GROUP PROFILE 2018
Mechanical press of H&T ProduktionsTechnologie used at H&T Battery Components
Dear Reader,

For nearly 40 years, the Heitkamp & Thumann Group has been characterized by courage and risk-taking based on strategic analysis, concentration on unique strengths and targeted investments in innovative products and future-oriented markets related to core businesses. With the adaptation of the Group’s organizational structure into two Divisions and six independent Business Units, and investments of more than 200 million Euros in the past five years, we have followed this path and fueled further growth.

Our Divisions have strengthened their competitive positions in their respective fields: H&T Battery Components as the global market leader in the production of components for the consumer battery industry, and H&T Presspart as the world leader in the field of components for metered dose inhalers (MDI).

Moreover, H&T Battery Components has extended its capacities in North America to supply leading producers in the e-mobility and stationary energy storage sector with metal components. H&T Presspart has also strongly focused on innovation and development by strategically expanding its portfolio with devices for Dry Powder Inhalation and the e-health sector. In addition, H&T Presspart has enlarged its European manufacturing footprint in plastic processing.

After nearly 40 years of active involvement in developing, managing and supervising Heitkamp & Thumann Group’s growth path, we together handed over all responsibilities to the next generation in 2017. The family shareholders from now on are represented in the Advisory Board of the Group by Angela Lampert, Olivia Rösler and Engelbert A. Heitkamp as Vice Chairman. In December 2017, Prof. Dr. Dr. Hans-Peter Keitel retired after six years as a member of our Advisory Board. We would like to thank him for his valuable support and entrepreneurial foresight. Meanwhile, John Benaglio, former CEO of the Group, became the Chairman of our Advisory Board. Dr. Eberhard Veit, Vincent Hübner, Oliver Hermes and Dr. Hubert Lienhard (from April 2018) are further members of the Advisory Board, all with strong professional backgrounds from the industry. They will continue our path of stable and sustainable growth based on the core capabilities of the Corporate Group as well as close and trusted long-term partnerships with our customers.

We thank all our business partners and employees for the trust placed in us and are convinced that the Heitkamp & Thumann Group will enjoy a successful future.

Jürgen R. Thumann
Prof. Dr. Dr. Engelbert Heitkamp

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**MISSION**

To Be the Leading Global Partner for the Development and Supply of World Class Precision Formed Components.

- Customer Satisfaction Is Our Highest Priority
- Suppliers Are Our Business Partners
- People Working Together as a Global Team
- Integrity Will Never Be Compromised
- Continuous Improvement in Everything We Do
- Innovation Will Create Our Future
- Safety and Environmental Sustainability Are Our Primary Responsibility

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**EDITORIAL**

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Jürgen R. Thumann
Prof. Dr. Dr. Engelbert Heitkamp
OVER 20 COMPANIES. WELL POSITIONED FOR THE FUTURE.

The Heitkamp & Thumann Group is a family-owned global Group of companies based in Düsseldorf, Germany. Founded nearly 40 years ago, the Group today unites over 20 companies organized into two Divisions and six Business Units. From its beginning, Jürgen R. Thumann and Prof. Engelbert Heitkamp strategically focused on niche products for high volume markets with the ambition to become the market leader. Having a clear view is fundamental to the Group’s success and is supported by the stable shareholder and management structure. In 2017 the two founders resigned from the Advisory Board and handed over their responsibilities to the next generation of shareholders. John Benaglio, former CEO of the Heitkamp & Thumann Group, and Engelbert A. Heitkamp succeeded them as Chairman and Vice-Chairman of the Advisory Board.

By focusing deeply on the core capabilities of the Corporate Group, the founders and management created a healthy company, positioned for further growth. In recent years the shareholders have invested more than 200 million Euros in manufacturing facilities, capacity expansion and product development. New markets as well as innovations within the Group’s core capabilities are the engine of future growth. Together with partners and pioneers in growth markets such as e-mobility, stationary energy storage and digital healthcare, the Heitkamp & Thumann Group is poised for the future.
HEITKAMP & THUMANN GROUP

TOGETHER, GLOBAL, IN PARTNERSHIP.

The Heitkamp & Thumann Group is characterized by its global presence, a distinctive customer orientation and group-wide communication of know-how. It has positioned itself as a valuable partner for all customers who will be active in future markets or expanding into these. With manufacturing facilities in Europe, North America and Asia, the Heitkamp & Thumann Group is represented in all major economic regions of the world.

The two Divisions of the Heitkamp & Thumann Group are world leaders in their respective fields:

H&T Battery Components is the global market leader in the production of components for the consumer battery industry and a fast-growing supplier for the e-mobility and stationary energy storage market. H&T Presspart manufactures highly specialized components made of metal and plastic for the pharmaceutical industry.

Regarding components for metered dose inhalers (MDI), H&T Presspart holds a leading position in the global market. The six Business Units market first-class products to renowned customers around the world. The ability to develop machines, tools, manufacturing systems and associated process technologies in-house is a particular strength of the Heitkamp & Thumann Group.

Knowing that a digital and collaborative workspace is a critical factor determining the digital transformation of any organization, the Heitkamp & Thumann Group has been one of the first in using a cloud-based social business collaboration platform. This platform ensures that colleagues, business partners and customers around the world are efficiently connected for exchanging information and knowledge.

H&T Battery Components

Products:
- Battery Cans and Flat Parts for the Consumer Battery Industry
- Battery Cans and Cover Assemblies for Rechargeable Battery Technologies
Locations:
- Marsberg, Germany
- Waterbury, USA
- Singapore
- Dongguan, China
- Hong Kong
- Sparks, USA

H&T Presspart

Products:
- Cans, Actuators, Dose Counters and Indicators for pressurized Metered Dose Inhalers (pMDI)
- eMDI™ Smart Connected Inhaler
- Dry Powder Inhalers (DPI)
- Dispensing Actuator
- Plastic Assemblies for the Pharmaceutical Industry
Locations:
- Blackbusch, United Kingdom
- Marsberg, Germany
- L’Arboç (Tarragona), Spain
- Andheri East, Mumbai, India
- Montevideo, Uruguay

H&T Produktionstechnologie

Products:
- Mechanical Presses
- ServoSpindles & Presses
- Metal Forming Tools
- Automation Equipment
Location:
- Blackbusch, Germany

H&T Tool Design

Products:
- Precision Tools
Location:
- Marsberg, Germany

H&T Industrial

Products:
- Deep-drawn Components for Industrial Applications
Location:
- Blackbusch, United Kingdom

Westfalia Metal Components

Products:
- Components and Assemblies for Automotive Seats, Bodies and Chassis
Locations:
- Crimmitschau, Germany
- Hustopeče, Czech Republic

Westfalia Metal Hoses

Products:
- Components and Assemblies for Exhaust Systems of Commercial Vehicles
Locations:
- Hitchenbach, Germany
- Hustopeče, Czech Republic
- Bristol, USA
- Shanghai, China

Doby Verrolec

Products:
- Ductwork Components
- DobyGrip Wire Rope Suspension System
- Roller Shutter Door Profiles
Locations:
- Stanley, United Kingdom
- Sharjah, United Arab Emirates

Holding

Manufacturing Site
Sales Office
H&T Battery Components
H&T Presspart
Westfalia Metal Components
Doby Verrolec
H&T Produktionstechnologie
H&T Industrial
H&T Tool Design

Sales by Region %

- Germany
- Rest of Europe
- Asia
- North America
- Other Regions

17
16
45
21
A CULTURE OF EXCELLENCE.

“H&T Excellence” is a Lean Management program which for many years has been an integral part of the Heitkamp & Thumann Group. The focus is on eliminating or reducing waste by continuous improvement. A company culture of continuous improvement can only develop if all employees experience the benefits of the Lean Principles within their daily work. In training and workshops, employees get to know the basic idea of Lean Management and the corresponding methods, tools, principles and success factors. They learn the difference between value adding and non-value adding activities and how to apply the tools within their everyday work. All operational and administrative processes are challenged and improved systematically and continuously. By sharing best practice solutions and enabling constant exchange throughout the Heitkamp & Thumann Group, employees receive new ideas for their own processes and their own workplaces.

A CULTURE OF INNOVATION.

For the Heitkamp & Thumann Group, innovation is a group-wide initiative that has always been at the center of its corporate philosophy and entrepreneurial activities. The culture of innovation is employee-driven and builds upon the strengths of the different Divisions and Business Units. Innovation at the Heitkamp & Thumann Group is the process of making changes, large and small, radical and incremental, to products, technologies, processes, business models and services. These changes need to result in something new that adds value for customers. The innovation efforts of the Heitkamp & Thumann Group focus on validated learning, allowing for fast and cheap failures as well as on building a strong customer orientation into every innovation project by addressing both the obvious and hidden customer needs as early as possible in the innovation process. To learn more about the innovation activities of the Heitkamp & Thumann Group, please download the most recent “Innovation Magazine” from the corporate webpage.

For more information:
www.ht-group.com

Cross-divisional innovation tournaments
Annual interviews to identify so-called hidden customer needs (objective)
Minimum viable products per year with customer feedback (objective)
Patents and patent applications
Employees involved in most recent innovation culture survey

Group-wide operational excellence philosophy
H&T Excellence Principles as guidance for all processes (Customer Orientation, Synchronization, Standards, Quality in Product & Processes, Continuous Flow, Employee Empowerment & Development)
H&T Excellence basics trainings per year
Kaizen Workshops per year
H&T employees involved per year

1
6
80
200
800

7
70
100
150
900
40 YEARS OF JOINT SUCCESS.

The cousins Jürgen R. Thumann and Prof. Engelbert Heitkamp founded the Heitkamp & Thumann Group at the end of the 1970s. The companies Gemi Metallwarenfabrik in Marsberg (DE) and Truelove & Maclean in Watertown (US) have since developed into the global market leader H&T Battery Components. In the following years, the Group further grew through acquisition and greenfield operations around the world.

In 1997, existing technological capabilities were transferred to the field of pharmaceutical products to make metered-dose inhaler cans. With the acquisition of the British company Presspart Manufacturing in 2002 and its subsequent renaming, the Division H&T Presspart became a global market leader. In 2017, H&T Battery Components started the mass production of cans for rechargeable batteries in Nevada (US). H&T Presspart also enlarged its manufacturing footprint and launched technically demanding pharmaceutical plastic products onto the market.

FLAT HIERARCHIES.
FAST AND DECENTRALIZED DECISION MAKING.

The Group’s history of success is based on first-class employees. Despite being of different nationalities, cultural backgrounds and biographies they have much in common: openness for new ideas, inventive spirit, flexibility, character, courage and commitment. Their creative ideas and expertise provide a crucial contribution to the company’s success. Flat hierarchies, fast, decentralized decision making, a broad, holistic and diverse range of tasks as well as a high level of autonomy are the basis for the development of our talents.
CONSUMER BATTERY FLAT PARTS
In the field of flat parts, the product range includes progressively stamped metal end caps, bottom covers, top covers and reinforcing rings for primary batteries.

CONSUMER BATTERY CANS
H&T Battery Components produces various cylindrical consumer battery cans of all sizes with maximized internal can volume for higher power, longer lasting products.

LEADING SUPPLIER OF ALKALINE BATTERY COMPONENTS.
Alkaline batteries rank among the most important electrochemical energy storage devices. Almost everyone is familiar with these cylindrical shaped products used in remote controls, alarm clocks and other devices. Most people do not pay much attention to the metal can hidden beneath the printed brand label. The can was – most likely – produced by H&T Battery Components. H&T Battery Components is the world’s largest manufacturer of alkaline battery metal components and offers its customers a comprehensive portfolio for the primary battery market. All products are manufactured using sophisticated, in-house developed machines and tooling for high-precision deep-drawing.

EFFICIENT MASS PRODUCTION
A production volume of more than 10 billion cans per year and regular investments in global capacity make H&T Battery Components a strong partner, staying ahead of growing customer needs. Using the world’s widest Nickel Plated Steel Strip to feed highly efficient cupping presses as well as robust production processes guarantee the highest resource efficiency.

HIGH FLEXIBILITY AND OUTSTANDING QUALITY
The fully integrated development and manufacture of high-speed deep-drawing presses, tools and part conveyance allows H&T Battery Components to set new standards in terms of production speed, flexibility and process quality. The Division is experienced in managing fast ramp-ups, meeting challenging deadlines and most stringent product specifications.

CUSTOMER-ORIENTED
Leading battery manufacturers appreciate the Division’s client-orientation and deep understanding in terms of all products and processes related to batteries. The close interaction with global partners in all manufacturing stages from prototyping to mass production as well as a flexible and fast implementation of new ideas and processes lead to value-adding solutions and superior products.

For more information: www.ht-group.com
LID AND MODULE COMPONENTS
H&T Battery Components offers lid components and customized solutions for battery modules which allow the various can types to be incorporated into customer design criteria.

CYLINDRICAL CANS
The cylindrical containers in all standard sizes and customized formats combine the highest energy density at cell level with cost-effective design, mechanical stability and good cooling characteristics. Therefore, they are widely used for power tools and battery-powered electric vehicles.

PRISMATIC CANS
The prismatic format provides high storage capacities due to efficient pack integration. Therefore, it is widely used for battery-powered electric vehicles.

For more information: www.ht-group.com

POWERFUL PACKAGING SOLUTIONS FOR RECHARGEABLE BATTERY CELLS.
Global demand for hybrid, plug-in hybrid and electric vehicles has greatly increased in recent years and has propelled the development of electric drive from a niche segment to an important alternative to combustion engines. This evolutionary step has also set new requirements on mass-produced cell and module components particularly in terms of storage capacity, charging time, safety and durability under a variety of conditions.

H&T Battery Components entered this challenging new market early and has become a solution provider for the rechargeable battery industry. It helps producers serve the increasing demand for lithium-ion and other innovative battery technologies for automotive and non-automotive applications.

PRISMATIC CANS
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COST-EFFECTIVE HIGH QUALITY PRODUCTS
Decades of experience in the development and application of deep-drawing processes make H&T Battery Components a reliable partner for the fast growing rechargeable sector. Thanks to fully automated mass-production processes and individual non-touching can transports, the products meet the highest demands related to both cost-effectiveness and quality.

FULL SERVICE SOLUTION
H&T Battery Components provides full service including engineering and optimization of manufacturing processes, product development, C2C (Coil-to-Carton) production and ongoing technical support. The integrated design and production of tailored tools and equipment, such as transfer presses, guarantees cost-efficient processes at highest quality and performance standards.

RAMP-UP OF GREENFIELD OPERATIONS
As part of a global Group of companies, H&T Battery Components has extensive experience in worldwide greenfield operations and offers its services at nearly every location of the clients’ choice. Large production sites with a capacity of billions of units per year are developed and constructed in close cooperation with the customers to ensure fully integrated production processes.

Automated stacking process of lithium-ion-battery cans.
LEADING SUPPLIER OF PHARMACEUTICAL RESPIRATORY DRUG DELIVERY COMPONENTS.

The production of medical devices and drug delivery components requires maximum precision and quality. The patient’s health depends on the tiniest of details regarding the reliability and performance of the delivery systems. Consequently, pharmaceutical companies and regulatory bodies place the highest quality requirements on medical device manufacturers. H&T Presspart has developed an enviable reputation in this challenging market and is the partner of choice for leading pharmaceutical companies with its range of respiratory drug delivery products and services and sets new standards in the field of deep-drawn and injection molded medical device components.

METERED-DOSE INHALER (MDI) CANISTERS

A complete range of MDI canisters designed for optimum compatibility with the customer’s choice of valve, actuator and drug formulation ensures the highest drug stability and performance.

METERED-DOSE INHALER (MDI) ACTUATORS

H&T Presspart is a leading supplier of MDI actuators for the global market and offers various one-piece and multiple-piece MDI actuators for all standard MDI valve sizes.

HEALTHCARE DISPENSING ACTUATORS

The large portfolio of healthcare dispensing actuators for healthcare includes nebulizing and non-nebulizing products for oral, aural and topical applications.

HIGH-SPEED MULTI-COMPONENT ASSEMBLY

Using robotic part handling and high-speed fully automated assembly, H&T Presspart manufactures multi-component drug delivery devices in ISO7 or ISO8 clean-room conditions. The design and development team has specialist knowledge of the capabilities of multi-component assembly for both standard and customized pharmaceutical and healthcare products.

PRODUCTION IN CLEAN ROOMS

The ability to carry out complex multi-stage assemblies under clean room conditions makes H&T Presspart the partner of choice for leading companies in the pharmaceutical sector and other industries. Manufacturing in the most up-to-date facilities and complying with all relevant standards across the pharmaceutical industry, H&T Presspart ensures smooth processes at every stage of the value chain.

PREPARED FOR A RAPID MARKET LAUNCH

Once a new pharmaceutical product is approved, a rapid market launch can improve or even save lives. H&T Presspart’s management systems and premises have already been awarded certifications according to ISO 9001, ISO 13485 and ISO 14001 as well as EU/UEA Good Manufacturing Practices (GMP) and thus contribute to a short time-to-market.

Manufacturing of MDI Actuators in H&T Presspart’s clean room facilities
PARTNER OF CHOICE FOR THE PHARMACEUTICAL INDUSTRY.

The pharmaceutical sector continually changes with the introduction of new revolutionary drug formulations as well as technical advances in drug delivery systems that help improve a patient’s quality of life. H&T Presspart strives to help those patients suffering from chronic respiratory diseases such as asthma or other COPD (Chronic Obstructive Pulmonary Diseases). H&T Presspart pursues the strategy to expand its portfolio of drug delivery systems in respiratory care and broaden the product range to adjacent markets. Various development partnerships with leading companies of the pharmaceutical industry give proof of these ambitions.

DRY POWDER INHALER (DPI)
PowdAir Plus is a patented capsule-based DPI based on a design by Hovione Technology. Its simplicity, ease of use and affordability make it an ideal device for developing markets.

DOSE COUNTERS AND INDICATORS
H&T Presspart offers counters and indicators to address a variety of customer and market needs, such as the mechanical dose-by-dose counting system licensed from 3M.

For more information: www.presspart.com
LIGHTWEIGHT PRODUCTS FOR STRENGTH AND SAFETY OF AUTOMOTIVE COMPONENTS.

The development and production of cars and commercial vehicles is a very demanding field. Different, partly conflicting requirements regarding safety, weight, functionality, design and costs must be satisfied at the same time. Therefore, vehicle manufacturers place the highest demands on their partners and expect innovative solutions and best quality products at reasonable prices.

Westfalia Metal Components is a specialist in forming technology. Starting as a large-scale producer of precise, high-strength parts for automotive applications it has developed into a module and systems supplier to leading companies in the automotive industry.

MEETING STRINGENT AUTOMOTIVE REGULATIONS

As a supplier of leading Original Equipment Manufacturers (OEMs) and first-tier suppliers, Westfalia Metal Components is compliant with all relevant standards and regulations of the automotive industry. Moreover, certified management systems according to ISO 14001, ISO 50001, ISO 9001 and IATF 16949 ensure the highest performance of all processes and products.

PRECISE PROCESSING OF HIGH-STRENGTH STEELS AND OTHER MATERIALS

Automotive applications require maximum stability and safety while demanding minimal weight. Westfalia Metal Components has substantial know-how in the processing and combination of various materials such as high-tensile steels, aluminum and composites.

SPECIALIST IN DEVELOPMENT AND PRODUCTION

The range of services offered by Westfalia Metal Components covers all design and engineering stages from simulations to utility models and prototypes to series production of components and assemblies. The required machines and tools, such as ServoSpindlePresses and transfer systems, as well as fully automated handling systems for bonding, welding and riveting are perfectly integrated into the production processes.

SEAT COMPONENTS

The portfolio for seat structures of passenger cars includes seat rails, back panels and other components manufactured on mechanical and ServoSpindlePresses.

BODY PARTS AND CHASSIS COMPONENTS

Large quantities of lightweight brake cover sheets, side impact beams and load-bearing plates made of high-strength steels are produced and delivered just in time.

ASYMBLED READY-TO-INSTALL

Westfalia Metal Components’ tailored parts, such as seat parts with mechanisms for seat adjustments, are supplied ready-to-install. Additionally, a new assembly center for gear selectors was put into operation in 2017.

For more information:
www.westfalia-mc.com
RELIABLE CONNECTIONS FOR EXHAUST GAS TREATMENT SYSTEMS.

The constant tightening of exhaust gas standards and emission regulations in recent years has forced the automotive and commercial vehicle industry to shorten optimization cycles and to improve the efficiency of exhaust gas aftertreatment systems. As a result, the requirements on decoupling exhaust routings between the engine and the aftertreatment system steadily grew. Westfalia Metal Hoses is a leading global supplier of such complex assemblies consisting of flexible metal hoses or gastight decoupling elements including bent pipes, thermal insulation and suitable connection technologies for trucks, buses, agricultural vehicles and construction machinery.

GASTIGHT HOSE
The GTH™ forms a new generation of gastight decoupling elements. It perfectly combines the advantages of a new inliner concept with the proven characteristics of the gastight outer shell. The GTH™ perfectly absorbs vibrations and avoids eigenfrequencies.

STRIPWOUND HOSE
The single or double interlocked special profile of the flexible Stripwound Hoses guarantees excellent durability and optimum absorption of operational movements.

COMPLETE EXHAUST ROUTING
Westfalia Metal Hoses has acquired extensive expertise in the assembly of exhaust routings using in-house developed process technology and tooling.

SUPPLIER OF LEADING ORIGINAL EQUIPMENT MANUFACTURERS (OEM)
Westfalia Metal Hoses is listed as a development supplier of many global OEMs and has longstanding partnerships with international on-road and off-road vehicle manufacturers. Customers particularly appreciate the design and testing support and the ability to transfer product ideas into unique serial production processes that meet all standards in terms of quality, reliability and cost optimization.

CLOSE COOPERATION WITH CUSTOMERS
Qualified teams of design engineers and production experts cultivate very close partnerships with their customers to obtain feedback on development as early as possible. Real life simulations and rapid prototyping help to evaluate each situation and react in a flexible and target-oriented manner to specific customer requirements and guarantee a smooth transition to series production.

UNIQUE SKILLS AND TECHNOLOGIES
The in-house development of machines and tooling, such as a proprietary welding process and a fully integrated inline cutting process, underline Westfalia Metal Hoses’ excellence in the field of metal processing machinery. Additional extensive expertise and production capacity in the areas of pipe bending, thermal insulation and assembly complement the range of abilities.

→ Welding of thermal insulation to exhaust routings

For more information:
www.westfalia-mh.com
DOBYGRIP WIRE ROPE SUSPENSION SYSTEM

The patented DobyGrip Wire Rope Suspension allows the quick and safe suspension of static loads in various applications, such as ductwork and lighting.

DUCTWORK COMPONENTS

The range of HVAC components includes jointing systems and stiffening sections for rectangular and circular ductwork systems. All products are easy and quick to install and ensure a high level of airtightness.

TIME-SAVING PRODUCTS FOR THE CONSTRUCTION INDUSTRY.

When it comes to the construction or renovation of buildings, time and budget constraints mean great challenges for the contractors. Thus, the demand for products allowing short installation times and low construction costs is very high. Doby Verrolec understands the needs of the construction industry and strives to meet them through innovative solutions. The comprehensive range of Doby Verrolec includes products and components for air duct systems, customized metal profiles, roller shutter door profiles and accessories for HVAC applications (Heating, Ventilation and Air Conditioning). All products are designed to reduce installation times and operation costs while meeting the highest technical standards.

IN-HOUSE MANUFACTURED FOR SHORT LEAD TIMES

All system components are produced in-house with optimum system performance to ensure full traceability and continuity of supply. The ability of working to strict delivery schedules provides customers with maximum reliability and easier planning. This is a core strength of Doby Verrolec.

COMPREHENSIVE DISTRIBUTION NETWORK

Doby Verrolec cooperates globally with highly reputable, fully trained stockists and distributors who provide face-to-face customer support. Further, regional technical sales teams advise on all matters connected to the products and specific legal requirements in the respective countries.

INDEPENDENTLY TESTED

The products meet the requirements of a variety of national and international standards and have obtained several technical approvals from Europe, US, Middle East and Far East. Further, ISO 9001-certified quality management systems as well as the environmental management system in compliance with ISO 14001 are proof of superior expertise in terms of products and processes.

For more information: www.dobyverrolec.com

Patented DobyGrip Wire Rope Suspension System shown in one of its many applications.
**MACHINERY AND TOOLS MEETING HIGHEST QUALITY STANDARDS.**

The production of components for the automotive industry and other industrial sectors requires state-of-the-art solutions regarding cost-efficiency through automation. Within this field, sheet metal forming is a special process placing great demands on the performance, precision and durability of the machinery used. Thus, dynamic presses and forming tools have to ensure low dimensional deviation.

H&T ProduktionsTechnologie is a specialist in the development and construction of metal forming tools, machines and highly automated production equipment. The portfolio comprises presses, bellow machinery, transfer systems and metal forming tools for users within and outside the Heitkamp & Thumann Group.

**PRESSES**
The product range in the field of presses covers mechanical presses as well as further innovative ServoSpindlePresses and MultiServoPresses based on the latest servo drive technology.

**TOOLS**
The manufacture of seat structures and other automotive parts made of high-strength and ultra-high-strength metals requires reliable machinery and robust quality tools.

**AUTOMATION**
H&T ProduktionsTechnologie develops and manufactures modularised transfer systems and highly automated cells for the assembly of complete ready-to-install components.

**RELIABLE AFTER-SALES SERVICE**
The global after-sales service includes predictive maintenance, fast spare parts supply and repair service as well as condition monitoring and diagnostics based on modern remote maintenance systems. In addition, retrofittable solutions for existing systems enable increased performance and extended service life.

**UPSTREAM PROCESS SIMULATIONS**
At H&T ProduktionsTechnologie, projects follow a milestone-based project management including a detailed simulation of different solutions during process development. Once the model is optimized and meets – or even exceeds – all the customers’ requirements, the equipment is built within a short time. This procedure minimizes risks, improves quality and generates saving potentials.

**SUPPORTING INDUSTRY 4.0**
The increasing digitalization of production offers many new opportunities in the field of interactive networking and intelligent process control. H&T ProduktionsTechnologie maintains close research partnerships with universities and other institutions and is constantly working on intelligent embedded systems to reduce downtime and detect cost saving potentials.
DEEP-DRAWN COMPONENTS FOR A RANGE OF INDUSTRIES.

The continuous improvement of production processes and a clear focus on the demanding, high-volume production of deep-drawn parts is a key success factor of the Heitkamp & Thumann Group. The Business Unit H&T Industrial applies the Group’s technological expertise in deep-drawing in markets that are not yet served by the Divisions of the Heitkamp & Thumann Group.

H&T Industrial supplies its customers with deep-drawn precision metal components. Its deep-drawing technology and over 40 years of experience gives the company the ability to manufacture a wide range of parts for a whole host of industries and products.

DEEP-DRAWN COMPONENTS
As a specialist in high-volume, precision deep-drawn metal components, H&T Industrial produces a wide range of components for a variety of industries.

METAL IN VARIOUS SHAPES
H&T Industrial offers a wide range of deep-drawn components which encompasses long-draws, ironed walls, multiple piercing and complex forms – all deep-drawn from the highest quality metals, including: aluminum, stainless steel, carbon steel, brass, nickel silver, inconel, galfan and monel.

EXPERTS IN DEEP-DRAWING
As a specialist in the field of deep-drawing technology, H&T Industrial is able to manufacture products of extreme length to diameter ratios with complex side-piercing. The Business Unit uses superior design and manufacturing capabilities, where quality in quantity is achieved through a combination of the latest technology and the most advanced high-volume production systems.

IN-HOUSE TOOL WORKSHOP
H&T Industrial’s state-of-the-art tool workshop enables immediate implementation of new requirements and the ability for quick sample making, which is making the Business Unit a preferred supplier of precision deep-drawn components for various industries.

QUALITY AND TESTING
H&T Industrial does not compromise on quality or testing. Regular audits are carried out to ensure product compliance to the highest functional and regulatory standards. H&T Industrial is certified in accordance with ISO 9001, ISO 14001 and EU/FDA Good Manufacturing Practices (GMP).

For more information: www.ht-industr.com
SERVICES
The Business Unit develops and implements complex automation processes in fields such as servo technology and robot control systems.

PRECISION PARTS
The product portfolio covers forming and stamping tools made of steel, carbide and ceramics.

A HIGHLY SPECIALISED TEAM. PARTS WITH SUPERIOR PRECISION.
In manufacturing processes where large volumes are processed at high speed, tools must meet the highest standards of precision and quality. Meeting those standards is vital for the internal and external customers of H&T Tool Design to stay competitive in terms of the quality and reliability of their own products and the efficiency of their production processes.
H&T Tool Design serves as a development and production partner but also as a vocational training center for the H&T Presspart and H&T Battery Components Divisions of the Heitkamp & Thumann Group. Moreover, the Business Unit supplies external customers in the stamping and deep-drawing industry with tools and spare parts.

EXCELLENT ENGINEERING CAPABILITIES
H&T Tool Design’s engineering capability is the basis for successful tool and machine development. The Business Unit generates tool drawings and tool systems for deep drawing parts, jigs and fixtures, as well as complete designs of special machines. If required, finite element method (FEM) is used to optimize parts.

PRECISION TOOL WORKSHOP
H&T Tool Design’s precision tool workshop forms the basis for competitive advantage and ensures that know-how and intellectual property is kept in-house. The climate controlled machinery center at H&T Tool Design includes the most modern CNC machine tools for grinding, eroding and milling.

EMPLOYEES THINKING IN SOLUTIONS
The success of H&T Tool Design is based on three factors: quality, precision and the know-how of the employees. The motivated team combines many years of practical experience and state-of-the-art manufacturing expertise. Therefore, H&T Tool Design is able to immediately implement the requirements of its customers into high-quality products.

HIGH-PRECISION MEASUREMENT OF TOOL
For more information:
www.ht-tooldesign.de