous investment from the companies that call it home. For the past 150-plus years, this advanced research and production site has consistently relied on sustainable, forward-looking projects to drive its growth and evolution.

Industry players large and small have set the tone for the entire sector with new research institutions, plant expansions or more energy-efficient, environmentally compatible processes, and have made Industriepark

Höchst one of the most vibrant, dynamic sites worldwide. At the same time, the decisions made here reflect a sense of responsibility for human health and the environment as well as a commitment to keeping employees and neighbors safe.

**GENERATING
VALUE WITH
SUSTAINABLE
SOLUTIONS**

EXTRAORDINARY HISTORY

Industriepark Höchst's importance to the German chemical and pharmaceutical sector is illustrated by the remarkable history of investment at the park. Since 2000, around EUR 7.3 billion has been invested in Industriepark Höchst. What's impressive is not only the amount, but also the consistency with which tenant companies have invested in Industriepark Höchst, even in economically difficult times.



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» FEW OTHER CHEMICAL AND PHARMACEUTICAL PARKS IN GERMANY CAN MATCH THIS LEVEL OF INVESTMENT. «

Dr Joachim Kreysing, Managing Director of Infracore Höchst

02



01+02 | Industriepark Höchst with impressive levels of investment.

IDEAL ENVIRONMENT FOR MANUFACTURERS

Industriepark Höchst is an ideal business environment. Its proximity to numerous industrial partners, world-renowned universities and park research networks and its excellent access to transportation systems have proven irresistible to many corporations.

The efficiency of the utility systems – from steam to energy production to waste disposal – **enables an ideal production environment for manufacturers.**

Around 830 km of pipelines interconnect the park's tenants and supply them with all necessary fluids, intermediates and raw materials.

On the following pages, we provide a brief look at what some manufacturing firms at Industriepark Höchst do.

36,000 M²
INNOVATION CENTER

AROUND **830** KM
OF PIPELINES

TEMPERATURES
DOWN
TO
MINUS **197**
DEGREES CELSIUS

Read what's behind these numbers on the next several pages ...

3,000 M³
DIGESTER



AIR LIQUIDE

INNOVATIVE GASES

Gases are absolutely essential for life, matter, energy – and industry. That’s a truth that **Air Liquide** has always embraced. Oxygen, nitrogen, hydrogen and noble gases for over 50 industries have been at the core of the company’s activities since its creation in 1902.

Air Liquide anticipates the challenges of its markets, invests locally and globally, and delivers high-quality solutions to its customers, patients and the scientific community. In Germany, it works side-by-side with research partners on finding tomorrow’s winning formulas.

The world leader in gases, technologies and services for industry and health, Air Liquide works closely with Infracerv Höchst at Industriepark Höchst: The park operator is responsible for the operation and maintenance of Air Liquide’s plants. Air Liquide produces liquefied gases at the park in order to keep tenants continuously supplied with liquefied gases.



01

Air Liquide
 Industrial gases / chemicals
65,000 employees worldwide
4,500 employees at Air Liquide in Germany
 Employees at Industriepark Höchst: **operation and maintenance by Infracerv Höchst**
 For details, visit www.airliquide.de

BASF

INNOVATIVE SOLUTIONS FOR AGRICULTURE

BASF is represented at Industriepark Höchst by its Agricultural Solutions division. Being one of the world’s leading chemical companies, BASF develops innovative solutions for seeds and traits, chemical and biological crop protection, soil management, plant health, pest control and digital farming – effectively contributing to improving people’s lives and business’ demands.



02

BASF
 The Chemical Company

Solution Provider for Crop Protection, Seeds, Digital Farming	BASF Agricultural Solutions GmbH: around 320 employees, of which are 120 located at Industriepark Höchst
BASF Group: 115,000 employees worldwide	More information at www.basf.com
Agricultural Solutions Division: 12,500 employees worldwide	

BASF connects innovative thinking with practical action to help farmers tackle the biggest job on earth. Meeting the challenges of modern agriculture, today and tomorrow. The company applies high-end science to solve real-world problems. Working closely with the whole agricultural community from the ground up, it takes a long-term view to help agriculture work for everyone.

BASF has around 120 dedicated employees at the manufacturing site in Frankfurt. In its production facility, BASF produces the herbicide Basta®, which is based on the active ingredient glufosinate-ammonium. Basta® is used in agriculture and is effective against all major weed species, primarily in the growing of corn, beet, potato and fruits.

01 | Delivery of nitrogen by tank, Air Liquide.

02 | Production plant, BASF.

BAYER

COMMITTED TO INNOVATIVE
CROP PROTECTION

Efficient crop protection is essential to feeding the world's steadily growing population. That is the mission of **Bayer's** Crop Science division, which researches and produces products at Industriepark Höchst. Bayer, a leading pesticide manufacturer, has decided to add capacity to keep its success story going. At the new biological research center at the park, Bayer experts will work hard to develop more innovative active ingredients for herbicides.

New active ingredients undergo tests in on-site greenhouses and in field trials to pinpoint their spectrum of herbicidal activity and their potential effectiveness in controlling herbicide-resistant weeds. Substances that pass the battery of tests and studies are transferred to the active ingredient plant, which currently manufactures 8 different active substances. The manufactured substances then move on to a formulation plant to be packaged appropriately before being filled, stored in a distribution warehouse, kitted, packaged and then shipped all over the world.



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Manufacturer of seeds and crop protection products

115,000 employees worldwide
(as of June 2018)

Employees at Industriepark Höchst: **680**

For details, visit
www.bayer.com

01 | Herbicide research, Bayer AG.

02 | Production building at the park, Cabot Aerogel.

CABOT AEROGEL

NEW INSULATING MATERIAL AND
ADDITIVE BASED ON SAND

Many innovative specialty products help us to live more comfortably and sustainably. One of the most advanced, versatile of these materials is silica aerogel. **Cabot Aerogel GmbH** is the global leader in producing high-quality particulate silica aerogel and the first company to develop a commercialized process that allows continuous production of aerogel. In Höchst, Cabot manufactures aerogel using a patented production process.

Aerogel is one of the best-insulating solids in the world – a granulate that is more than 90% air. It goes into the production of numerous high-performance insulation products such as plasters, boards or coatings, helping to reduce energy consumption and protect the environment. It even keeps feet warm in shoes. Large cosmetics manufacturers interested in its special properties also add aerogel to their skin and beauty care products.

02



Cabot Aerogel is part of the Cabot Corporation, a storied multinational company with over 130 years of history. With approximately 4,500 employees at 45 manufacturing sites in 21 countries, Cabot is a leading provider of carbon black for automotive tires, fumed silicic acids for silicones and activated charcoal for air and water treatment.



World's leading manufacturer of particulate aerogel

Cabot Group:
approx. **4,500 employees**

Employees at Industriepark Höchst: **around 50**

For details, visit
www.cabotcorp.de/aerogel

CARGILL

FUEL AND GLYCERIN FROM VEGETABLE OILS

Many products from Industriepark Höchst are made out of natural, renewable materials. Few companies illustrate this point better than **Cargill**, an international manufacturer and supplier of products and services in food, agriculture, finance and industry.

Cargill has been producing biodiesel at Industriepark Höchst since September 2006 and making glycerin from vegetable oil since 2009. The company supplies all the major refineries in Europe. Each customer expects its fuel to conform to a different profile – with or without additives, winter or summer diesel, and so on. Cargill produces a wide variety of different biodiesel specifications to customers' exacting requirements. The Frankfurt am Main region is perfectly suited for biodiesel production and distribution – both geographically (with the Rhine River) and for sourcing raw materials such as rapeseed oil and other vegetable oils.

The company, which originated in Iowa but is headquartered farther north in Minneapolis, MN, USA, has been doing business in Germany since 1955. Initially, its core business was trading in agricultural products. In the 1990s, however, Cargill also became a processor of



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agricultural commodities by building an oil mill, a cooking oil refinery and a malting unit. Today, Cargill does business in grain and oilseed, cocoa and chocolate, malt, refined oils, risk management, starches and sweeteners, texturizing solutions, animal nutrition, alcohol and biodiesel. The company employs approx. 1,700 people at 12 locations in Germany.



Products and services in nutrition, agriculture, finance and industry
155,000 employees in 70 countries worldwide
1,700 employees at Cargill in Germany

Employees at Industriepark Höchst: **70**
 For details, visit www.cargill.de

01 | Production plant, Cargill.

02 | Production plant for high-performance plastics, Celanese.

CELANESE

HIGH PERFORMANCE FOR ADVANCED TECHNOLOGY

Engineering plastics are everywhere in industry and our ordinary lives – from home appliances and automobile manufacturing to fasteners and drinking water applications. One of the world's largest factories for high-performance plastics can be found at Industriepark Höchst. Originally located in Kelsterbach, the **Celanese** plant – at the time operating under the Ticona name – was relocated to Industriepark Höchst in 2011 to make way for the planned expansion of Frankfurt Airport.

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This once-in-a-century undertaking was one of the largest construction projects in the German chemical industry in recent memory.

Three years and the combined efforts of a large team were needed to build one of the world's largest production facilities for Hostaform®-branded polyoxymethylene plastic (POM). The jobsite buzzed with not only Celanese's own specialists, but also some 1,200 tradesmen and up to 400 engineers. Infraserp Höchst provided all the infrastructural services: from supplying utilities, disposing of waste and wastewater, performing various construction and demolition projects, connecting the IT network, building an access road, managing jobsite logistics and providing security to handling permit issues and implementing emissions and noise control measures.

Today, the advanced production plant can produce around 150,000 metric tons of the versatile plastic a year.



Chemicals company
7,600 employees worldwide
1,600 employees at Celanese Germany
 Employees at Industriepark Höchst: **around 1,000**
 For details, visit www.celanese.de

CF CARBONS

FOR COATINGS THAT MEET DEMANDING STANDARDS

You'll find them wherever excellent coatings are needed: fluoropolymers. These corrosion- and heat-resistant materials are predominately used to make process equipment that is exposed to highly aggressive chemicals. However, their properties are also useful for household articles, breathable clothing and dirt-repellent coatings used on apparel items and metal objects such as automotive rims.

One of the ingredients in fluoropolymers is R-22 (chlorodifluoromethane), which CF Carbons GmbH produces at Industriepark Höchst. Most of its output goes into PTFE (polytetrafluoroethylene) formulations such as Dyneon® and Teflon®.



01

CF Carbons

R-22 – ingredient in fluoropolymer production

Employees at Industriepark Höchst: **24**

For details, visit www.cfcarbons.com

- 01 | CF Carbons's R-22 plant.
- 02 | The LPP facility has been geared toward sustainability.
- 03 | The Clariant Innovation Center.

CLARIANT

Industriepark Höchst is ground zero for many innovations that make our lives better. Swiss specialty chemicals company **Clariant** maintains its largest production and research operation at the park. Its product range includes vibrant azopigments, specialized high-performance pigments and polyolefin waxes and additives for printing inks and car, industrial and architectural paints.

RESPECT FOR RESOURCE CONSERVATION

Clariant takes pride in the sustainability of its products. For example, the company invested in realigning its production plant for Licocene performance polymers (LPPs). These waxes now meet 36 social, economic and environmental sustainability criteria, including easier recyclability and lower pollutant levels for furniture or vehicle interior applications. In 2015, Clariant was a

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finalist for the Innovation Award of German Industry for its Licocene® product range.

03



CLARIANT INNOVATION CENTER

Clariant invested around EUR 100 million in its Innovation Center at Industriepark Höchst. Around 500 employees in this 36,000 square meter facility research the innovations of the future, sometimes collaborating under one roof with customers and development partners. The Innovation Center was designed together with its users and is tailored to their needs. For example, it provides common areas for teams with similar duties and contains central systems for supplying utilities to laboratories with similar requirements.

CLARIANT

Specialty chemicals company

Around **17,000 employees** worldwide

4,500 employees at Clariant in Germany

Employees at Industriepark Höchst: **1,500**

For details, visit www.clariant.com

CORDEN BIOCHEM

Corden BioChem is a large-scale industrial manufacturing partner for biotech-based products in fine chemicals, enzymes and active pharmaceutical ingredients.

Corden BioChem is a pioneer in harnessing and applying white biotechnology. For over 60 years, the company has implemented and optimized large-scale fermentation, downstream, biocatalysis and synthesis processes with world-class efficiency, quality and reliability in Höchst. It maintains around 3,000 m³ of fermentation capacity – one of Europe's largest fermentation and downstream plants – for contract production in Europe's heartland.

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Corden BioChem provides superior development, manufacturing and quality assurance services for a broad selection of food, feed and pharma products. Its pilot and production plants can open up countless opportunities to introduce novel, efficient manufacturing processes and innovative products into growing new markets. As a member of the International Chemical Investors Group, Corden BioChem can also draw on a global network of services in contract development and manufacturing.

International Chemical Investors Group (ICIG) is a privately owned industrial group that owns chemical and pharmaceutical businesses and has aggregate sales in excess of € 2 billion and more than 6,000 employees worldwide. ICIG currently focuses on three main platforms: Pharmaceuticals under the CordenPharma brand, Fine Chemicals under the WeylChem brand and Chloro-vinyls under the VYNOVA brand.

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01+02 | Production plant and administration building, Corden BioChem.



Employees at Industriepark Höchst: **around 60**
For details, visit www.cordenpharma.com

DAIKIN

ENVIRONMENTALLY FRIENDLY REFRIGERANTS AND PROPELLANTS

The international **Daikin Group**, headquartered in Osaka, Japan, is a leading producer of air-conditioning systems and fluorine products with around 67,000 employees worldwide. Daikin Refrigerants Europe, a subsidiary of Daikin Industries Ltd., makes R134a at Industriepark Höchst by reacting trichloroethylene with hydrogen fluoride. This hydrofluorocarbon attracts buyers all over the world, who use it in air-conditioning and refrigeration systems as well as automotive and construction applications. Ultra-pure grades of R134a and R227, another hydrofluorocarbon, are used by the pharmaceutical industry as propellants for medicine.

In addition to chemical manufacturing plants, Daikin operates storage and filling plants as well. It also runs a cracking plant that converts chlorofluorocarbons and hydrofluorocarbons into hydrofluoric and hydrochloric acid in the presence of an oxygen-hydrogen mixture. The acids are reused in production as raw materials.



Refrigerants and propellants
67,000 employees worldwide
Employees at Industriepark Höchst: **around 100**
For details, visit www.daikinchem.de

03



03 | Hydrofluorocarbon production plant, Daikin.

EUTICALS

FINE CHEMICALS AND PROCESS DEVELOPMENT TO EXACTING STANDARDS

Pharmaceutical production stringently applies highly demanding standards, rules and regulations. Drug ingredients must stand up to the strictest scrutiny and requirements imaginable. **Euticals GmbH** is one of the world's leading producers of fine chemicals and pharmaceutical intermediates, focusing on research and development. It specializes in the commercialization of high-technology pharmaceutical building blocks, cGMP intermediates and APIs in close cooperation with its customers.



01 | Administration building, Euticals GmbH.
02 | Dimethyl ether production facility, Grillo.

01



Around 70 people work for Euticals at Industriepark Höchst. Its core competencies are in organic synthesis and in producing fine chemicals to rigorous regulatory standards. The Frankfurt site has been part of the multinational AMRI Group (Albany Molecular Research Inc.) in Albany, NY since mid-2016. The group's 3,000-plus employees manufacture over 350 different active pharmaceutical ingredients in a wide variety of therapeutic classes.

GRILLO-WERKE

INNOVATION AND SUSTAINABILITY IN SULFUR CHEMISTRY

Grillo-Werke AG is a leading European provider of inorganic sulfur chemicals that serves as a prime example of closed-loop recycling. It produces sulfuric acid sustainably in Frankfurt-Höchst. The fresh acid replaces consumed sulfuric acids that Grillo takes back and profitably recycles in Duisburg.

In 2013, the company commissioned Europe's most advanced dimethyl ether plant in the southern sector of Industriepark Höchst. Dimethyl ether is used in spray cans as a climate-friendly propellant.

02



Grillo places a premium on transportation safety. In fact, Grillo-Werke AG received the Responsible Care Prize from the North Rhine-Westphalia Chapter of the German Chemical Industry Association (VCI NRW) for its project, "Setting New Standards for Pressurized Tank Rail Car Safety Systems," which focused on safely transporting sulfur dioxide (SO₂).

Grillo-Werke AG is also researching a new, environmentally friendly process for manufacturing ultra-pure methanesulfonic acid. In it, methane (CH₄) serves as a starting material and reacts directly with sulfur trioxide (SO₃). Methanesulfonic acid is a strong, non-oxidizing acid that is highly biodegradable and toxicologically harmless.



ITALMATCH DEUTSCHLAND

EXPERTISE IN PHOSPHORUS CHEMISTRY

Italmatch Deutschland GmbH manufactures phosphorus derivatives at Industriepark Höchst, which are used as intermediates in chemicals, pharmaceuticals and agricultural products. For example, phosphorus derivatives serve as precursors for reactive organic phosphorus compounds or as flame retardants and fuel additives. They are also used for making antibiotics in the pharmaceutical industry.

Phosphorus derivatives have been produced at Industriepark Höchst since 1955. In 2013, the manufacturing facility became a wholly owned subsidiary of Italmatch Chemicals S.p.A., a Genoa-based company with over 80 years of experience and expertise in phosphorus chemistry. Established in 1997, Italmatch Chemicals is an innovative, leading chemical company that makes high-performance additives for water treatment and the oil and gas industry, specializes in lubricants and plastics and offers a sweeping portfolio of products for the most demanding applications.



01 | Production plant for phosphorus derivatives, Italmatch.

02 | Production plant for polyvinyl alcohol, Kuraray.

KURARAY EUROPE

INVESTMENTS DRIVE GROWTH

Many mid-market companies have also contributed to the Industriepark Höchst success story.

Kuraray Europe GmbH, a specialty chemicals company, has continued to expand its polyvinyl alcohol (PVA) and polyvinyl butyral (PVB) plants at Industriepark Höchst in recent years and made its entire manufacturing operation significantly more energy-efficient through extensive process optimization. In keeping with its growth and innovation strategy, it also optimized its application engineering and research activities for PVA and PVB. Polyvinyl alcohol is a precursor for numerous products in the plastics industry. PVA and its derivative, PVB, are used in the production of many everyday items, too: paper, textiles, packaging, inks, coatings, adhesives, water-soluble films and ceramics.

PVB films produced by Kuraray in Troisdorf also serve as interlayers in laminated glass for automotive and architectural applications.



The company expects to see particularly strong growth in the automotive industry. Kuraray Europe GmbH is a wholly owned subsidiary of Kuraray Co., Ltd., a multinational specialty chemical company based in Tokyo, Japan.



LYONDELLBASELL

BETTER LIVING WITH MODERN PLASTICS

LyondellBasell is one of the largest plastics, chemicals and refining companies in the world. Day after day, its 13,000 employees work around the clock to reliably and safely supply the plastics, chemicals, materials, fuels and technologies that are behind powerful solutions to the world's biggest challenges.

The products and materials that LyondellBasell manufactures at Industriepark Höchst support almost every sector of industry and are key to advancing solutions to modern challenges like enhancing food safety through lightweight and flexible packaging, protecting the purity of water supplies through stronger and more versatile

pipes and improving the safety, comfort and fuel efficiency of many of the cars and trucks on the road.

LyondellBasell has been bringing its revolutionary innovations into play for more than 70 years.

Industriepark Höchst is home to its most important European research and development laboratory after its location in Ferrera, Italy.

LyondellBasell has constantly invested in maintaining and expanding its equipment fleet in recent years and so succeeded in steadily increasing its production output at Industriepark Höchst despite operating in a highly competitive environment.

lyondellbasell
Advancing Possible

Plastics, chemicals and fuels

13,000 employees worldwide

Employees at Industriepark Höchst: **300**

For details, visit www.lyondellbasell.com

01 | Production plant, LyondellBasell.

02 | Expansion of the chlor-alkali production plant, Nouryon.



NOURYON

MODERN PRODUCTION PROCESSES WITH A BETTER ECO-FOOTPRINT

Nouryon (formerly AkzoNobel) has two business units in operation at Industriepark Höchst: Ethylene and Sulfur Derivatives as well as Industrial Chemicals.

Industrial Chemicals is the market leader for industrial salt, chlorine, caustic soda, chloromethanes, water treatment chemicals and monochloroacetic acid. It manufactures chlorine, caustic soda and derivative products in two facilities: a membrane electrolysis plant and a chloromethane plant. This membrane electrolysis plant was placed into operation in 2015. It reduced the specific energy consumption of each ton of caustic soda around 30 percent, which greatly improved the plant's eco-footprint. Chlorine is used in many areas of life: as a disinfectant for drinking water, in swimming pools, in the production of plastics such as PVC, polyurethane and epoxy resins and in the manufacturing of 85 percent of all drugs.

Nouryon

Specialty chemicals manufacturer
Approx. **10,000 employees**
worldwide

Employees at Industriepark Höchst: **around 300**

For details, visit www.nouryon.com



The second business unit, Ethylene and Sulfur Derivatives, operates a facility that, among other things, produces specialty polymers and additives for various construction applications. It is one of the world's leading manufacturers of redispersible polymer powders, cellulose ethers and special additives such as thickeners, hydrophobic additives, anti-efflorescence additives and dirt-repellent additives.

The production plants are designed to meet demanding safety standards and feature the latest, most cost-saving technology.

SANOFI

IMPROVING LIVES WITH INSULIN PENS

Over 400 million adults are estimated to suffer from diabetes worldwide. Many of them require daily insulin injections. Thankfully, insulin pens have made it much easier to administer this indispensable medicine. **Sanofi**, one of the park's biggest tenants, researches, develops and makes life-saving insulin and other drugs for worldwide use at Industriepark Höchst. Many of its innovations target rare and infectious diseases in addition to diabetes and metabolic disorders.

SANOFI

Healthcare company

Over **100,000 employees** worldwide

Employees at Sanofi in Germany: **9,800**

Employees at Industriepark Höchst: **nearly 8,000**

For details, visit www.sanofi.de

A cartridge – much like the ones that hold ink in ballpoint pens – contains human insulin or long-acting or rapid-acting analog insulin. The medicine is produced in the world's most advanced biotechnological facilities,

located next door to the insulin pen factory built at Industriepark Höchst in 2006. This was the same facility that, **in 2013, manufactured the billionth SoloStar® insulin pen**, a product developed entirely by teams in Frankfurt.



01

OTHER INVESTMENTS AT THE PARK

Industriepark Höchst is Sanofi's premier high-tech site, featuring unrivaled diabetes competence within the group. Another chapter is about to open in this success story: Sanofi is expanding its pen production capacity and building another six-story office building that will hold hundreds of employees from its pen production division and its global development unit for medical devices. This project poses a special challenge, too: It must in no way disrupt ongoing GMP (good manufacturing practice) manufacturing activities.

SOL S.P.A. DEUTSCHLAND

INDUSTRIAL GASES IN THEIR PUREST FORM

Manufacturing demands more than just water, steam and electricity. Industrial gases are also needed in large quantities to efficiently produce many day-to-day items. This is where industrial gas company **SOL** comes in. It operates a state-of-the-art plant, built for around EUR 25 million, for liquefying industrial and medical gases at Industriepark Höchst. A liquefaction circuit in the plant liquefies the oxygen and nitrogen by cooling the gases down to their boiling points. This process reduces the gases' volume by a factor of 700 to 800 so they can be stored and transported in special tanks at temperatures as low as

-197 degrees Celsius.

SOL's plant receives all the gaseous nitrogen and oxygen it requires from a nearby air separation plant run by park operator Infracore Höchst.

SOLGROUP
a breath of life

Gases: technical, medical, specialty, high-purity and food

Operates in **28 countries** with **over 3,100 employees** worldwide

Employees at Industriepark Höchst: **5**

For details, visit www.solgroup.com



02

The SOL Group is a multinational corporation headquartered in Monza, Italy and present in 24 European countries, Turkey, Morocco, Brazil and India. It produces, markets and distributes oxygen, nitrogen, argon, carbon dioxide, acetylene, nitrous oxides, helium, gas mixtures, medical gases, specialty gases and high-purity gases.

The Group also researches, develops, designs, builds and operates standalone production plants and on-site units for customers and does business in biotechnology, renewable energy and home care.

01 | Sanofi's pen production plant is being expanded.

02 | Liquefaction plant, SOL.

WEYLICHEM HÖCHST

ADVANCED INTERMEDIATES IN FINE CHEMICALS AND CONSUMER CARE

WeylChem Group of Companies employs around 1,970 people at ten locations in Europe and the United States. Its specialty consists of chemical products and services for fine chemicals and consumer care items. Many everyday products depend on WeylChem's sophisticated advanced intermediates – from cosmetics, plastics and fuel additives to agrochemicals, household cleaners and skin care products. The company's wide range of key technologies enables custom solutions for contract manufacturing.



At Industriepark Höchst, WeylChem Höchst GmbH operates two production facilities for a catalog now spanning around 60 organic synthetic products. WeylChem Höchst GmbH specializes in benzene ring chlorination, aromatic side chain photochlorination and catalytic oxidation reactions. Its customers include the agricultural and pharmaceutical industry as well as other fine chemical companies.

WeylChem Group of Companies also has sites in the German cities of Frankfurt, Griesheim and Wiesbaden as well as in Italy, France and the US.

01 | Production plant, WeylChem.




















COMPANIES AT THE PARK FROM A-Z

**THIS
PARK
WORKS**

To learn more about what all the park's tenants are doing, visit
www.industriepark-hoechst.com

COMPANIES AT THE PARK FROM A-Z

Adolf Würth GmbH & Co. KG Fasteners and installation materials www.wuerth.de		Asterion Germany GmbH Document management, printing		BSH Hausgeräte GmbH Household appliances www.bsh-group.de	B/S/H/
AGIP Deutschland GmbH Gas and service station www.agip.de		Aventis Foundation Non-profit foundation www.aventis-foundation.org		Cabot Aerogel GmbH Aerogel production, process development www.cabot-corp.com/aerogel	
AIR LIQUIDE Deutschland GmbH Industrial gases/chemicals www.airliquide.de		BASF Solution Provider for Crop Protection, Seeds, Digital Farming www.basf.com		Cargill GmbH Agriculture, food, health, biodiesel www.cargill.de www.cargill.com	
Albemarle (Rockwood Lithium GmbH) Special metal compounds www.albemarle-lithium.de		Bayer AG Crop protection solutions for agriculture www.bayer.com		CDC Chemie Dienstleistungen + Consulting Innovation and recycling	
Allessa GmbH Manufacturer of intermediates and specialty chemicals www.allessa.de		Beyer-Mietservice KG Commercial vehicle and equipment rentals www.beyer-mietservice.de		Celanese Production Germany GmbH & Co. KG Basic and specialty chemicals, plastics, emulsion polymers, food ingredients www.celanese.com	
AQura GmbH See "Evonik Technology & Infrastructure GmbH"		Bilfinger Maintenance GmbH Technical services for the process industry www.bm.bilfinger.com		CF Carbons GmbH R-22 - ingredient in fluoropolymer production www.cfcarbons.com	

chemfidence services gmbh
 Specialist for high-quality supplies and raw materials
www.chemfidence.com
www.shop.chemfidence.com



DB Services Südwest GmbH
 Postal services
www.db.de/dbservices



Grillo-Werke AG
 Inorganic sulfur and zinc chemicals
www.grillo.de



Clariant
 Specialty chemicals
www.clariant.com



Eurest Deutschland GmbH
 Catering
www.iph.eurest.de



Helix GmbH
 Automation software and engineering
www.helix-gmbh.net



consilab – Gesellschaft für Anlagensicherheit mbH
 Process safety
www.consilab.de



Euticals GmbH
 AMRI Frankfurt
 Organic-chemical synthesis, fine chemicals
www.amriglobal.com



HIMA Paul Hildebrandt GmbH + Co KG
 Controllers for the process and manufacturing industry
www.hima.de



Contargo Industriepark Frankfurt-Höchst GmbH
 Transport services, combined/intermodal transports
www.contargo.net



Evonik Technology & Infrastructure GmbH
 Analytical services
www.evonik.com
www.analytik.evonik.de



Höchster Pensions Benefits Services GmbH
 Pension plans and actuarial services
www.hpbs.de



Corden BioChem GmbH
 Fine chemicals, enzymes, active pharmaceutical ingredients
www.cordenpharma.com



Exova GmbH
 Industrial testing and certification
www.exova.com



Höchster Pensionskasse VVaG (PK 2)
 Corporate and collectively bargained pension plans
www.hoehcster-pensionskasse.de



Daikin Gruppe
 Refrigerants and propellants
www.daikinchem.de



Fluorchemie GmbH Frankfurt
 See "CF Carbons GmbH"

Höchster Sterbekasse VVaG
 Burial insurance
www.hoehcster-sterbekasse.de



DAK Gesundheit
 Statutory health insurance
www.dak.de












































GE Healthcare Europe GmbH
 Medical devices
www.gehealthcare.com/eueu



HVS Versicherungsservice
 A branch of Marsh GmbH – Insurance
www.hvs-online.de



<p>Ice Field Dry Ice Engineering GmbH Industrial cleaning, maintenance www.icefield.de</p> 	<p>Infraserv Netze Regulatory management and grid operation www.infraserv-netze.com</p> 	<p>mtl Werkstoffprüfung Materials testing www.mtl-werkstoffpruefung.de</p> 
<p>IKN Ingenieur-Planungs GmbH Industry, plant and pipeline design, stress calculations www.ikn-online.de</p> 	<p>INNOVO Cloud GmbH IT-as-a-Service (ITaaS) platform provider</p> 	<p>New England BioLabs GmbH Reagents for molecular biology, signal transduction www.neb-online.de</p> 
<p>Infranova Bioerdgas GmbH Biomethane www.infraserv.com/infranova</p> 	<p>Interessengemeinschaft Regelwerke Technik (IGR) e.V. Standards monitoring www.igrtechnik.com</p> 	<p>Nouryon (Akzo Nobel Functional Chemicals GmbH) Additives for the construction chemicals industry www.nouryon.com</p> 
<p>InfraServ GmbH & Co. Gendorf KG Operator of Gendorf Industrial Park, industrial services www.infraserv.gendorf.de</p> 	<p>Italmatch Deutschland GmbH Inorganic chemicals www.italmatch.it</p> 	<p>Nouryon (Akzo Nobel Industrial Chemicals GmbH) Production of basic chemicals and derivatives www.nouryon.com</p> 
<p>Infraserv GmbH & Co. Höchst KG Operator of Industriepark Höchst, industrial services www.infraserv.com</p> 	<p>Kuraray Europe GmbH Specialty chemicals www.kuraray.eu</p> 	<p>NOVIA Chromatographie- und Messverfahren GmbH Continuing education programs in analytics and consulting www.novia.de</p> 
<p>Infraserv Höchst Prozesstechnik Technical maintenance-related services www.infraserv.com/prozesstechnik</p> 	<p>Live-Expert GmbH & Co. KG Digital on-the-spot adjustments of all types of insurance claims www.live-expert.de</p> 	<p>Pensionskasse der Mitarbeiter der Hoechst-Gruppe VVaG (PK 1) Corporate and collectively bargained pension plans www.pkhoechst.de</p> 
<p>Infraserv Logistics GmbH Logistics services www.infraserv-logistics.com</p> 	<p>LyondellBasell Plastics, chemicals and fuels www.lyondellbasell.com</p> 	<p>PolyComply Hoechst GmbH European and national regulatory monitoring www.polycomply-hoechst.com</p>

<p>polymerphys IK GmbH Plastics industry www.polymerphys-ik.de</p> 	<p>Schreiber GmbH Non-destructive materials testing/receiving inspection www.zfp-schreiber.de</p> 	<p>THC Pharm GmbH Plant-based active agents for treatment of diseases www.thc-pharm.de</p> 
<p>Provadis Partner für Bildung und Beratung GmbH Educational services, consulting firm, training for industrial professionals www.provadis.de</p> 	<p>Sempart GmbH Temporary work, recruitment, on-site management www.sempart.com</p> 	<p>Thermal Conversion Compound T2C Power and steam production www.t2c-frankfurt.com</p> 
<p>Provadis Professionals GmbH Executive recruiter for industry www.provadis.de/provadis-professionals</p> 	<p>Siemens AG Plant and process engineering, consulting, processes www.siemens.com/ec www.siemens.com</p> 	<p>TOPAS Advanced Polymers GmbH Polymers www.topas.com</p> 
<p>Provadis School of International Management and Technology AG University www.provadis-hochschule.de</p> 	<p>SOL S.p.A. Deutschland Gases: technical, medical, specialty and high-purity www.solgroup.com</p> 	<p>TÜV SÜD Chemie Service GmbH Process safety for the chemicals and process industry www.tuev-sued.de/chemieservice</p> 
<p>REUTER Rechtsanwälte Legal counsel www.reuterlaw.de</p> 	<p>Sonepar Deutschland/Region West GmbH Electrical supply wholesaler www.sonepar.de</p> 	<p>Unity Lab Services (part of Thermo Fisher Scientific GmbH) Multi-vendor services www.unitylabservices.com</p> 
<p>RVT Process Equipment GmbH Plant engineering and mass/heat transfer components www.rvtpe.com</p> 	<p>Stadler + Schaaf Mess- und Regeltechnik GmbH Measurement and control www.stadler-schaaf.de</p> 	<p>WeylChem Höchst GmbH Fine and specialty chemicals www.weylchem.com</p> 
<p>Sanofi Pharmaceuticals www.sanofi.com www.sanofi.de</p> 	<p>Synpura GmbH Intermediates and specialty chemicals www.synpura.de</p> 	<p>Zoth GmbH & Co. KG Electrical, metal and engineering solutions www.zoth.de</p> 

BY PEOPLE FOR PEOPLE

2,000
GIGAWATT-HOURS OF
ELECTRICITY

90%
FUEL
UTILIZATION
EFFICIENCY

3,400
GIGAWATT-HOURS
OF HEAT

Read what's behind these numbers on the next several pages ...



BY PEOPLE FOR PEOPLE

Industriepark Höchst in western Frankfurt is one of the epicenters of chemical and pharmaceutical research and production in Europe. This vibrant, productive and forward-looking idea factory is powered by people. They are the engines of progress, innovation and growth. Their ideas are tomorrow's future: better everyday products, more efficacious medical cures and treatments, a cleaner climate and environment. Between its services for tenant employees and the huge diversity of attractive jobs and training opportunities, Industriepark Höchst is a great place to work. Join us in taking a look behind the scenes at one of Europe's most dynamic industrial sites!



BECAUSE THE FUTURE BEGINS TODAY

What exactly is sustainability? At Industriepark Höchst, it encompasses not just good stewardship of the climate and environment and careful balancing of community and business interests, but also the respectful treatment of employees. Their health and safety are paramount. People and the environment are the foundations of our future. That is why all the companies at Industriepark Höchst have embedded sustainability into their corporate philosophy. By conducting business in a way that respects the environment and conserves resources, they are doing their part to pass on a healthy planet to future generations.



Did you know?

Around 2,000 gigawatt-hours of electricity and 3,400 gigawatt-hours of heat in the form of process steam are consumed at Industriepark Höchst every year – enough to supply 670,000 households with electricity or around 170,000 single-family homes with heat.

INNOVATING THE WAY TO A CLEANER CLIMATE

All the research and production firms at Industriepark Höchst are voracious consumers of energy and resources such as water. Good thing that the individual companies and site operator Infracor Höchst think carefully about ways to use energy more efficiently. Energy efficiency is a rich field for resource conservation and climate protection. Investments to expand and optimize energy generation are constantly being made at Industriepark Höchst. Industrial energy innovations help utilize existing energy sources even more efficiently and produce energy in entirely new ways. Industriepark Höchst's tenants are committed to living up to their environmental responsibilities and implement well-defined environ-

mental policies. To help them achieve their objectives, Infracor Höchst provides access to expertise and a broad portfolio of services: from emissions trading to hydrogen and fuel cell technology and cutting-edge wastewater treatment to efficient energy generation and management systems right up to occupational health and process safety.

However, every one of the 22,000-plus employees at Industriepark Höchst understands that environmental protection starts with small things – because energy conservation begins with them.



BY PEOPLE FOR PEOPLE

CO-GENERATION AND HEAT RECOVERY – THE POWER PACKAGE

Conventional power stations generally release vast quantities of unused heat into the atmosphere through cooling towers. But why not put the heat to better use? The co-generation plants at Industriepark Höchst do just that: They capture both electrical and thermal energy. This raises their fuel utilization rates to around 90 percent. And since site operator Infracore Höchst utilizes co-generation across the board, the electricity generated at the park has **significantly lower CO₂** emissions than the usual power mix in Germany.

Even the waste heat from chemical production and waste incineration plants is injected into the heat distribution system. All told, heat recovery supplies around 20 percent of the process heat required by production plants at Industriepark Höchst. This cuts down on coal and natural gas consumption and reduces CO₂ emissions.

WASTE-TO-ENERGY – WHEN TRASH IS POWER

Maximizing fuel yields is not only efficient and eco-friendly, it also makes good business sense. But you can take this approach one step further – and generate energy from non-recyclable waste. At Industriepark Höchst, for example, refuse is incinerated at the waste-to-energy plant to produce **heat and power**. Waste that rots but does not burn readily can be used to make **biogas**, which is fired to generate energy.

“GOGREEN!” – FOR A CLEANER PLANET

The companies at Industriepark Höchst work tirelessly to minimize their carbon footprint, too. Pharmaceutical company Sanofi, for example, has steadily scaled back the power, water and steam consumption of its Höchst location. Thanks to its **GoGreen! initiative**, the healthcare company succeeded in having its entire Frankfurt-Höchst site certified to the international ISO 50001 energy management standard. Bayer, Celanese and Clariant are low-carbon paragons as well.



Carbon footprint – Leave no (unnecessary) trace

A carbon footprint refers to the number of tons of carbon dioxide generated by an activity or organization. Every German, for example, statistically produces around eleven tons of carbon dioxide per year. Transportation is a major factor in carbon footprints.

Manufacturing companies can shrink their carbon footprint by instituting green production processes and using resources efficiently.

They invest heavily in streamlining energy consumption, waste management, air emissions and water consumption. Older plants are retrofitted with state-of-the-art equipment, while new plants receive best-in-class processes and technologies.

Environmental and sustainability reports can be downloaded here:



www.ihr-nachbar.de/unsere-umwelt



THE PEOPLE FACTOR – HEALTHY WORK-LIFE BALANCE

For Infraserp Höchst and many tenant companies, sustainability has a lot to do with taking responsibility for employees and their health, safety and personal development. After all, people are a key success factor in building a strong foundation for future generations.

GREAT SERVICES FOR GOOD HEALTH

At Industriepark Höchst, health trumps all – which is why the Industrial Clinic isn't just for emergencies. While its mission does include emergency on-call service and acute medical treatment, preventive healthcare plays a

big role as well. Its occupational physicians make sure work stations are ergonomically designed and teach health-related seminars: from workplace health promotion to stress management. Other services include vaccinations, screenings, physical therapy and aerobics and exercise classes. The park's health services even include two "site health centers". Here, employees can build strength and endurance in state-of-the-art exercise facilities. If employees want to improve their fitness after getting off work, they can sign up for one of many exercise classes or request a custom training plan from a team of personal trainers and sports scientists.



Tenant companies care deeply about their employees' health, too. That is why their corporate health management strategies are built around occupational medical standards and services as well as internal programs on nutrition, exercise and stress reduction. Good nutrition and skin cancer screenings, back care education and influenza vaccinations, psychological counseling and running workshops – employees can choose from a huge variety of health programs at Industriepark Höchst.

» AT INFRASERV, HEALTH MANAGEMENT TAKES A HOLISTIC APPROACH, COVERING HEALTH PROMOTION, OCCUPATIONAL MEDICINE, ACUTE MEDICINE AND REHABILITATION.«



Gold for health program

Infraserp has received a Gold Seal from the Gesunde Unternehmen ("Healthy Companies") initiative in recognition of its exemplary health program. "Our health management activities are a key driver of employee well-being for our entire workforce," said Joachim Kreysing, Managing Director of Infraserp Höchst.

Martin Kern, Head of Occupational Health and Safety at Infraserp Höchst

TRAIL-BLAZING IDEAS

ESTABLISHED OVER

150
YEARS AGO

80,000
VISITORS

RE-ESTABLISHED
AS HOECHST AG

1951

PRODUCING
INSULIN

SINCE **1924**

Read what's behind these numbers on the next several pages ...



TRAIL-BLAZING IDEAS

Behind many success stories are people with extraordinary ideas and an enterprising spirit. This is true today – and was true over 150 years ago, when Theerfarbenfabrik Meister, Lucius & Co. was established in Höchst in 1863. Initially a family-run business, the young factory eventually grew into the multinational Hoechst AG. In 1997, the chemical company's parent plant was reorganized into Industriepark Höchst with over 90 tenants.



01

Theerfarbenfabrik (literally “tar dye factory”) was founded in 1863, at one of the high points in Germany's industrial revolution. Lower customs barriers and better transportation networks had jump-started the industrialization process, driven by the mining and textile industry in England, France and Belgium. In fact, gas coking plants for hard coal supplied the raw materials for the first wave of synthetic tar dyes: hard coal tar and the aniline oil extracted from it. For young chemist Eugen Lucius, the new synthetic dyes posed a primarily scientific challenge. He joined forces with Carl Friedrich Wilhelm Meister, who had the necessary business acumen. And so the success story began.

RED DYE WAS A HIT

The first successful product made and shipped from present-day Industriepark Höchst was fuchsine, a magenta dye. It is the reason why the company and its successor, Hoechst AG, were nicknamed “Rotfabrik” (“red factory”). The synthetic dye put the factory on its growth path. Many more world-famous dyes followed.

In the 1880s, the dye factory graduated to a full-blown chemical company and began producing drugs. One of its medical blockbusters was antipyrine, a fever reducer and cold medicine.

01 | The painting shows the Höchst factory in 1873.
02 | Antipyrin medicine package.

03 | Advertisement for insulin.
04 | Researcher in the laboratory.



02



03



04

**Did you know?**

In 1864, French Empress Eugénie attended the Paris Opera in a dress colored with the world's first lightfast dye: Aldehyde green from Höchst captured the public's imagination and helped take the fashion industry in a new direction.

This was a glorious period in the company's history until World War I. German dyes and drugs were known worldwide. Germany was the “pharmacy of the world”.

MILESTONES IN DRUG RESEARCH

Innovations and contacts with the era's leading researchers broadened the company's horizons. Among other things, it collaborated with Nobel laureates Robert Koch, Emil von Behring and Paul Ehrlich. Another long-awaited milestone: the first-ever insulin preparation. In 1924, Farbwerke Hoechst, formerly known as Meister Lucius & Brüning, received a license to produce the lifesaving medication. This marked the start of an unprecedented career.



DYNAMIC SITE EVOLUTION

Once Hoechst AG was re-established in 1951, huge technological momentum propelled the site forward after many difficult war-torn years. It began to produce modern products that simplified and enriched people's lives, such as dyes, plastics and drugs. Despite suffering setbacks related to the oil crisis, Hoechst AG experienced enormous success in the late 1980s. However, global market structures confronted the chemical giant with a new challenge in the 1990s, and the complex corporation reorganized into an array of highly focused independent companies. Industriepark Höchst was born.

» TODAY, THE INDUSTRIAL PARK IS AN INTERNATIONAL MODEL OF SITE EXCELLENCE.«

Jürgen Vormann, Managing Director, Infracerv Höchst

It illustrates how to broadly integrate and competitively apply new technologies, how to attract and retain innovative manufacturers and how to sustainably supply utilities and protect the environment.

INDUSTRIAL HISTORY – UP CLOSE AND PERSONAL

Around 80,000 people visit Industriepark Höchst every year. They include countless customers from Germany and abroad, students on class trips, and neighbors and clubs from the local community.

Park operator Infracerv Höchst offers visitors' programs for various occasions. In 2013, numerous events marked the site's **150th anniversary** under the banner of **"People.Site.Value"**. Many visitors seized the opportunity to gain a better appreciation of the site's size and innovativeness on a park tour that covered everything from research facilities to production plants to environmental protection equipment.

"Zeitstreifen" is a permanent exhibition at the East Gate visitor center that tracks the history of the site from 1863 to the present day. It takes visitors on a voyage of discovery through industrial history, illustrated by displays, videos and exhibits from the chemical, pharmaceutical and biotechnology industries and punctuated by exciting stories about the evolution of Industriepark Höchst.

Zeitstreifen permanent exhibition

Where? East Gate visitor center

Opening hours: Monday – Thursday, 7:00 am to 4:30 pm, Friday 7:00 am to 3:00 pm.



BACK TO NATURE

37

TYPES OF
SUMMER FLOWERS

130

BIRDHOUSES

8 PARKS
6 WELLS
4 PONDS

129

 ha
GREEN SPACE

10

KILOMETERS
OF BIKE
PATHS



4,500

TREES

Read what's behind these numbers on the next several pages ...



**THIS
PARK
WORKS**

BACK TO NATURE

Every day, more than 25,000 people pass through the gates to Industriepark Höchst; over 1,000 trucks roll into one of Europe's most important chemical and pharmaceutical sites; containers float in on the Main River or arrive by train at Industriepark Höchst's large container port. With all this traffic, you need extensive infrastructure to prevent congestion and keep employees safe and well looked-after – from a dedicated power station to the Industrial Clinic to a university. There's no question: stepping into Industriepark Höchst is like entering a small city!

INDUSTRIEPARK HÖCHST – A CITY UNTO ITSELF

Most people walk or take public transportation, cars or bicycles to Industriepark Höchst. When hunger strikes, they can choose among kiosks, small shops and four large cafeterias.

Roughly 170 employees ensure safety and security at Industriepark Höchst night and day. This extensive process begins with check-ins at the entrances. Visitors and vehicles have to be inspected; plants have to be monitored 24 hours a day. Emergency response teams and firefighters respond to incidents within minutes.

A GREEN WORKPLACE

It is a mistake to believe Industriepark Höchst is nothing but buildings, factories, pipelines and roads. Nearly 30 percent of the park's total area consists of green oases. Landscapers tend parks, trees, flowers, ponds, fountains and all the animals that call these verdant areas home.

Industriepark Höchst contains eight parks. They are welcome places of refuge for all who work here. Designing them, however, is a daunting challenge. The high-tech industrial environment imposes certain limitations. Shrubs placed near pipe racks, for example, cannot grow too high or wide.

Airborne pollen and seeds can easily clog up the sensitive filters employed by many facilities. Despite these challenges, Industriepark Höchst is a truly green work environment. Not only does it feature well-manicured landscaping for tenants, employees and visitors, but it also meets strict nature conservation, species preservation and environmental protection standards.



The green industrial park

4,500 trees, 130 birdhouses

Annual plantings:

17,000 pansies and 6,600
summer flowers covering
37 different types

BIKE PATH AROUND INDUSTRIEPARK HÖCHST

Biking around Industriepark Höchst is not your everyday ride. But it is an intriguing prospect nonetheless. This is, after all, where nature, neighborhoods and manufacturing meet. Nestled between the Frankfurt Greenbelt and the Rhine-Main Regional Park, Industriepark Höchst is a city unto itself – and a mystery for the uninitiated.



The 10 kilometer bike route provides valuable insights and information. The colors of the color wheel, referencing the park's origins as a dye factory, guide cyclists from stop to stop. Covering 13 stages, the trail crosses the Main River and passes by the old town of Höchst and the Schwanheimer Düne wildlife reserve.

To learn more about the joint project between the Rhine-Main Regional Park, the Frankfurt Greenbelt and InfraserV Höchst:

www.ihr-nachbar.de/radweg

WINNING COMBINATION

Around **1,400**
VOCATIONAL TRAINEES

Roughly **100**
PARTNER
COMPANIES

Training each year for over
3,500
PEOPLE

over **40**
VOCATIONAL TRAINING
PROGRAMS

Around **1,100**
STUDENTS
AT THE PROVADIS SCHOOL

Read what's behind these numbers on the next several pages ...



WINNING COMBINATION

After graduating from college or a training program, people used to simply work their way up the corporate ladder until taking a well-deserved retirement. All that has changed in today's world of lifelong learning. Provadis, located at Industriepark Höchst, is Hesse's second-largest provider of vocational training, professional development and cooperative and career-integrated education.

VAST RANGE OF TRAINING PROGRAMS

Once people graduate from school and enter the workforce, they often change their personal and professional goals. But how can they achieve them? Simple: Current, extensive qualifications and recognized diplomas are the secrets to success in today's labor market. The Provadis Group offers countless programs for building a career – from vocational training at partner companies to personalized programs such as professional development seminars, preparatory e-learning and distance education classes to degree programs designed to teach hands-on skills for real-life challenges.

COOPERATIVE EDUCATION – POISED FOR SUCCESS

Cooperative education is one of the engines powering Germany's global success story. It has untold benefits – and not just for trainees, either. Highly skilled professionals are a key locational advantage for companies, particularly in innovative industries like chemical and pharmaceutical manufacturing.

Provadis offers over 40 vocational training programs, mainly in science and engineering. It runs its programs in partnership with many park tenants as well as countless companies located outside the Höchst industrial estate.



EARLY CAREER GUIDANCE FOR EASIER DECISIONS

What's the best path to take after high school? It's not an easy decision to make. That's why Provadis has so many offerings designed to give sound guidance to graduating students and their parents. In addition to traditional open house days, it also has a special college and career information program. This event series consists of a vocational training information day, shadowing of chemical production technicians and industrial mechanics, classes on preparing the best possible college/program application, college information evenings and a parent information evening. Provadis school coordinators can even come into the classroom to lay out the various educational options and answer any questions that students may have about choosing a career or degree program.

Education at Industriepark Höchst by the numbers

- Around 1,400 vocational trainees
- Over 40 vocational training programs
- Roughly 100 partner companies
- Continuing education for over 3,500 people per year
- Around 1,100 students at the Provadis School



WINNING COMBINATION

CAREER-INTEGRATED DEGREES FROM PROVADIS

The Provdadis School specializes in part-time and career-integrated degree programs. It allows trainees, high school graduates and active professionals to easily combine work and school.

This private, state-recognized institution of higher learning is the preferred partner for companies interested in applied research and consulting and in skills development for their managers and specialists.

CONTINUING EDUCATION FOR ACTIVE PROFESSIONALS

Provdadis is a professional development expert for manufacturers. Graduates acquire the skills to take on new roles and duties through continuing education in a classroom or distance learning format. They can even earn professional credentials from the Chamber of Industry and Commerce (IHK).

Provdadis provides training in fields such as chemical production and technology, biotechnology and pharmaceutical technology, business and logistics, GMP and compliance as well as soft skills and manager development.

01



02



Provdadis Novia provides analytical services as well. Its experts can make analytical users more confident and competent through application-oriented in-house and open seminars as well as forums on the latest industry issues.

PROVADIS PROFESSIONALS

With its placement, “bridge to employment” and innovative trainee programs, Provdadis Professionals offers companies in the chemical, pharmaceutical and related process industries attractive, customized services to support their HR strategy.

New: Accelerated program for trained business clerks

One particularly attractive Provdadis offering is a new accelerated **business administration** degree. Graduates of business certificate programs can earn a bachelor's degree in only four semesters instead of seven. They receive credit for business classes taken for their original certifications instead of having to mechanically rehash old material for the degree. Course credit decisions are standardized for industrial clerks (“Industriekaufleute”), but are made on a case-by-case basis for all other business certificate programs with standard durations of three years or more. Kick off your career sooner with this program!

FOR DETAILS, VISIT:



www.provdadis.de and
www.provdadis-hochschule.de

01 | Cooperative education programs teach hands-on skills.
02 | Continuing education is the key to career success.



HANDS-ON FROM THE START

Many university students deliberately choose a career-integrated degree program. They are drawn by its close integration of theory and practice.

COMBINING CLASSROOM TEACHING WITH ON-THE-JOB EXPERIENCE

What degree program is right for me? Where will I get the best preparation for my career? These are important questions for high school graduates. Some young people reject conventional “chalk and talk” teaching in favor of **cooperative or career-integrated approaches**. However, even these hands-on programs can differ

significantly from one university to the next. Many consolidate the classes into multi-month blocks. This may seem convenient, but these extended interruptions prevent students from working on long-running projects during hands-on phases at the company.

»WE WRITE FIELD REPORTS AND CASE STUDIES ON OUR FIRM AND PRESENT ITS PRODUCTS – INCLUDING THE MARKETING STRATEGY. THIS HELPS US PRACTICE BUSINESS THINKING.«

Graduate of the business administration program

This problem is avoided entirely at the Proবাদis School at Industriepark Höchst. This career-integrated degree program combines classroom teaching with work experience at tenant companies. Students attend class on Tuesday afternoons and Saturdays, and intern at a business at the park on the other days of the week. Since the students work in the departments continuously, they can be much more deeply involved in the business. They often take on responsibility for projects at an early stage.

Exclusive career fair

There are many ways to learn about employers at Industriepark Höchst. One of the more prominent events is **Job Multiversum**, an annual career fair held by several park tenants that targets students seeking science and engineering degrees as well as people who already hold these degrees. In addition to the usual information resources, the fair provides behind-the-scenes glimpses of research and production at companies based at Industriepark Höchst. Participants can sign up for two exclusive plant tours, chosen from a broad and diverse menu of choices, and talk to experts during each tour. Information booths provide more insights into possible career paths at participating companies.

www.job-multiversum.de

01



02



01 + 02 | Candid snapshots from the Job Multiversum career fair.

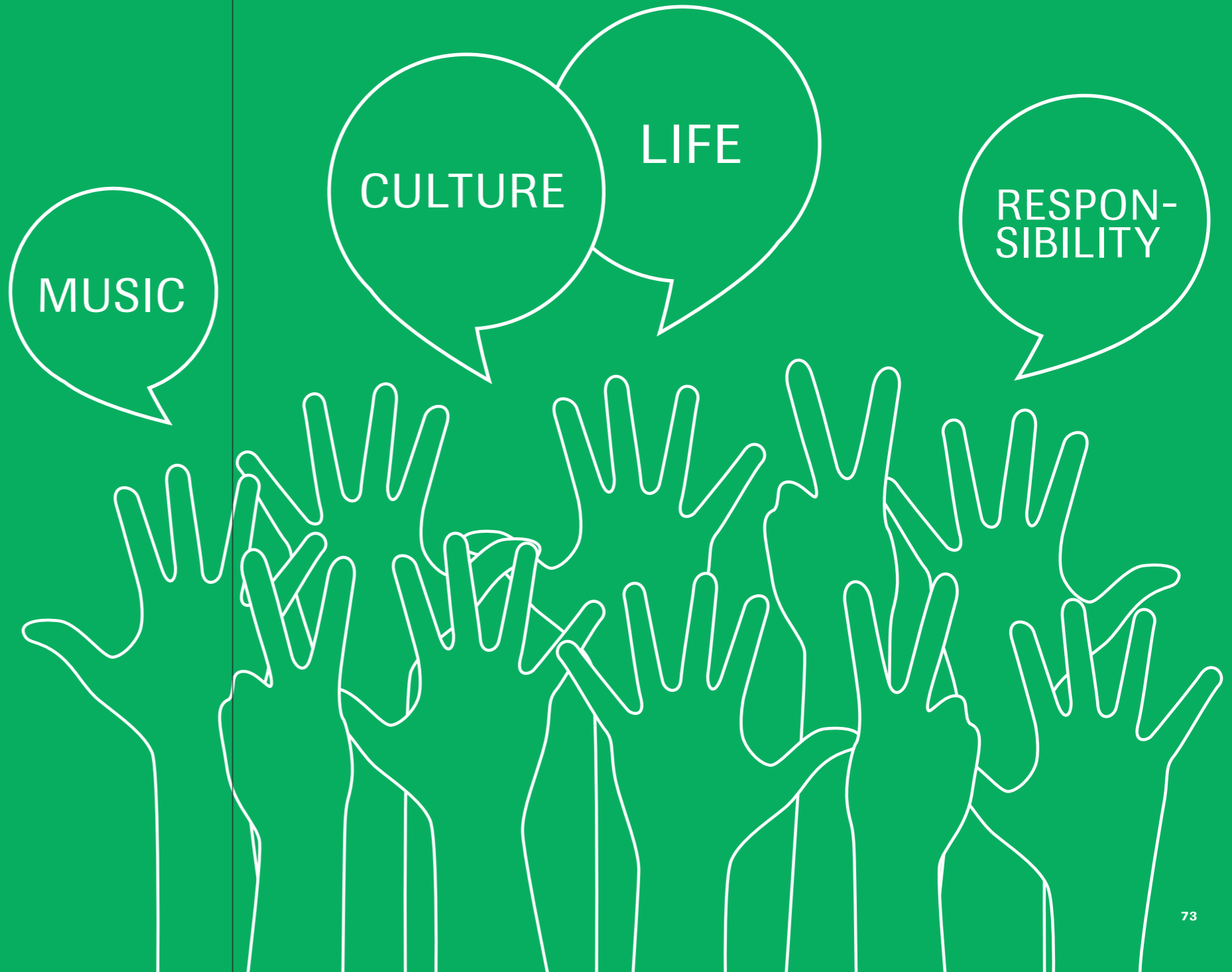
HERE'S TO GOOD NEIGHBORS

20
YEARS
OF NEIGHBOR-
HOOD FORUM

EUR **75,000**
DONATED TO
NGOS
PER YEAR

SUPPORT FOR
NUMEROUS
CULTURAL & COMMUNITY
PROJECTS

2 CHILDREN'S
BOOKS



Read what's behind these numbers on the next several pages ...



HERE'S TO GOOD NEIGHBORS

Good relationships are built on mutual understanding and acceptance. That is why the companies at Industriepark Höchst – and particularly park operator Infracerv Höchst – engage in community outreach and sponsor numerous activities around the park.

INDUSTRIEPARK HÖCHST IS MORE THAN AN INDUSTRIAL ESTATE

Entrepreneurs at the Höchst chemical site have always felt a deep commitment to their employees and local communities. Infracerv Höchst carries on this 150-year-old tradition on its own behalf and on behalf of the park's tenants through transparent communication and extensive sponsoring. Tenant companies, for their part, regularly send representatives to report on new developments in the public meetings of the "Industriepark Höchst Neighborhood Forum", which has been active for over 20 years.

Industriepark Höchst owes much of its success to close, strong relationships with the local community.

PROJECT FUNDING

Infracerv Höchst's balanced donation program provides a total of EUR 75,000 in funding a year for a large number of cultural and community projects. Schools, daycare centers, clubs or institutions can apply for assistance with their programs. Donation decisions are made by a group of experts (Donations Committee).

CULTURAL SUPPORT

Many events in and around Höchst are intimately connected to Industriepark Höchst and receive support in the form of patronage and sponsorships. Prime examples include the annual Höchst Castle Festival or the Industrial Heritage Trail of the Rhine-Main Region. Through visits, excursions, guided tours and information placards, visitors come to understand and appreciate how everything in the region works together, based on specific examples.

For the irrepressibly curious, Industriepark Höchst holds an annual "Long Night of Industry" to provide a glimpse into various production plants and research facilities.



Open house days are also held regularly. The park's operator has a passion for cinema, too. In the Peter Behrens Building, it hosts screenings of movies for children and adults.



Information at your fingertips

If you have specific questions or want to learn more about Industriepark Höchst, you can visit the German-language website www.ihr-nachbar.de 24 hours a day or call the community hotline at **+49 (0) 69 305-4000**.

HERE'S TO GOOD NEIGHBORS

A HEART FOR HÖCHST

The companies feel a particular bond with Höchst, the “birthplace” of the first factory over 150 years ago. They therefore actively support Pro Höchst, an initiative to strengthen the local community. It aims to improve the image, profile and attractiveness of the Frankfurt suburb.

Höchst reached a small milestone on its journey to greater fame: In June 2013, it joined the German Timber Frame Road Association, one of Germany’s leading tourist routes. The old city center, St. Justinus’s Church and Höchst Castle are now being advertised across Germany in print and online publications.



REACHING OUT TO KIDS

Children must be at least 14 to visit Industriepark Höchst. However, younger kids are interested in science and chemistry, too. To reach out to them, Infraser Höchst published two children’s books that describe Industriepark Höchst for different age groups. In “Fly, Little Green Balloon” for ages 3 to 6, a balloon named “Lufti” takes a voyage of discovery through Industriepark Höchst and learns a lot about what industrial park managers do. “The Mysterious Old Chest”, written for elementary school children, explains the world of chemistry and Industriepark Höchst through exciting, humorous and age-appropriate storytelling. Children and teenagers can also participate in various interactive programs such as Research Camp.



For details,
www.ihr-nachbar.de

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LyondellBasell, Nouryon, Sanofi, SOL Group,
Weylchem



SAFETY IS JOB ONE

Resident, visitor and employee safety has top priority at Industriepark Höchst. State-of-the-art technology is used to prevent accidents from happening in the first place. If an accident does happen, the park's firefighters and emergency responders will be at the scene immediately.

Every visitor to Industriepark Höchst is briefed on proper safety procedures before entering the park. A short video explains key safety rules, such as what to do if siren alarms go off. You can only enter Industriepark Höchst if you correctly answer the questions in the quiz that follows the video.

SIRENS WARN

Sirens (rise and fall wailing tone) warn local neighborhoods of facility fires or chemical releases if there is a possibility of a threat to residents. Once it is certain that there is no danger, a different siren (continuous tone) issues an all-clear signal.

Signal	Meaning
One minute rise and fall wailing tone 	Your neighborhood is at risk from combustion gases, fumes, pollutants or similar threats.
One minute continuous tone 	The threat is gone.

For more safety information (in German), visit: www.ihr-nachbar.de

You can see our current information brochure (in German) at: www.ihr-nachbar.de/sicherheitshinweise

