Jenoptik in Profile
2020
Key locations of the Jenoptik Group

Germany
Altenstadt
Berlin
Dresden
Essen
Jena
Monheim am Rhein
Triptis
Villingen-Schwenningen
Wedel

Europe
France
Bayeux
Great Britain
Camberley
Netherlands
Riel
Austria
Vienna
Spain
Valladolid
Switzerland
Peseux
Uster
Czech Republic
Teplice

North America
USA
El Paso (TX)
Fremont (CA)
Huntsville (AL)
Jupiter (FL)
Rochester Hills (MI)

Mexico
Saltillo

Canada
Barrie
Toronto

South America
Brazil
São Bernardo do Campo

Africa
Algeria
Algiers

Asia/Pacific
Australia
Sydney

Japan
Yokohama

China
Shanghai

Singapore
Singapore

India
Bangalore

South Korea
Pyeongtaek
Our profile

Jenoptik uses the potential of light not only to advance our customers on global markets, but also to help shape changes in our society.

We are a globally operating technology group, which is active in the three photonics-based divisions Light & Optics, Light & Production and Light & Safety since January 2019. In addition, the Group is providing mechatronics solutions under the brand VINCORION.

Optical technologies are the very basis of our business. Our key target markets primarily include the semiconductor equipment industry, automotive and suppliers, mechanical engineering, medical technology, traffic, aviation as well as the security and defense technology industries.

The Jenoptik Group is headquartered in Jena (Thuringia). In addition to several major sites in Germany Jenoptik is represented in about 80 countries worldwide, for example with production and assembly sites in the USA, France, the United Kingdom, China, and Switzerland. Additionally, the Group is represented abroad by shareholdings in Australia, Brazil, the Czech Republic, India, Japan, Mexico, the Netherlands, Singapore, and South Korea and Spain.

Jenoptik has around 4,000 employees worldwide and, in 2019, generated revenue of about 835 million euros.
Our structure

Jenoptik is a globally operating photonics group that devotes the majority of its work to the photonics market. As a supplier of premium, innovative capital goods, Jenoptik is primarily a partner to industrial companies. Alongside industrial customers, the Light & Safety division and VINCORION primarily serve public sector clients, in part indirectly through system integrators.

Light & Optics
The division offers a wide range of products and services in the field, combining comprehensive expertise in optics, laser technology, digital imaging, optoelectronics, and sensor technology.

Jenoptik is a leading development and production partner for optical and micro-optical systems as well as precision components that satisfy the highest quality demands. This includes complete systems and modules, all the way to special optical components and custom solutions for wavelengths from the far infrared (FIR) to the deep ultraviolet (DUV) region. Jenoptik possesses superb expertise in the development and manufacture of micro-optics for beam shaping, used, for example, in the semiconductor equipment industry.

With its optical and micro-optical solutions, Jenoptik is also in a position to exploit further potential for growth in the field of digitization, for example in the market for information and communications technology.

In the field of biophotonics, the division is set to focus on applications for bio-imaging and laser-based therapy. Jenoptik is a leader in the development of OEM solutions and products for the medical technology/life science industry. One example of an innovative product concept is the technology platform configurable according to customer requirements for digital image processing and analysis.

Jenoptik also holds a leading position in the field of diode and solid-state lasers for use in ophthalmology, dermatology, and surgery, and supplies both national and international medical technology companies. In the field of industrial lasers for material processing, Jenoptik covers the entire laser value chain. Jenoptik also develops and produces optical and optoelectronic components for digital image processing and microscope cameras for applications in the medical field.

For the field of industrial solutions, Jenoptik supplies high-power optoelectronic components and modules as well as integrated solutions. The company focuses on applications in the fields of industrial automation as well as automotive and mobility. In addition to complex components for head-up displays, lenses for driver assistance systems, laser optical systems for particle sensors, and polymer optics for machine vision applications, we also produce components for augmented reality applications.

Sensor products cover infrared camera systems and laser rangefinders, which are used in automation technology, security technology, and military reconnaissance.

Key sales regions of the division are in Europe and North America, and increasingly also in Asia/Pacific.

Structure of the Jenoptik Group
**Light & Production**

The Light & Production division supports industrial customers in making their production processes more effective and efficient through the use of optical and photonic technologies. In this context, Jenoptik is a leading manufacturer of measurement technology and laser systems for production processes in the automotive industry.

The company’s portfolio includes high-precision contact and non-contact production metrology for pneumatic, tactile, and optical inspection of roughness, contour, shape, and the determination of dimensions at every stage of the production process and in the inspection room. The acquisition of OTTO Group in 2018 allowed Jenoptik to boost its range of services for innovative metrology solutions and further expand its market position as a systems supplier for production metrology and industrial imaging applications.

In addition, Jenoptik develops 3D laser machines that are integrated into customer production lines as part of process optimization and automation. They are used to machine plastics, metals, and leather with maximum efficiency, precision, and safety.

The acquisitions of the Canadian company Prodomax in 2018 and of Five Lakes Automation in 2017 and the Spanish company INTEROB acquired in January 2020 allowed Jenoptik to broaden its expertise and boost its position as a turnkey supplier of automated production solutions. The product portfolio is complemented by energy-efficient and environmentally friendly waste gas cleaning systems for laser machining and other industrial processes.

The Light & Production division is active around the world and also operates production facilities in the U.S., Canada, France, China and lately also Spain in addition to Germany. These are the centers of the global automotive and automotive supplier industries in Europe, North America, and Asia.

**Light & Safety**

In the Light & Safety division, Jenoptik develops, produces, and markets various components, systems, and services that help public sector customers make roads, journeys and communities around the world safer.

The division’s product portfolio covers a wide range of applications in traffic law enforcement, such as speed and red light monitoring systems and custom solutions for identifying other traffic violations. Additionally, automatic number plate recognition (ANPR/ALPR) is at the core of the division’s portfolio as well as average speed enforcement (section speed control). Jenoptik thus supplies integrated solutions for public safety, civil security and future smart cities. Jenoptik’s traffic monitoring services cover the entire supporting process chain, including solutions and services for automated data processing, reporting and analytics.

Jenoptik has contributed to the further technical development of toll monitoring/payment systems in Germany and markets innovative toll monitoring pillars that combine various digital sensor technologies in a single system.

The Light & Safety division’s regional areas of focus are also primarily determined by customers. Jenoptik is a leading provider of photographic monitoring equipment.

**VINCORION**

VINCORION develops, produces, and sells mechatronic products for civil and military markets, in particular for security and defense technology, aviation, and the rail and transport industries. Its portfolio ranges from individual assemblies for customers to integrate in their systems, through to turnkey solutions and final products. The division specializes in energy systems, drive and stabilization systems, aviation systems, radomes, and composites. Products include diesel-electric generating units, electrical machinery such as generators, electric motors, and converters, power electronics, heating and lift systems, rescue winches, and radomes.

The division supplies equipment to major systems companies; it also supplies governments directly. In the area of defense and security technology as well as aviation and rail equipment, VINCORION is a business partner to national and international customers, with end products frequently exported worldwide by the systems companies it supplies. Many of the components and subsystems are developed specially on behalf of clients. In the future, however, new in-house developments such as the heatable floor panel and the electric rescue winch will also generate growth.

Competition with other companies is frequently limited to individual product groups.
Our targets and strategies

The core of our Strategy 2022, introduced in 2018, is to concentrate on the core areas of light and optics. With a greater focus on photonics growth markets we want to develop into a focused and globally positioned photonics company over the coming years. In implementing its strategy, Jenoptik concentrates on internationalization and innovation.

In order to implement the growth strategy, we are
• focusing on our core areas of expertise in the field of photonics,
• reorganizing and simplifying our corporate structure,
• actively managing our portfolio with a view to additional purchases as well as transformational acquisitions and selective divestments,
• continuing to work on further internationalization in conjunction with greater vertical integration and customer proximity in our priority regions,
• investing more heavily in research and development, expanding our system and application expertise and developing as a solutions provider,
• driving an active cultural shift within the company and
• continuing to steadily strengthen our financial resources.

Jenoptik has also defined strategic priorities for 2020:
• Development in Asia
• Global Business Excellence
• Cultural change

Our strategic efforts in Asia have been strongly focused on China over the last two years. In 2020, we will also turn our focus towards other countries such as Japan and Singapore in order to achieve sustainable success throughout Asia in the future.

With the Global Business Excellence (GLOBE) program, we want to create the prerequisites for future digital business models and standardized management processes in the Group. The focus of this transformation project in the current fiscal year will be on the introduction of modern collaboration tools as well as the definition of a uniform process landscape and their harmonization across all business segments.

In addition, the cultural change within the Jenoptik Group will be another focus within our strategic initiatives in 2020.
Focus

Our activities in the market for photonic technologies prioritize the fields of information processing, intelligent production processes, sensor technology, metrology, and biophotonics. For us, these are markets that are not only characterized by growth, but also by technological differentiation potential. Jenoptik continues to benefit from the global trends in digitization, health, mobility & efficiency, infrastructure as well as security, and is increasingly establishing itself as a strategic systems partner for international customers, with whom it works to design forward-looking solutions.

With the new organizational structure that came into force in the 2019 fiscal year, we have further improved our market and customer orientation. Business operations within our former segments were reorganized and the operative business were clustered according to a common understanding of markets and customers based on the same business models. This helps us to bring our products and solutions closer to the customer and opens up improved growth opportunities. Our three photonics divisions, Light & Optics, Light & Production, and Light & Safety, build on our extensive expertise in optics, sensors, imaging, robotics, data analysis, and human-machine interfaces. With our mechatronic activities under the VINCORION brand, we address customers from the aerospace and defense industry independently of the rest of the Group.

For us, focusing does not only mean emphasis on our core areas of expertise, but also simplifying structures and making the company more agile. For example, in 2019, the holding company and the Shared Service Center (SSC) are merged organizationally. In addition, all major German legal entities of the Light & Optics division were merged into one company. Decision-making processes and responsibility have been further decentralized and, increasingly, relocated into the operational areas. This will enable us to prioritize initiatives for future growth more clearly, resulting in success.

Innovation

As an innovative high-tech company, identifying customer needs and trends early on and aligning them with our strategic actions and business activities to determine appropriate technology and product developments is of critical importance to Jenoptik. That is why we want to increase our R&D investment, including customer-related projects to a total of approximately 10 percent of revenue by 2022 (2019: 8.0 percent) in order to strengthen our market position in the field of photonics.

We will continue to expand our software expertise and our knowledge in the field of artificial intelligence across all business segments in order to offer technological solutions for new requirements with interdisciplinary teams. In addition, we will push ahead with the expansion of our technology platforms in order to better utilize synergies. The planned profitable growth will also be supported through efficiency measures and increasingly also by the further expansion of the service business as well as the realization of economies of scale, for example in the Industrial Solutions, Metrology and Laser Processing areas.

As a system partner, Jenoptik is constantly looking for new solutions in conjunction with our customers. They are often already involved in the very early stages of development processes. This enables us to strengthen our customer relationships and steadily boost value creation.
Internationalization

Due to the trend towards growing industrial production as well as demographic development, Jenoptik sees particularly great potential for future growth in the regions of America and Asia/Pacific. In terms of internationalization, we are therefore focusing on these markets. The realignment of our Asian business activities was continued with the reorganization of our structures there. A new leadership team for Asia has been managing the business and structural development of the Group locally since 2019. By establishing a new company Jenoptik can now benefit from the special features applicable to free trade zones in China. In the fiscal year just past, these measures played an important role in our strategic development.

In addition, we are aiming to increase value creation by expanding manufacturing and product development in this region. In this way, we will be able to offer local customers products and solutions together with service developed locally to meet their various needs. The plan by 2022 is to establish local R+D teams and our own production facilities in all major growth markets – such as China – in order to support our customers in their local markets in achieving their innovation goals.

With the new Light & Safety Division headquarters in Camberley, England, we have achieved our goal of having at least one of the Group’s three photonics divisions headquartered outside Germany.

To further improve our market orientation and customer proximity, we are adapting our structures and developing products and solutions that are consistently geared to the trends and needs of our customers. In the future, Jenoptik will also continue to invest in the organization of new and expansion of existing sales and service structures. We rely both on our own direct distribution channels and on existing dealer structures. Following the opening of an application center in Fremont, California, further application centers are planned in the years ahead, especially in the Asian region.

Through active portfolio management, we also want to continue to expand our organic growth in the future through acquisitions and we are continuously investigating opportunities. By purchasing companies, we plan to boost our market and customer reach – not only in Europe, but particularly also in the regions of the Americas and Asia/Pacific – or otherwise add to our portfolio through forward integration and additional systems’ expertise. Examples of this included the acquisitions of the Canadian Prodomax and the German OTTO Group, successfully completed in 2018, and the recent purchase of INTEROB in Spain. Each acquisition must fit strategically and culturally, offer opportunities for growth and a sound business case, thereby fulfilling the criteria for increasing corporate value as well as integratability. The discontinuation of existing business activities or the sale of shares in companies is also continuously reviewed against the backdrop of the intended focus on photonic core competencies and possible at any time within the scope of active portfolio management. The planned sale of VINCORION was also to be seen in this context. However, in January 2020, the Executive Board decided to stop the sale process, as in its view there was no offer which adequately reflected the potential of this business.

The new values introduced at the beginning of 2019 – open, driving and confident – form the basis for a modern and open corporate culture. They help to boost Jenoptik’s growth across different cultural and legal systems.

The Jenoptik brand is also to be strengthened as part of the group-wide “More Light” campaign, which was launched in 2018, and awareness and acceptance, especially internationally, are to be further increased.
Our growth strategy

The Executive Board, the members of the Executive Management Committee (EMC) and our employees worked intensely to realize and implement these strategic group initiatives in 2019.

The photonics business was realigned in January 2019 in the three photonics divisions and the mechatronics business within VINCORION. The individual divisional strategies, which follow the targets of the Group strategy, were defined and their implementation and realization began in fiscal year 2019.

Even in the current difficult situation, the Jenoptik Group is pursuing its goal of securing profitable growth in the medium and long term. This will be aided by an expansion of the international business, the resultant economies of scale, higher margins from an optimized product mix, increasing service business, and improved cost discipline. Acquisitions to boost our photonics business will be very closely scrutinized. A still good asset position and a viable financing structure give Jenoptik sufficient room for maneuver to finance both organic and inorganic growth.

Jenoptik is a diversified company with its three photonics divisions and its mechatronics business, and also has a well-balanced portfolio of products allowing it to cope well with a range of external impacts.
We are honored to be part of the Mars 2020 Mission.

Jay Kumler
President of Jenoptik Optical Systems in North America
From Jupiter to Mars
A lot has revolved around the topic of space at our site in Jupiter, Florida over the past three years. And not only because this city bears the name of a planet, but above all because the American space agency NASA is planning the Mars landing. And it was especially for this journey into space that the Jet Propulsion Laboratory (JPL) research and development center needed a team to develop special lenses.

We accepted this challenge! Our optical specialists met the high requirements that space projects demand. Around 20 engineers worked on the special space project from the beginning to delivery. Overall, more than 100 employees contributed to the project in one way or another.

Our specific order was to produce lenses for the Mars Rover, which are used in combination with the technical cameras and are therefore essential to the new Mars mission.

As in all space projects, weight was also a decisive factor, which needs to be as low as possible. Many years of experience in engineering and production made it possible to fulfill all the requirements. "We are very proud that we were able to satisfy the technical requirements and master the comprehensive tests," says Jay Kumler, President of Jenoptik Optical Systems in North America.
From Mars to Jupiter
We equipped the Mars Rover with a total of 28 lenses. Three different types of Jenoptik lenses were integrated into the robot to enable it to move completely autonomously on the planet. Navigation lenses ("NavCams"), hazard avoidance lenses ("HazCams") and "CacheCams". The navigation lenses will ensure the Mars vehicle maintains its orientation while exploring the previously unknown world. "HazCams" will enable obstacles to be identified early on and dangers avoided. NASA will thus be able to view the movements of the robot arm while taking samples. The collection of rock and soil samples from the surface of Mars will be controlled with cache lenses ("CacheCams").

Delivery of the lenses began in the spring of 2019. They were integrated into the Mars Rover by the JPL flight system team in July 2019. The Mars probe will be sent on its space voyage already in 2020, with the first images of Mars expected on Earth as early as spring 2021 – and of course also by our team in Jupiter.

... in search of new discoveries and to continue to develop.

Challenges in a very special space project: NASA’s "Mars 2020" mission.

Due to the proximity of the camera to the Mars samples collected, the cleanliness requirements for our lenses were extremely high. Our team therefore produced all three types of lenses in a class 5 clean room, equipped with the latest filter technology for the highly precise optical components. This is the only way to avoid potential contaminations and guarantee sample measurements are correct.
226,908 million km as at March 25, 2020

Everything in view: So-called CacheCams control the collection of rock and soil samples from the surface of Mars.
Our optical measurement solutions make efficient production processes possible for our customers.

Kristin Holzhey
Head of OTTO Vision
From an engineering office to a system provider
Measurement technology has been one of the core competencies of Jenoptik for years. As a global organization, we support trends toward more mobility, safety and automation in automotive manufacturing and other robot-based industries. Since September 2018, this division has been strengthened by the acquisition of OTTO Vision.

For more than 25 years, the name OTTO Vision has stood for high-end applications in industrial image processing. OTTO Vision specializes in optical 2D and 3D inspection systems for product control as well as complex image processing systems for application in parts inspection, surface inspection and position recognition.

OTTO Vision Technology GmbH was founded in 1992 by Gunter and Reinhard Otto in Jena. Since September 2018, Kristin Holzhey has supported the company to ensure optimal integration into the Jenoptik Group. Kristin Otto has been part of the Jenoptik family for twelve years and managed the post-merger integration of OTTO Vision – a good start to successful continuation of the businesses.

IN SAVE HANDS
At the end of 2019, the brothers retired and transferred their life’s work into the hands of Kristin Holzhey. Around 30 employees currently work for OTTO Vision.

Thanks to the non-contact 3D digitization, manufactured parts can easily and quickly be compared with digital target models. This allows quick detection of production deviations.
Joint division strategy

The newest member of the Jenoptik Group presented itself with other colleagues from the Light & Production division at the 2019 Control trade fair in Stuttgart: A highlight was the FLEX-3A, a 3D structured light scanner for the analysis of first samples and prototypes as well as automated sample inspections.

But the FLEX-3A was a highlight even beyond the trade fair. The OTTO Vision team also won the 2019 Jenoptik Innovation Award with it. The optical 3D measurement system uses light to make production processes for small parts more efficient – getting right to the core of the division’s strategy. More specifically, sample sequences are digitally projected onto the measurement object from various positions and observed with stereo cameras. The final result is a high resolution 3D model of the actual geometry. The data acquisition and calculation in the measurement process is completely automated.

... so that synergies are created by the cooperation.

Specially for use in the stamping industry – PSS-40 testing station

JENOPTIK INNOVATION AWARD FOR FLEX-3A

During the automatic scan process a 3D model is precisely composed using various views without reference marks. This innovation impressed the Jenoptik Innovation Workshop jury.
Highly precise: Measurement of small parts with high resolution and precision.

Reverse engineering: The scanned data of a manufactured product can reconstruct a so-called “digital twin” using surface reconstruction.

A future focus: OTTO Vision is pursuing global opportunities that come from the megatrends of connectivity and mobility.
Safety is our top priority.

Kevin Chevis
Head of Light & Safety
A system that learns
Many people may still remember license plate guessing games on long trips. Who knows which city the letters stand for on the license plate? The more you play the game, the better you are at it. That's because we've learned to assign the license plate to the right city while training our brain at the same time.

Our engineers have also worked intensively on the subject of license plate recognition and developed an algorithm that learns in just the same way as our human brain — perhaps even a bit better. Artificial neural networks reproduce the way in which the human brain functions. So-called "deep learning" is used in our automatic license plate recognition system (in the UK: automatic number plate recognition, ANPR).

The basis is an imaging process in combination with a "deep learning" algorithm. It learns from a huge dataset of sample license plate images. The system only learns during the training phase in our labs, where our engineers give the system feedback if its answers are correct or wrong. The learned network achieves 98 percent recognition accuracy, which compared to conventional methods, represents an increase of 2 percent. This may not sound very much but in a safety or revenue critical system, it could be the difference between success and failure.

It also learns which license plate is assigned to which country, along with the class and color of the associated vehicle.

Additionally, our "TraffiData" analysis software also makes it possible for correlations of the stored data to be made visible in real time, such as automatically identifying movement profiles and behavior patterns for suspicious vehicles.
Increased road safety

With our solutions, we support police and security authorities to increase road safety worldwide. The world population is growing year by year and cities and their infrastructure are in pace with it. Around 7.7 billion people live on our Earth today and by 2030 there will be 43 mega-cities with more than 10 million inhabitants. This will also increase requirements on mobility, security and traffic monitoring. Authorities need effective and reliable measuring devices that can check vehicles in real time. Alongside increased safety in the flow of traffic, our system also helps enable intelligent traffic route planning and avoids traffic hotspots. Our ALPR (or ANPR) solution can be customized depending on the purpose.

At the same time, automatic license plate recognition also offers parking lot operators more convenience. Manually checking the well-tried parking disc is becoming a thing of the past, thanks to optical systems at the entrance to parking lots. They automatically detect when the parking time of a vehicle has been exceeded. Similarly, placing automatic license plate recognition systems at fast-food restaurant drive-ins would provide the option of offering personalized order suggestions.

To protect the climate, methods also need to be implemented and regulations and requirements controlled. For example, driving controls due to high levels of gaseous emissions or particulate matter in cities can be controlled efficiently, with minimal infrastructure and staff costs. Only a technical solution like ALPR can make this possible.
Numberplate: JO 2019
Class/Colour: Car White
Model: XLT 11
Alert: Vehicle of Interest

CAMAERA DATA
02:30 PM MIAMI

CAR 2019

CENTRAL SERVER
VEHICLE OF INTEREST
Overall, 2019 was a good year for equities: a number of political risks – such as a new euros crisis, a hard Brexit or the trade conflict between the US and China – reduced in the course of the year. However, the Jenoptik share performed variably in 2019. After a continuous rise until the middle of the year, the development of the price in the second half of the year reflected above all the uncertainties in the automotive sector. At the end of trading on December 30, 2019, the Jenoptik share was quoted at 25.48 euros, an increase of 7.3 percent over the year (Dax plus 25.2 percent, TecDax plus 22.3 percent). Market capitalization amounted to 1,458.42 million euros at the end of the year.

Since the beginning of 2020, capital markets worldwide were impacted by the outbreak of the corona crisis, and at times shares priced fell drastically. The Jenoptik share also recorded a significant minus during this period, then recovered again slightly and ended trading at 18.84 euros on April 30, 2020.

Shareholder structure (as of February 28, 2020)*

<table>
<thead>
<tr>
<th>Shareholder</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thüringer Industriebeteiligungs GmbH &amp; Co. KG, Germany</td>
<td>11.00%</td>
</tr>
<tr>
<td>Free float</td>
<td>89.00%</td>
</tr>
<tr>
<td>of which:</td>
<td></td>
</tr>
<tr>
<td>DWS Investment, Germany</td>
<td>5.20%</td>
</tr>
<tr>
<td>Allianz Global Investors, Germany</td>
<td>5.19%</td>
</tr>
<tr>
<td>Capital World Investors, US</td>
<td>4.83%</td>
</tr>
<tr>
<td>Norges Bank, Norway</td>
<td>3.59%</td>
</tr>
<tr>
<td>BlackRock, US</td>
<td>3.02%</td>
</tr>
</tbody>
</table>

* on the basis of voting rights notifications

Jenoptik share key figures

<table>
<thead>
<tr>
<th>Year</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closing price (Xetra end-year) in euros</td>
<td>25.48</td>
<td>22.78</td>
<td>27.55</td>
<td>16.43</td>
<td>14.39</td>
</tr>
<tr>
<td>Highest/lowest price (Xetra) in euros</td>
<td>36.45/21.00</td>
<td>39.48/22.78</td>
<td>29.68/16.11</td>
<td>16.65/11.14</td>
<td>15.01/10.22</td>
</tr>
<tr>
<td>Absolute performance in euros/relative in percent</td>
<td>1.74/7.33</td>
<td>-5.02/-18.1</td>
<td>18.10/64.28</td>
<td>1.84/12.6</td>
<td>3.79/35.8</td>
</tr>
<tr>
<td>Issued no-par value shares (31/12) in millions</td>
<td>57.24</td>
<td>57.24</td>
<td>57.24</td>
<td>57.24</td>
<td>57.24</td>
</tr>
<tr>
<td>Market capitalization (Xetra end-year) in million euros</td>
<td>1,458.4</td>
<td>1,303.9</td>
<td>1,576.9</td>
<td>940.1</td>
<td>823.7</td>
</tr>
<tr>
<td>Average daily trading volume (in shares)</td>
<td>152,355</td>
<td>167,748</td>
<td>152,928</td>
<td>107,183</td>
<td>224,488</td>
</tr>
<tr>
<td>P/E ratio (based on highest price/based on lowest price)</td>
<td>30.9/17.8</td>
<td>25.8/14.9</td>
<td>23.4/12.7</td>
<td>16.7/11.1</td>
<td>17.3/11.8</td>
</tr>
<tr>
<td>Operating cash flow per share in euros</td>
<td>2.12</td>
<td>2.61</td>
<td>1.84</td>
<td>1.91</td>
<td>1.60</td>
</tr>
<tr>
<td>Group earnings per share in euros</td>
<td>1.18</td>
<td>1.53</td>
<td>1.27</td>
<td>1.00</td>
<td>0.87</td>
</tr>
</tbody>
</table>

* Source: Deutsche Börse; includes trading on the Xetra, in Frankfurt, Munich, Berlin, Düsseldorf, Hamburg, Hannover, Stuttgart and on Tradegate
Share performance January 2, 2019 through February 28, 2020 (indexed in euros)

Share performance 2015 to 2020 (indexed in euros)
Our history – Jenoptik 1990 to 2020

The German privatization agency (Treuhandanstalt) Berlin acquires the VEB Carl Zeiss Jena combine with 13 locations and a staff of around 30,000. In 1991, the two companies Carl Zeiss Jena GmbH and, as a state-owned company, JENOPTIK GmbH are founded from the original Jena company. Jenoptik becomes the legal successor of the combine and takes over the business units of Optoelectronics, System Engineering, and Precision Manufacturing.

1990 – 1993

For the purpose of establishing business, Jenoptik starts joint enterprises and acquires companies with established structures of distribution and international presence:

In 1994, Jenoptik takes over the Stuttgart company MEISSNER+WURST (later M+W Zander). The leading equipment manufacturer for the electronics industry will play a major role in shaping Jenoptik in the next ten years.

1994 – 1995

Starting January of 1996, Jenoptik is trading as a public limited company and is now divided into the four business units of Clean Systems, Photonics, Telecommunications, and Asset Management.

In 1997, Jenoptik acquires ESW-Extel Systems Wedel – today VINCORION.

As of June 1998, JENOPTIK AG is listed on the Frankfurt stock exchange. The stock advances to the MDax in December 1998.

1996 – 1998

In 1999, Jenoptik acquires Robot Foto und Electronic GmbH from Monheim and becomes one of the world’s leaders in traffic monitoring.

One year later, Jenoptik takes over metrology specialist Hommelwerke GmbH.

1999 – 2000

The Photonics unit is expanded: In 2002, Jenoptik partners with Hilti to establish a production partnership for laser distance measuring devices. This cooperation gives rise to HILLOS GmbH in 2003.

At the end of 2003, Jenoptik acquires Wahl Optoparts GmbH – a specialist for optomechanical and optoelectronic assemblies made of polymer material.

Jenoptik becomes the main shareholder of PHOTONIC SENSE GmbH Eisenach and gains knowledge concerning the manufacture of basic optical components from germanium and silicon.

2001 – 2004

Jenoptik sells the Clean Systems business and focuses on the traditional core businesses of lasers, optics, sensor systems and mechatronics.

The acquisition of the French Etamic S.A. complements the Jenoptik business in industrial metrology.

2005 – 2006
2009 – 2012

Jenoptik strengthens its leading role in this market with the acquisition of an Australian and a British manufacturer of traffic safety equipment. Moreover, it increases its stake in the Dutch traffic safety company Robot Nederland to 100 percent. Jenoptik also boosts its stake in an Indian joint venture to 100 percent.

Jenoptik celebrates its 25th corporate anniversary in June 2016.

2013 – 2016

Jenoptik moves into its new technology campus at the US site in Rochester Hills. In Jupiter, Florida, Jenoptik expands its clean room space for optical systems manufacturing and in Silicon Valley, California, Jenoptik opens a new location. Jenoptik acquires the British software company ESSA Technology, as well as the US company Five Likes Automation and the Canada based Prodomax Automation Ltd., both specialists for process automation in the automotive industry. The acquisition of the OTTO Group in Jena helps expand the position as systems provider of production metrology. In Berlin, Jenoptik modernizes its production environment for high-power laser diodes.

2017 – 2018

In 2019, Jenoptik reorganizes its structure into three photonic divisions as well as VINCORION for the mechatronic business.

In Bayeux, France, Jenoptik has invested in a new building for the industrial metrology business.

With the acquisition of the Spanish company INTEROB at the beginning of 2020 the Group strengthens its position as a full-range supplier of automated manufacturing solutions.

Jenoptik invests in Japan and takes over the long-standing joint venture JENOPTIK Japan Co. Ltd. completely.

2007 – 2008

Jenoptik begins with a comprehensive reorientation, being transformed into a strategic holding company.

Jenoptik dedicates itself to providing a family-friendly environment and supports daycare facilities close to the workplace at various corporate sites.

2007 – 2008

Jenoptik expands its international presence – with joint ventures notably in China, Korea, Japan, and Israel. Jenoptik opens a laser application center in South Korea.

At the end of 2010, Jenoptik sells its space business.

The US optics business is consolidated into JENOPTIK North America Inc., while US optics manufacturing is concentrated in two locations.

With the foundation of Jenoptik do Brasil, Jenoptik bolsters its activities in South America.
**Our employees**

HR development is a key factor that determines the future viability of the company. To help promote them in line with the potential and interests of our employees, the development needs are assessed regularly and implemented through appropriate training.

Specific support for school students, university students and graduates forms part of the Group’s strategy for skilled personnel, ensuring early loyalty to the company and thus simplifying the recruitment process. Jenoptik cooperates with selected universities around the world.

In addition, Jenoptik supports:
- projects and internships for career guidance at schools
- young researchers as a longstanding corporate sponsor
- various industry organizations to promote professional development activities
- students in the form of degree theses, internships and scholarships,

The audiences addressed by recruitment and thus also HR marketing are primarily specialists and skilled workers in the natural and engineering sciences as well as experts with business management and legal backgrounds.

---

**Social commitment – exemplary projects 2019**

<table>
<thead>
<tr>
<th>Category</th>
<th>Jenoptik supports</th>
<th>More details</th>
</tr>
</thead>
</table>
| Social            | Promotion of „Mitarbeiter im Ehrenamt“  
Easter charity concert by the International Young Orchestra Academy on behalf of the Elterninitiative für krebskranke Kinder Jena e. V.  
„Friends of Foster Children“, Jupiter, Florida  
Fundraising campaign on the occasion of the New Year’s Eve reception on behalf of ARCHE Berlin  
Summer camps for children of Jenoptik employees and children of recognized refugee families  
Project „Mitten im Leben“ in the Buergel parish (near Jena)  
Christmas campaigns on behalf of sick and needy children  |                                                                               |
| Science & Education | Jenoptik is a partner for …  
Global competition „SPIE Startup Challenge“  
Thuringian young researchers competition “Jugend forscht” (since 1991)  
Thuringian competition „Schüler experimentieren“ (since 2012)  
Applied Photonics Award of Jena-based Fraunhofer IOF  
Student project „Hinterm Horizont macht Schule“  
Lothar Späth Award for Outstanding Innovations  
70 years of the German Basic Law: New version as magazine – for schools and educational institutes  |                                                                               |
| Art & Culture     | Jenoptik promotes artists through its own series of “tangente” art exhibitions (since 1994)  
Jenoptik supports cultural projects with partners  |                                                                               |
|                   | tangente: Thomas H. Saunders „Art of Microscopy“  
Art exhibition OSTER+KOEZEL „raum+stoerung“ at the Friedrich Schiller University Jena and tangente „rooms+architectures“ as part of the 100th anniversary of Bauhaus in 2019  
Open-air Cultural Festival “Kulturarena” organized by the city of Jena  
Summer theater spectacular by Theaterhaus Jena  
Summer concert series at the Thalbürgel monastery church  |                                                                               |
2019 key figures of Jenoptik by division

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue</strong></td>
<td>million euros</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light &amp; Optics</td>
<td>855.2</td>
<td>834.6</td>
<td>2.5</td>
</tr>
<tr>
<td>Light &amp; Production</td>
<td>350.0</td>
<td>337.0</td>
<td>3.9</td>
</tr>
<tr>
<td>Light &amp; Safety</td>
<td>228.9</td>
<td>210.7</td>
<td>8.6</td>
</tr>
<tr>
<td>VINCORION</td>
<td>108.7</td>
<td>116.9</td>
<td>–7.1</td>
</tr>
<tr>
<td></td>
<td>164.8</td>
<td>166.4</td>
<td>–1.0</td>
</tr>
<tr>
<td><strong>EBITDA</strong></td>
<td>million euros</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light &amp; Optics</td>
<td>134.0</td>
<td>127.5</td>
<td>5.0</td>
</tr>
<tr>
<td>Light &amp; Production</td>
<td>69.8</td>
<td>74.1</td>
<td>–5.8</td>
</tr>
<tr>
<td>Light &amp; Safety</td>
<td>25.8</td>
<td>24.6</td>
<td>4.7</td>
</tr>
<tr>
<td>VINCORION</td>
<td>18.8</td>
<td>15.9</td>
<td>18.2</td>
</tr>
<tr>
<td></td>
<td>24.2</td>
<td>20.1</td>
<td>20.0</td>
</tr>
<tr>
<td><strong>EBITDA margin</strong>*</td>
<td>%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light &amp; Optics</td>
<td>15.7</td>
<td>15.3</td>
<td></td>
</tr>
<tr>
<td>Light &amp; Production</td>
<td>19.8</td>
<td>21.8</td>
<td></td>
</tr>
<tr>
<td>Light &amp; Safety</td>
<td>11.3</td>
<td>11.7</td>
<td></td>
</tr>
<tr>
<td>VINCORION</td>
<td>17.3</td>
<td>13.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14.7</td>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td><strong>EBIT</strong></td>
<td>million euros</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light &amp; Optics</td>
<td>88.9</td>
<td>94.9</td>
<td>–6.3</td>
</tr>
<tr>
<td>Light &amp; Production</td>
<td>57.9</td>
<td>65.9</td>
<td>–12.1</td>
</tr>
<tr>
<td>Light &amp; Safety</td>
<td>14.5</td>
<td>16.8</td>
<td>–14.0</td>
</tr>
<tr>
<td>VINCORION</td>
<td>11.7</td>
<td>10.9</td>
<td>7.2</td>
</tr>
<tr>
<td></td>
<td>17.4</td>
<td>16.5</td>
<td>5.3</td>
</tr>
<tr>
<td><strong>EBIT margin</strong>*</td>
<td>%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light &amp; Optics</td>
<td>10.4</td>
<td>11.4</td>
<td></td>
</tr>
<tr>
<td>Light &amp; Production</td>
<td>16.5</td>
<td>19.4</td>
<td></td>
</tr>
<tr>
<td>Light &amp; Safety</td>
<td>6.3</td>
<td>8.0</td>
<td></td>
</tr>
<tr>
<td>VINCORION</td>
<td>10.7</td>
<td>9.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10.5</td>
<td>9.9</td>
<td></td>
</tr>
<tr>
<td><strong>R+D output</strong></td>
<td>million euros</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light &amp; Optics</td>
<td>68.4</td>
<td>69.2</td>
<td>–1.1</td>
</tr>
<tr>
<td>Light &amp; Production</td>
<td>34.6</td>
<td>28.0</td>
<td>23.4</td>
</tr>
<tr>
<td>Light &amp; Safety</td>
<td>11.3</td>
<td>13.1</td>
<td>–13.6</td>
</tr>
<tr>
<td>VINCORION</td>
<td>12.0</td>
<td>13.6</td>
<td>–12.1</td>
</tr>
<tr>
<td></td>
<td>10.5</td>
<td>14.1</td>
<td>–25.4</td>
</tr>
<tr>
<td><strong>Order intake</strong></td>
<td>million euros</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light &amp; Optics</td>
<td>812.6</td>
<td>873.7</td>
<td>–7.0</td>
</tr>
<tr>
<td>Light &amp; Production</td>
<td>324.7</td>
<td>396.1</td>
<td>–18.0</td>
</tr>
<tr>
<td>Light &amp; Safety</td>
<td>199.3</td>
<td>200.7</td>
<td>–0.7</td>
</tr>
<tr>
<td>VINCORION</td>
<td>107.9</td>
<td>118.4</td>
<td>–8.9</td>
</tr>
<tr>
<td></td>
<td>177.9</td>
<td>154.9</td>
<td>14.8</td>
</tr>
<tr>
<td><strong>Order backlog</strong></td>
<td>million euros</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light &amp; Optics</td>
<td>466.1</td>
<td>521.5</td>
<td>–10.6</td>
</tr>
<tr>
<td>Light &amp; Production</td>
<td>144.9</td>
<td>180.6</td>
<td>–19.7</td>
</tr>
<tr>
<td>Light &amp; Safety</td>
<td>81.6</td>
<td>112.5</td>
<td>–27.5</td>
</tr>
<tr>
<td>VINCORION</td>
<td>69.9</td>
<td>69.5</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>169.7</td>
<td>158.9</td>
<td>6.8</td>
</tr>
</tbody>
</table>

* Based on total revenue
Publisher
JENOPTIK AG

Pictures
stock.adobe.com, Jeibmann Photographik, NASA, pexels.com, Scheere Photos, unsplash.com, archive Jenoptikde

June 2020

The contents of this publication address all genders equally.

This is a translation of the original German-language publication of the Jenoptik Group. JENOPTIK AG shall not assume any liability for the correctness of this translation. In case of differences of opinion the German text shall prevail.

Contact

Investor Relations
Phone +49 3641 65-2291
Telefax +49 3641 65-2804
E-mail ir@jenoptik.com

Communications and Marketing
Phone +49 3641 65-2255
Telefax +49 3641 65-2484
E-mail pr@jenoptik.com

Follow Jenoptik on
twitter.com/Jenoptik_Group
linkedin.com/company/jenoptik
instagram.com/jenoptik_morelight/