

**hönle**group



**industrial solutions**



The Höhle Group's headquarters in Gräfelfing, Munich





Norbert Haimerl and Heiko Runge, Managing Board

# Our top priority is to work closely with our customers –

from conceptualisation and realisation right through to customer service. This has made us a reliable partner for industry for more than 40 years.

In the development of our products we place great value on quality, efficiency and sustainability. Our aim is to supply our customers today with the technology of tomorrow.

Dr. Höhle AG has been listed on the stock exchange since 2001 and since then has considerably broadened its base through strategic acquisitions. Today the Höhle Group employs more than 600 people – all working for your success.

# hönle group

## GLASS & LAMPS

### Aladin GmbH

Development, production & sales of UV lamps

› Germany



### Raesch Quarz (Germany) GmbH

Development, production & sales of quartz glass tubing & sub-assemblies

› Germany



### Raesch Quarz (Malta) Ltd.

Further processing of quartz glass tubing & sub-assemblies

› Malta



### UV-Technik Speziallampen GmbH

Development & production of UV lamps, electronic power supplies & UV measuring technology for water disinfection

› Germany

### Eltosch Grafix GmbH

Development, production & sales of UV and IR/hot air drying systems, spraying and inking unit temperature control systems for sheet-fed offset printing

› Germany



### PrintConcept UV-Technik GmbH

Development, production & sales of UV systems for rotary printing

› Germany



## EQUIPMENT & SYSTEMS

### **Dr. Hönle AG**

Development, production, sales & service of Hönle UV equipment, UV dryers & UV systems, sun simulations systems, lighting technology & electronic power supplies, sales of Aladin UV lamps

› *Germany*

### **Eltosch Grafix America Inc.**

Sales & service of UV and IR/hot air drying systems, spraying and inking unit temperature control systems for sheet-fed offset printing

› *USA*

### **Hönle UV France S.a.r.l.**

Sales & service of UV equipment & systems

› *France*

### **Hönle Italy**

Sales & service of UV equipment & systems as well as of adhesives

› *Italy*

### **Hoenle UV Technology Trading Ltd.**

Sales & service of Hönle Group UV equipment and systems

› *China*

### **Eltosch Grafix Asia**

Sales & service of UV and IR/hot air drying systems, spraying and inking unit temperature control systems for sheet-fed offset printing

› *China*

## ADHESIVES

### **Eleco Produits E.F.D.**

Sales & service of adhesives

› *France*

### **Panacol Elosol GmbH**

Development, production & sales of adhesives

› *Germany*

### **Tangent Industries Inc.**

Development, production & sales of adhesives

› *USA*

### **SKC Panacol**

Development, production & sales of adhesives

› *Korea*

# The keys to our success

- › committed and qualified employees
- › unique systems expertise through close collaboration within the group
- › advantage of synergies
- › highest quality standards for our products
- › application specific development through close cooperation with our clients and with partners in the chemical industry



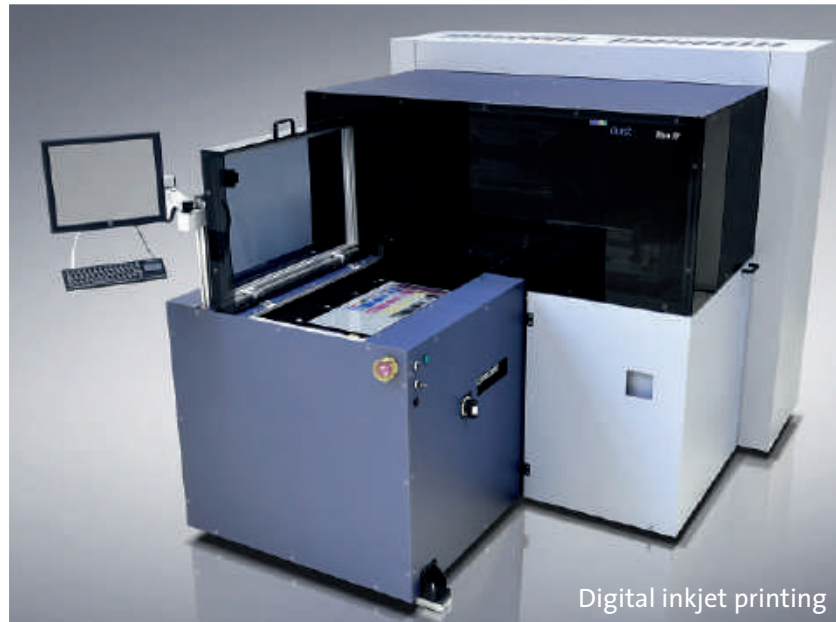
# Faster, better, more efficient

The Höhle Group develops and manufactures equipment and systems for printing and coating applications. The group can draw on the know-how of experts with decades of experience in an extensive range of applications.

Our products are used in the printing industry, in electronics production, furniture manufacturing and in the aviation and automotive industries.



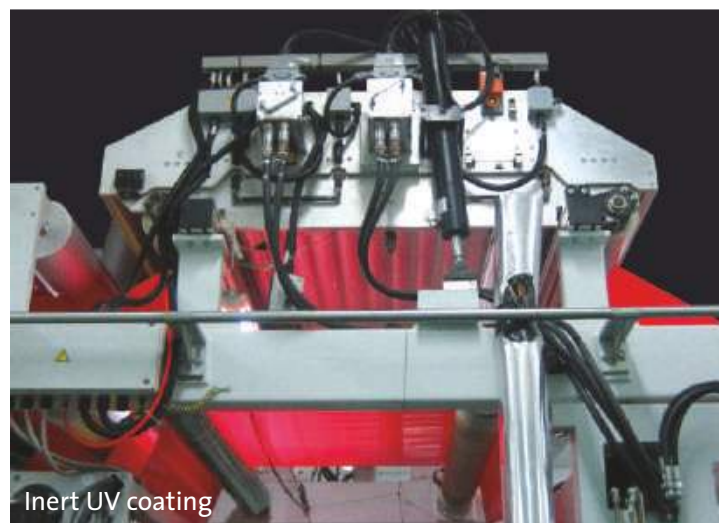
Sheet-fed offset printing



Digital inkjet printing



Flexo printing



Inert UV coating

Source: Xiamen Changtian



Sheet-fed printing press

## Individual solutions for sheet-fed offset printing

Sheet-fed offset expert Eltosch Graftix GmbH offers over 50 years of experience and a wide range of ultraviolet, infrared and hot air drying systems which have won awards for outstanding energy efficiency. In addition, we develop, manufacture and distribute products for the entire sheet-fed offset printing process chain: from temperature control and conditioning during inking, through to the powder application and exhaust system.



## UV drying systems for web printing

For more than 20 years, the Swabian company PrintConcept has been developing UV systems for rotary printing – with outstanding international success. In addition to conventional UV dryers, we offer excellent systems for inert UV printing.





Digital inkjet printing with inline finishing

# UV experts for digital and inkjet printing

For more than ten years, Dr. Höhle AG has been involved in the field of digital and inkjet printing, providing innovative UV solutions. From narrow-web to XXL, from conventional UV to UV-LED curing systems: Höhle offers high-end dryers for every digital application.

In the field of UV dryers for large-format inkjet printing, Höhle has been the global market leader for many years.

## Printing applications of the future

Printing is dead. Long live printing! Despite a decline in traditional printing applications, there are areas which hold great promise for the future. These include digital printing, packaging printing and also printed electronics. Here, the potential of UV technology really comes into its own – and with it, Höhle. We support these fields of application with our extensive expertise in UV curing.







Sun simulation system for the automotive industry

# We put you in the “right light”

## Lighting for film and television, events or industry

Hönle lighting technology is used wherever optimum lighting is required.

## Lighting systems for the automotive industry

We supply lighting for crash-test facilities, meeting the exacting requirements of any test procedure. A challenge our team is always ready and willing to meet!

## Sun simulation systems for diverse testing applications

We develop solutions for a wide range of materials and applications. These include material testing, ageing tests and emissions testing. Our systems are always tailored to the requirements of the customer – from compact irradiation chambers, right through to versions for factories and large wind tunnels.

## Sun simulation for solar modules:

We supply systems that comply with all relevant international guidelines for preconditioning, light soaking and hotspot tests.





Source: Grunwald / Wangen

UV disinfection of yoghurt cups and lids

# Germ-free in less than one second

Sterility is of the utmost importance during the production and packaging of foodstuffs, cosmetics and medicines. This can be achieved without the use of chemicals or

cost-intensive processes. Höhle UV lamp units disinfect packaging in a split second, are environmentally friendly and, with a disinfection rate of > 99.9%, absolutely reliable.





Final testing during UV lamp production



Production of IR lamps

# For clean water and clean air

UV-Technik Speziallampen GmbH is a globally successful lamp specialist. Our core competence is the manufacture of infra-red and UV lamps in all current spectra and wavelengths. We produce exactly what the customer requires. The main field of application for our UVC lamps is quick, reliable and chemical-free disinfection of water and air.

Combined with our electronic power supplies, UV sensors and measuring equipment, they form high-technology disinfection systems for a broad range of applications: disinfection using ultraviolet irradiation is applied for

drinking water, swimming pools and ponds as well as in waste water treatment. Process water from industry and ballast water in shipping is also disinfected. In the field of air disinfection, the products of UV-Technik Speziallampen are used in exhaust hoods and air-conditioning systems as well as for indoor air treatment in hospitals or in the food processing industry.

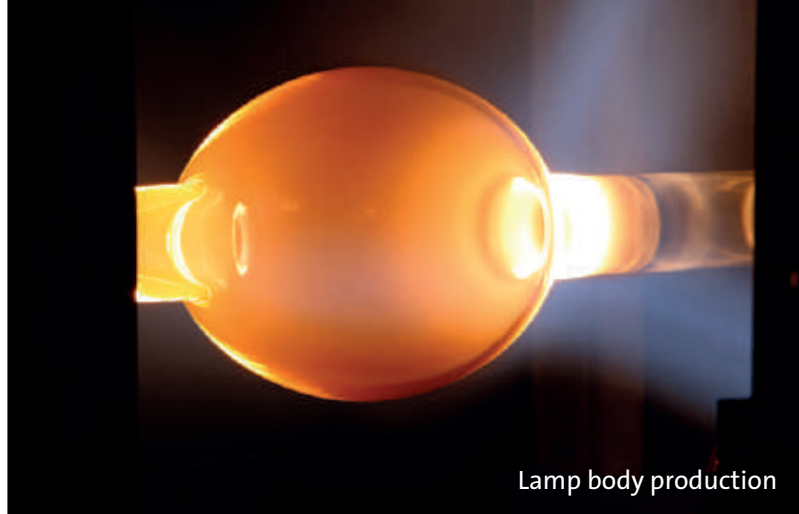
An additional application for our high-tech lamps is the hardening and curing of inks and varnishes.







Furnace for quartz glass rods and tubing



Lamp body production



Vacuum annealing furnace for quality optimisation

## Premium-quality quartz glass tubes

Raesch Quarz (Germany) GmbH is a leading manufacturer of satin quartz tubes, quartz glass tubes and rods made from high-purity quartz.

Unique in Europe, we offer our customers top-quality satin quartz tubes with external diameters of 6 mm to 20 mm, quartz glass tubes with diameters of 7 mm to 310 mm as well as quartz glass rods with 15 mm to 50 mm diameter in a single-step melting process. In addition, we produce resize tubes with diameters up to 1.000 mm.







Shaping quartz glass lamp bodies

# From quartz tubes to quartz lamps

Quartz glass tubes are the basic material for a variety of components. In semi-automatic production processes, they are used to make a wide variety of semi-finished products ranging right through to lamp bodies.

Raesch products are used, for example, in the lighting, semiconductor, automobile component and water treatment industries. They are supplied as standard products in large volumes or as custom designs for specific applications.

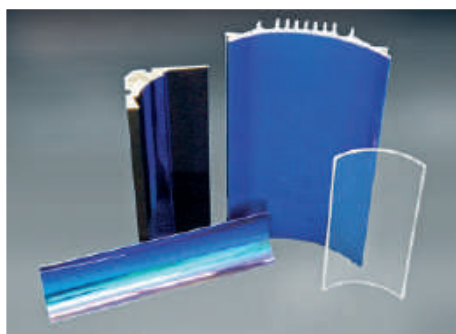




UV lamp production



Electronic Power Supplies



Dichroic reflectors



IR lamps

# We manufacture key components ourselves!

A product is only as good as its component parts. That is why we manufacture all key components of our lamp units ourselves. UV or IR lamps, dichroic reflector or electronic power supplies: all our products are "made by Hönle Group" and optimised to the specific application.

**Aladin:** UV lamps

**Hönle:** reflectors, UV measuring equipment, electronic power supplies, LED assembly

**Raesch:** quartz glass tubing

**UV-Technik Speziallampen:** UV and IR lamps



# Bonding – the joining technology of the future

Bonding has long been one of the most widely used joining technologies worldwide. More and more key industries are using this modern joining technique to replace or to supplement conventional methods such as welding, soldering or riveting.

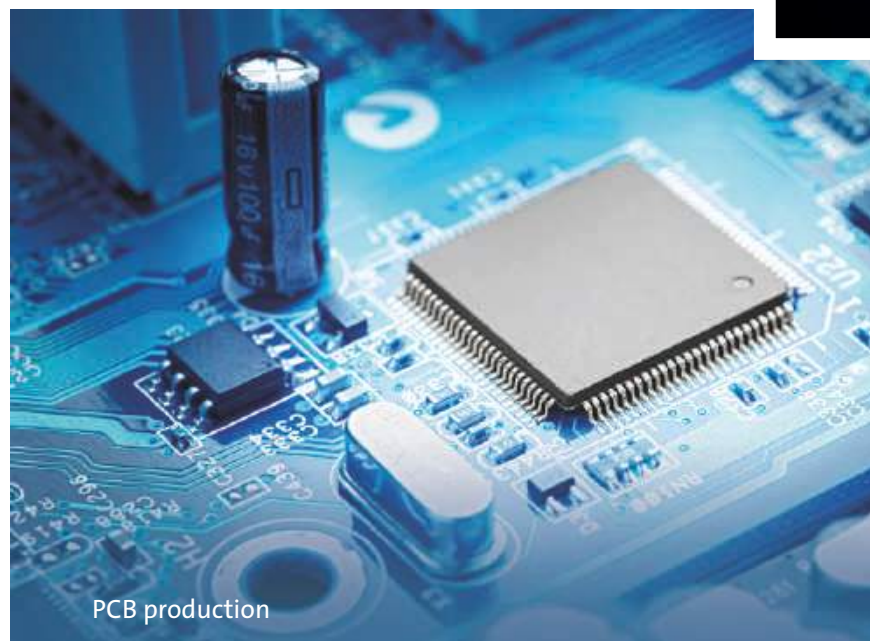
High-tech adhesives from Panacol are used, for example, in the electronics, optical and medical engineering industries, the automotive industry and in glass processing. They are suitable both for manual bonding and for fully automatic production lines.



Consumer electronics



Medical engineering



PCB production



Automotive engineering



Development lab for adhesives



## High-tech adhesives – individual, fast, reliable

Panacol is the adhesives specialist within the Hönle Group and a leading company in the growth market for industrial adhesives. With 40 years of experience in the development of adhesives and potting compounds, the company, which operates internationally, offers both standard and customised bonding solutions for a wide variety of applications.

Its product range extends from UV/light-curing epoxies and acrylates to conductive adhesives through to structural adhesives, cyanoacrylates for problem materials or 2-component epoxies for high-strength bonding and silicones.





UV curing of adhesives and potting compounds is used in numerous production processes; here for example in needle bonding

## Rapid curing with UV technology

Hönle offers a wide range of customised UV and UV-LED systems which ensure full curing in bonding applications within a matter of seconds. We offer our customers individual UV systems for bonding applications, specifically matched to the adhesives from Panacol.

The main market for these products is the electronics industry, in particular the sectors of opto-electronics, consumer electronics and smart cards. Our products are also increasingly used in glass processing, in the automotive sector, in 3D printing and in medical engineering.



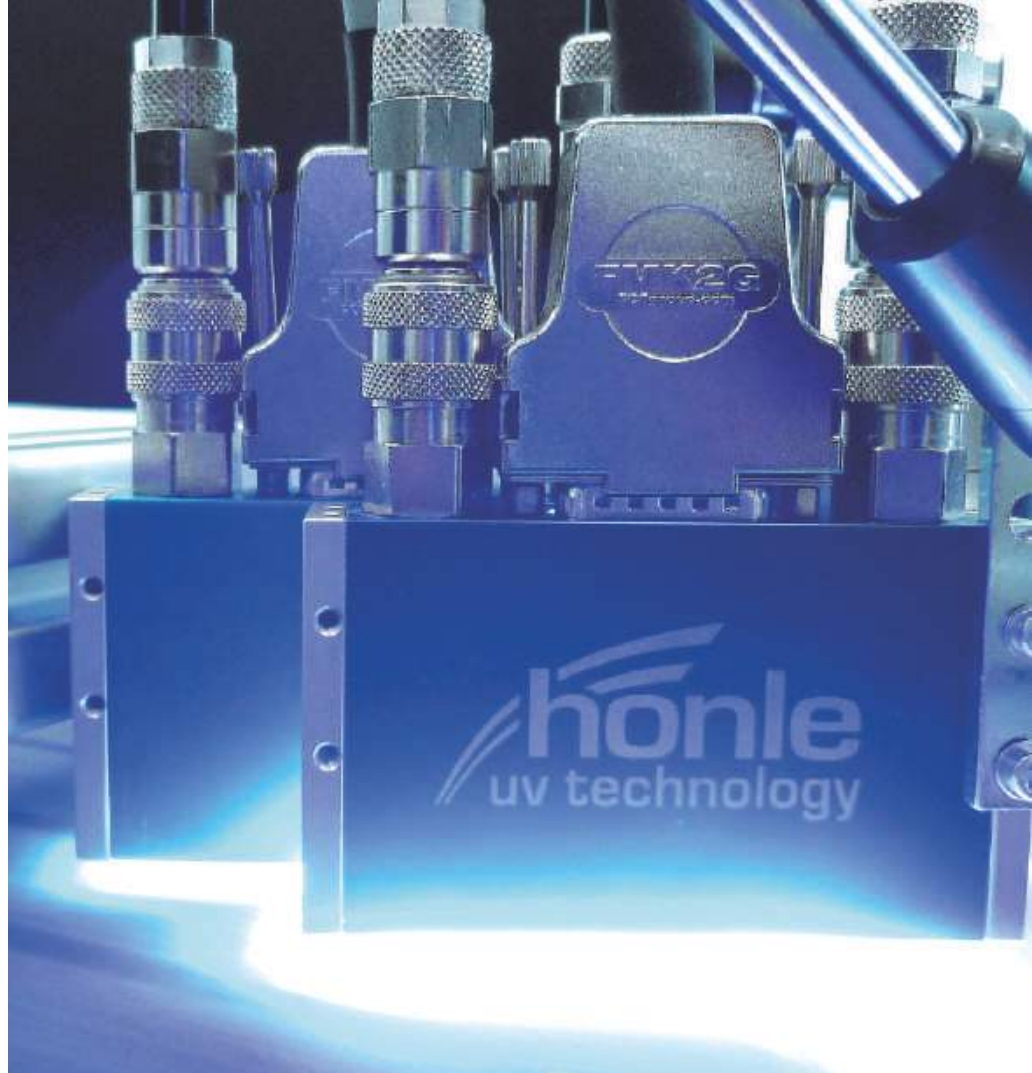




Focused  
UV-LED curing



UV-LED curing of mobile phone casings



Personalisation in the inkjet process

## LED – for us, the future began years ago

LED is a technology of the future. This is true in many areas. And it definitely applies to the UV-LED curing of adhesives, casting compounds, printing inks and coatings. Dr. Höhle AG is an expert in this relatively new technology.

For more than 10 years now, we have been developing UV-LED systems, which were initially used for curing adhesives and casting compounds. Today, our UV-LED products are also an established feature in the printing industry.

Thanks to continued research and development, we have long been considered a pioneer in the field of UV-LED curing. The exchange of ideas and information with our customers and the chemical industry has greatly assisted us here.

We assemble LED arrays in-house. This allows us the highest degree of flexibility and independence in developing and designing our UV-LED systems. In this way, we can create individual solutions for each customer – always perfectly tailored to the specific application.





Applications lab at Dr. Hönle AG

## Our qualified employees are the key to our success

The Hönle Group has more than 600 employees worldwide. They are the key to our success. The qualification of our employees is of prime importance to us and to ensure that we will be able to rely on well-trained specialist personnel in the future, we are training apprentices in six different professions. We are proud to say that at present we are passing on our knowledge to 30 young people.



## Quality made in Germany

No one places higher demands on the quality of our products than we do. In order to offer our customers top-quality products, we manufacture them ourselves - and almost exclusively within Germany.

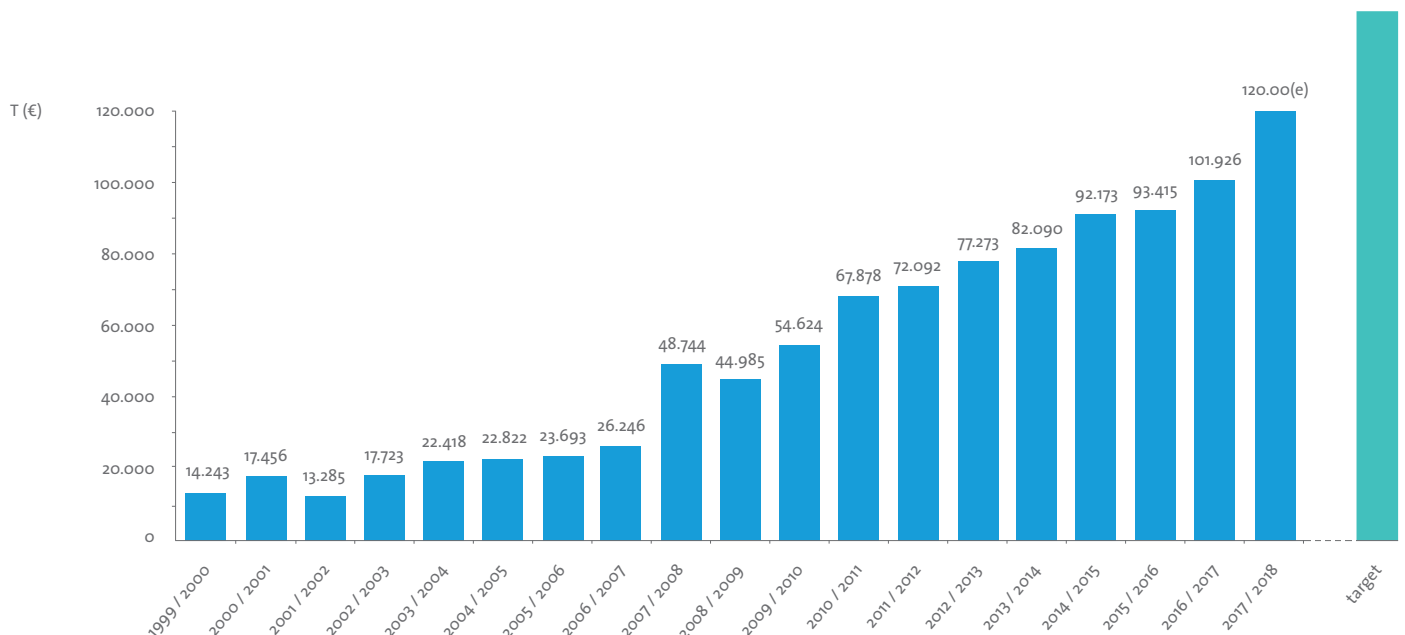


# From Hönle to the Hönle Group – milestones

- 1976** > Dr. Hönle company is founded as a private company for the development, production and sale of medical irradiation devices.
- 1980** > The first UV irradiation devices for industrial applications are developed. In the years that follow, Hönle goes international. Until today Hönle has established not only several business locations in Germany, but also locations in France, Spain, China, the USA, Italy, Malta and the Netherlands.
- 2001** > On 24th January, Dr. Hönle AG goes public on the Frankfurt Stock Exchange. A further milestone: With the foundation of Aladin GmbH, the company establishes its first UV lamp production site – we now produce the core element of our systems ourselves!
- 2002** > Hönle begins development of its own adhesives.
- 2003** > The Hönle Group has a workforce of over 100.
- 2008** > Hönle purchases the Panacol Group. This mid-sized group develops and produces industrial adhesives.  
  
In the same year, Hönle further expands its range of drying systems for offset printing with the acquisition of Eltosch Torsten Schmidt GmbH and PrintConcept UV-Systeme GmbH.
- 2011** > Hönle enters the life science market with the purchase of UV-Technik Speziallampen GmbH. Hönle takes over lighting technology specialist Mitronic GmbH.
- 2012** > Hönle enters the market for quartz glass tubing with the acquisition of the Raesch Group.
- 2013** > Grafix GmbH, supplier for sheet-fed offset printing, becomes part of the Hönle Group.
- 2014** > Merger of Eltosch Torsten Schmidt GmbH and Grafix GmbH to Eltosch Grafix GmbH
- 2015** > Two further subsidiaries are added to the company group: SKC Panacol (Korea) and Tangent Industries Inc. (USA-Torrington)
- 2016** > Mitronic GmbH is merged into Dr. Hönle AG.

## Sales development

The new additions to the group have significantly expanded our product range, and our sales have developed very positively in the past years in T (€):







## Strategy and Future

The Hönle Group has seen significant growth over recent years. Our companies have attained success worldwide in the three main market segments of: Machinery & Plant Engineering, Glass & Lamps and Adhesives. This makes us independent of any one specific sector, strengthens us against weaknesses in the individual markets and thus guarantees stability and security.

In particular with our involvement in the areas of adhesives, glass and digital printing, we are represented in interesting and promising growth markets.

The Hönle Group will continue to grow in the future. On the one hand, we will achieve this by continuing to do what has made us so successful: developing new and innovative products tailored to the requirements of our customers' applications. On the other hand, we will continue to integrate new companies into the Group.





# The Hönle Group – partner of industry

The Hönle Group is well-positioned worldwide, with own companies as well as by strong partners. Abroad, Hönle has got own sites in all those countries which play a key role for operational business.

In addition, we possess productions sites in Germany, France, Malta and the USA  
The Hönle Group has also got a dense net of international cooperation and sales partners.



