



# up grade

Newsletter for customers, employees and partners  
volume 21, issue no. 40, December 2018

## News

### HEYCO uses screw press

In the search of the best possible forming unit for the production of a new product line at the HEYCO Group, the technology of the LASCO screw press proved to be particularly advantageous, especially in terms of energy efficiency and process control accuracy. HEYCO therefore decided to order a screw press from LASCO.

## Know-how

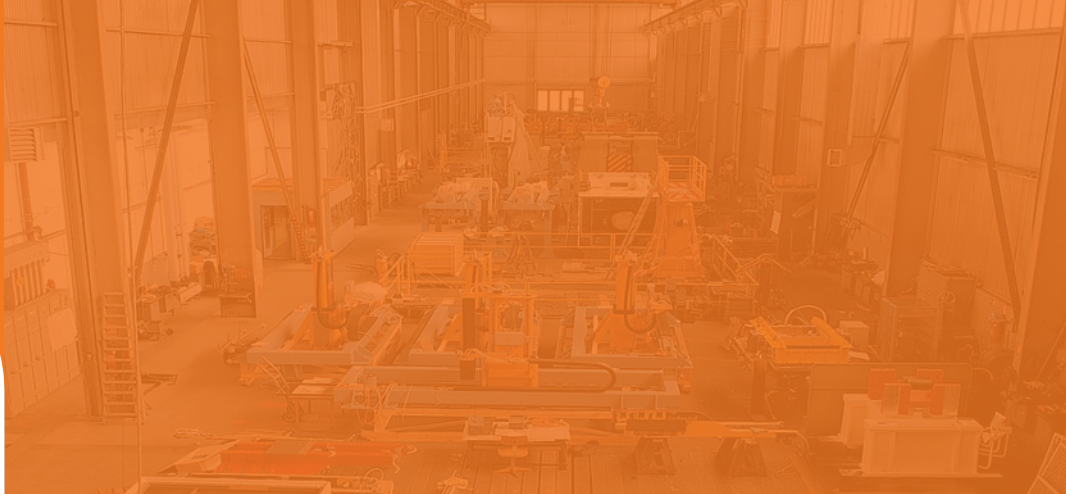
### Cycle time halved by division of labor

In serially connected forming units (process chains) numerous limits of conventional production lines have to be overcome. This becomes a challenge in the automation of a LASCO production line for forging aluminum chassis parts.

## In practice

### Further expansion at BWS Schmalkalden

The company Bergbauwerkzeuge Schmalkalden (BWS) has developed very successfully in the last ten years. The company is committed to growth and recently modernized its forging operations. LASCO technology makes its contribution to this already in the planning phase.







**Lothar Bauersachs**  
CEO

## Ingenuity is required

At the end of a challenging and eventful year, we experience painfully once again together with our partners around the world that supply and demand are not the only factors determining the market. Arbitrary political influences become strongly regulative. While we have just been pleased to register in the trade with Canada the stimulating effect of the trade agreement „CETA“, we and our affected partners in other countries feel the increasingly burdensome effects of protective and penal duties, increased export and import hurdles or even sanctions. They slow down the exchange of goods and services in addition to national requirements and regulations for products that are sometimes difficult to meet, as the example of diesel engines shows.

As a company that has been operating internationally for many decades and maintains business relationships in over 100 countries around the world, we are aware that import and export barriers cause more and more difficulties to many of our customers. More than ever, ingenuity is required if proven international division of labor is to be maintained under increased and increasing demands.

LASCO is not in a position to relieve its partners of the effects of financial and logistical barriers to trade for which politicians are responsible. However, we can look for technical solutions: The technology we supply must be able to generate so much added value that the negative effects of trade restrictions are more than compensated for.

In this sense, the situation that is imposed on us all is an acid test of our ability, our innovative strength and the passion with which we face up to our task. I am pleased that we at LASCO have the experts who dispose of the skills and the determination to do so. That is why I look ahead with optimism for our customers and our company.

Yours

Lothar Bauersachs

# LASCO exhibited at automatica for the first time

## Innovative automation also across sectors now

**LASCO presented its business division „Automation & Robotics“ at automatica 2018 in Munich. Our company pools years of know-how to generate intelligent automation and robotics solutions tailored individually to the requirements of industrial users.**

The focus of the presentation was on the „virtual commissioning“ of complex robot applications. Response from the public and the interest shown by trade visitors exceeded expectations significantly. LASCO's experience in projects with virtual commissioning was intensively scrutinized because ready-made solutions have not been on the market in this field so far. The visitors confirmed to our exhibition team LASCO's role as a leading global player with this new IT service.

LASCO has more than 40 years of experience in the design and implementation of automation solutions. During this time, 560 production lines have been automated. In addition to LASCO handling systems, several hundred industrial robots are currently in use worldwide, which have been upgraded to robotics systems including process-specific LASCO gripping technology.



**Premiere appearance at the leading international trade fair for automation and robotics solutions automatica: LASCO's proficient and advanced service was presented across all industries.**

## New key event for European forges

The first „European Fair and Conference“ in Berlin for the forging industry was a great success. The new three-day event was specially developed for the exchange of experience within the industry and was accompanied by a conference organized by EUROFORGE, the European umbrella organization of forging associations and companies. Exhibitors were partners and technology suppliers of the solid forming industry. As one of the main sponsors, LASCO provided information on advanced solutions for solid forming.

## CETA gives a fresh impetus to business in Canada

The new free trade agreement between the European Union and Canada (CETA) will boost transatlantic business. LASCO representatives made this experience at FABTECH in Toronto, Canada's leading trade show for metal forming, manufacturing, welding and finishing. As part of its strategy to expand its North American business, LASCO exhibited at FABTECH for the first time and recorded a very positive level of interest, particularly among solid and sheet metal formers.

First screw press in company history

## Premiere appearance at HEYCO

**There is a premiere appearance at the renowned metal and plastics processing company HEYCO: For the first time in its company history, the enterprise will use a screw press in its production and relies on LASCO technology.**

With the upcoming expansion of the product range, the company was looking for a forming unit that would optimally meet new specific requirements. As an alternative to the forming technology used so far, the screw press guarantees the greatest possible economy, flexibility and the necessary process accuracy. Thus, the SPR 2000 (blow energy 355 kJ) can be controlled very precisely with an accuracy of 1% of the blow energy release - a decisive feature for process reliability in the manufacture of products with very low tolerances. In addition, a kinetic energy accumulator was installed, which almost halves the required connected load of the LASCO screw press.

Founded in 1937 in Remscheid (North Rhine-Westphalia), the HEYCO Group is today a leading supplier of products and engineering services in metal and plastics processing and an important supplier to the automotive industry. The company with around 900 employees has six production sites in Europe and the USA. HEYCO is by its own account the leading manufacturer of flanges for exhaust systems and catalytic converters in the forging sector with CNC production. In this division, HEYCO also develops and manufactures safety components for chassis and steering, stabilizers for commercial and rail vehicles as well as convertible top systems made of forgeable materials.

A further business area is the manufacture of quality and on-board tools. According to HEYCO, the company is the European market leader in the original equipment market for on-board tools for premium truck and automobile manufacturers working internationally.

The LASCO SPR 2000 is used in HEYCO's South Plant in Tittling (Bavaria). At the copy deadline of this „UpGrade“ the LASCO SPR had just taken up production.



**LASCO screw press SPR 2000 during assembly at HEYCO's South Plant (Tittling, Bavaria).**

pewag group has full order books

## Two in one go

**As one of the world's leading manufacturers of chains, the pewag group has full order books. Therefore, the Czech subsidiary peform chrudium has ordered two LASCO HO-U's in one go.**

By investing in two hydraulically driven double-acting die forging hammers – HO-U 630 and HO-U 500 - with 63 and respectively 50 kJ blow energy, the company is expanding its machine portfolio strategically.

pewag has centuries of experience in the manufacture of chains and components. Since the forge was first mentioned in a document in Brückl (Austria) in 1479, the pewag group has developed into one of the world's leading chain manufacturers with around 1,600 employees worldwide. pewag offers a high-quality product range in the fields of snow chains, forestry chains, hoist and conveyor chains, do-it-yourself products, engineering, lifting tackle and lashing chains as well as tire protection chains.



**pewag lifting hooks**

## Italian forge modernizes drives

Too cost-intensive, not efficient enough - the north-east Italian company STM Srl. (Maniago) is taking the air drives of their die forging hammers out of service. During LASCO's conversion of the first unit, a new hydraulic drive with 40kJ blow energy was mounted on the veteran's hammer frame and the machine was equipped with a new control system. The line is now capable of executing up to 90 blows/min with drastically lower energy consumption. Precise repetition of the adjustable impact energy and long tool life enabled STM to achieve a significant increase in productivity and meet higher quality standards. The company was also very satisfied with the short conversion time.

## Fairs + Dates

### ASIA FORGE Meeting

Chennai, India  
18.-20.01.2019

### Annual Conference on Cold and Hot Solid Forming

Düsseldorf, Germany  
27.-28.02.2019

### Symposium Aluminum Forging

Zauchensee, Austria  
21.-22.03.2019



## Fully automatic aluminum forging line

# Advantage through decentralization

**Keywords such as „industry 4.0“, „massive lightweight construction“ and „diversification in the automotive industry“ demand the maximum from suppliers. As a partner to our customers in solid forming, LASCO has the answers and solutions to these challenges and tasks of the future.**

Mechanical multi-stage presses belong to the classic forming units in the forging industry and are often equipped with walking beam systems for the production of large quantities. The increasingly popular use of aluminum, especially in the chassis area, presents manufacturers of forged parts with additional challenges, though.

Narrow process windows make precisely reproducible forming temperatures, energies and forces necessary beyond the previously known level of solid steel forming - for each stage of the forging process. Precise preform geometries are required in order to optimize forming degrees and to prevent excessively high local component temperatures. The influence of the tool temperature is also very important. These must be regulated within narrow limits.

These findings have motivated us to develop a line concept that offers the user the necessary additional degrees of freedom to produce complex aluminum component geometries effectively and with repeatable accuracy, and to specify selectively the forming force, energy and speed for the individual stages of the forging process.

The high complexity in the individual forming stages of mechanical multi-stage presses and the necessity of influencing each forming stage separately according to process requirements, if possible, has prompted LASCO to divide this concept into individual forming units optimally designed for the respective forming stage.

**The basis of this line concept is the idea of „decentralizing“ the stages of the forming process.**

In addition to the special process-related requirements of an aluminum forging line, it was necessary to develop a line that offers our customers additional features under the aspect of constantly increasing cost pressure:

- Short implementation period from the start of planning to the SOP date due to better controllability of the individual forming stages
- Increased flexibility with simultaneous shortening of tool changing times
- High availability and shorter cycle times
- Increased product quality and lower
- Reduction of unit costs due to lower energy consumption and lower maintenance costs

The LASCO aluminum forging line on the opposite page, which is fully automated with robots, is characterized by high flexibility, shortest possible set-up time, high cycle numbers and individual forming units, optimally designed for the respective stages of the forming process.



**Screw presses (Pic.: LASCO SPR 2000) can be controlled very precisely due to the exact dosing of the forming energy and are therefore ideally suited for the forming of demanding materials such as aluminum.**





Download our LASCO AR App free of charge from the App Store (Apple) or Play Store (Google). Hold your smartphone or tablet with the camera over the picture and learn more about how the system works.

## Detailed description of the line

### Résumé

With the „decentralization” of the plant concept and the superposition of the various forming and handling tasks, the line is ideally suited for the increased process-related requirements of aluminum forging. With a high level of flexibility, additional degrees of freedom in the forming process, short cycle times accompanied by high plant availability, simultaneous automated tool change and shorter implementation periods from receipt of order to SOP, the LASCO plant concept is virtually without alternative.

### ① Automated forging roll

LASCO forging rolls type RCW are characterized by high flexibility with regard to tool change (< 10 min) and high repeatability of the stretching geometry. Suppliers of forged aluminum parts in Europe rely on quality forging rolls from LASCO.

### ② Preforming and bending presses

Thanks to our profound know-how grown over generations and the continuous further developments at LASCO, these forming units meet all requirements. Thus, the hydraulic press offers the advantages of high forming speeds and an almost contradictorily low connected load by using direct/storage drives or the hydraulic LASCO servo direct drive specially developed for energy-saving operations.

### ③ LASCO screw presses with direct drive used as the main forming units

As an energy-bound unit, the LASCO screw press is the ideal forming unit for aluminum alloys due to its characteristics and, in particular, its LASCO features. Excellent controllability as well as low operating and maintenance costs are further advantages that speak in favor of LASCO screw presses.

### ④ Piercing and trimming press VPE

The exceptionally large tool installation area allows most complicated combination tools to be used for piercing/trimming/calibrating. Depending on the forming operation and application, different impact and forming speeds can be achieved.

### ⑤ Automation & Robotics

As a system integrator, LASCO offers the complete portfolio of automation technology in addition to layout planning. We integrate and link all automation systems, and the LASCO Master Control guarantees harmonious motion sequences with optimized cycle times. LASCO offers the new „Virtual Commissioning” engineering service (see Upgrade No. 39) to shorten commissioning at the customer's plant.



Some typical products made with the line are (from left): trailing arms<sub>1</sub>, front lower control arms<sub>1</sub>, and steering knuckles<sub>2</sub>

©<sub>1</sub> Bharat Forge - Pune, Kharadi Maharashtra, India  
©<sub>2</sub> Hirschvogel Aluminium GmbH, Marksuhl, Germany



## Spotlights

**Exemplary commitment:** Once again, three LASCO apprentices were awarded the Dr. Kapp-Vorbildpreis (prize for voluntary work) by the Upper Franconian metal and electrical industry, because they spend many hours of their spare time doing voluntary work and thus keep society going. Paula Lehmann (apprentice industrial clerk), Jannik Hofmann (dual studies in mechanical engineering and plant manufacturing/industrial mechanic) and Lukas Zapf (apprentice IT specialist) received the prize in a ceremony in the Kaisersaal



**Paula Lehmann**



**Jannik Hofmann**

of Kloster Banz with another 65 prize winners. P. Lehmann has been with the fire brigade for six years and is responsible for youth affairs. In addition, she is active in equestrian organizations and the cultivation of customs. Since the age of seven, J. Hofmann has been a member of the German Life-saving Association (DLRG) and has worked as a lifeguard as well as a lifeguard/rescue diver and swimming instructor for children. Since 2007, L. Zapf has been supporting the volunteer fire brigade in his hometown. Due to his outstanding achievements, he has already been promoted to the position of Senior Fireman.



**Lukas Zapf**



### Specialists with top perspectives

Thanks to the thorough vocational training at LASCO, the young people who have mastered their final examinations this year have the best prospects of a good career future. LASCO is pleased with the performance of the junior staff and congratulates them on their success.

Picture left: the graduates of the industrial-technical professions with their supervisor (back from left) Sebastian Bachmann, Markus Löhnert, Felix Holzheimer and Manuel Scheurer as well as (front from left) Andreas Kaul, Florian Hartel, Björn Böhling (supervisor) and Steven Pochlebaev.

Picture right: (from right) LASCO CEO Lothar Bauersachs with the graduates of commercial professions Lukas Zapf (IT specialist for system integration), Jan Pietschmann (industrial clerk) and Maximilian Bauer (industrial clerk/integrated dual studies program).

### Securing of the future and growth

## Record level of vocational training at LASCO

**20 school leavers began their vocational training at LASCO in September. Contrary to the general trend, LASCO has created additional training places, all of which have been filled with qualified applicants.**

With a training ratio of 17 percent, well above the industry average, the company believes it is well equipped to counter the shortage of skilled workers. „It makes us proud to welcome so many young professionals. With us, you will find an excellent opportunity for your professional development. We need compe-

tent people in order to master the challenges of the future,” said Lothar Bauersachs, CEO.

With the new apprentices, a total of 66 young people will be trained at LASCO to become qualified specialists in technical and commercial professions, 14 of whom studying mechanical engineering, electrical engineering, automation technology & robotics and business administration in the integrated dual studies program. In 2018, too, four young refugees (seven in total) will again receive dual vocational training and become part of the LASCO corporate community within the framework of the combined model „1 + 3“, which has been in practice since 2016.



The apprentices together with CEO Lothar Bauersachs (l.), as well as persons in charge of vocational training and human resources.

R&D Manager Circle „Virtual Commissioning” visits LASCO

# Theory meets practice

**Under the leadership of bayme vbm, KME and LASCO, 36 participants from the fields of design, software development, production planning and digitalization met at the LASCO conference center to exchange experiences.**

The focus of the meeting was on the current state of tool development for so-called „modelling”, i.e. digitalization, simulation and functional further development of complex machine tools, systems and process chains on the computer, and experience with practical application. LASCO is one of the few internationally recognized machine tool builders to have already successfully implemented the new „virtual commissioning” process.

The managing directors Patrick Püttner from the Bavarian Metal and Electrical Industry Association (bayme vbm) and Thomas Götz from LASCO were delighted about the large attendance of the meeting. It reflects the high level of attention that research and development departments in many companies are currently paying to this topic.

Dipl.-Ing. (FH) Harald Barnickel informed the guests about „Goals and benefits of virtual

commissioning at LASCO Umformtechnik GmbH”. In his lecture, he showed the individual development stages up to its practical application. Prof. Dr.-Ing. Mathias Wenk, professor for automation technology and robotics at Ostbayer. Technical Universität Amberg-Weiden, described the „Potential and possible applications of virtual commissioning”. „Virtual Commissioning” is a research project of KME (Kompetenzzentrum Mittelstand GmbH) under the direction of Dr. Georg Liedl, which has been carried out jointly by the Amberg-Weiden University of Applied Sciences and other partner companies such as LASCO.

**The participants showed great interest in Harald Barnickel's presentation on potentials and applications of virtual commissioning at LASCO.**

Prof. Wenk's research assistant Benedikt Bräutigam presented „Efficient methods of model production for virtual commissioning”. The head of the Virtual Commissioning division at LASCO, Michael Schnabel, B. Eng., reported on measurable practical benefits of the method. Since possible sources of error and interference in the virtual simulation of process chains are identified at an early stage and eliminated by the engineers prior to the manufacture of components, the commissioning time at the point of use is reduced and consequently the impairment of ongoing production. The positive effects, such as cost efficiency and customer satisfaction, will increase considerably through optimization possibilities at a „digital twin”, as well as in new and follow-up projects in which the digital library of earlier designs can be used.



## 10 years with LASCO

|                    |            |
|--------------------|------------|
| Irina Brechenzer   | 01.08.2018 |
| Sebastian Frank    | 15.08.2018 |
| Alexander Geelhaar | 01.09.2018 |
| Andre Moser        | 01.09.2018 |
| Rene Sollmann      | 01.09.2018 |
| Luisa Wachsmann    | 01.09.2018 |

## 25 years with LASCO

|                 |            |
|-----------------|------------|
| Markus Griebner | 01.09.2018 |
|-----------------|------------|

## 40 years with LASCO

|                |            |
|----------------|------------|
| Klaus Geelhaar | 01.09.2018 |
|----------------|------------|

## Sadly mourned

|                   |              |
|-------------------|--------------|
| Hermann Rauschert | † 23.05.2018 |
| Friedrich Hüttner | † 24.06.2018 |
| Klaus Taubmann    | † 09.06.2018 |

## up grade

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LASCO supports career orientation

## Attractive to career advancers

**LASCO is one of the top addresses in the Coburg economic region for young people who want to achieve something in their professional lives on the basis of a thorough vocational training.**

This was recently confirmed once again in dialogue with the participants and organizers of the „Zeig Dich!”-Tour (“Present yourself!” tour) in the region. For the first time, LASCO took part in this mobile career orientation exhibition, in which school students visit various training companies in order to find out about career prospects. The project was established in cooperation of the Coburg District Administration, the Coburg Junior Chamber of Commerce and the juniors of the Handi-

craft Association Upper Franconia West e. V. in the „Mehr-Aus-Bildung” (“More through vocational training”) initiative.

The tour has been rolling since 2013 and brings together young people and the regional economy individually. This year, around 80 pupils from all types of schools from the seventh grade onwards were given the opportunity to get to know 50 companies in the region. With the number of school leavers declining, it is becoming increasingly difficult for companies to fill the vocational training places and thus secure the demand for skilled workers from their own vocational training. LASCO has not been affected by the trend so far, because the company has had disproportionately high rates of apprentices for many years and is well known for the quality standard above average achieved by this.





**Dipl.-Ing. Fredi Messerschmidt**  
Technical Director  
Bergbauwerkzeuge  
Schmalkalden  
GmbH & Co. KG  
(Schmalkalden/  
Germany)

## Efficient only with this technology

**up grade:** Mr. Messerschmidt, BWS uses two LASCO die forging hammers in its forge. Why was that?

**Fredi Messerschmidt:** The die forging shop is a decisive component of our technological process chain. Accordingly, it is important for us to have high-quality machine equipment that meets all requirements. This is achieved with LASCO die forging hammers. Here tradition and progress come together.

**up grade:** What advantages do you see compared to the production equipment used in the past?

**Messerschmidt:** I think the decisive factor is the improvement of process reliability in forging through computer-aided process control in conjunction with more effective energy utilization through the conversion from the counterblow principle to the double-acting principle.

**up grade:** How satisfied are you with the efficiency of the machines in daily use?

**Messerschmidt:** The lines meet our expectations in all respects. Our first LASCO forging hammer has been running almost trouble-free for about 12 years and has been the heart of our die forging shop ever since.

**up grade:** Has the technological leap increased the market success of BWS?

**Messerschmidt:** With the help of LASCO's reliable and calculable forging units, we have been able to react much better to the constantly growing market requirements. Several new products could actually only be realized with this technology.

**up grade:** What can we expect from your company in the near future?

**Messerschmidt:** The die forging shop will continue to play an important role in our manufacturing process in the future. When making further investments, our positive experience with LASCO will certainly be taken into account as a matter of priority.



# Bergbauwerkzeuge Schmalkalden

## Number of blows increased

**Bergbauwerkzeuge Schmalkalden GmbH & Co. KG has steadily increased capacity and efficiency since its relaunch. Technology supplies from LASCO have made a key contribution to this. Continued success makes it possible to expand further.**

The production of iron and steel goods has a long tradition in the town of Schmalkalden. Drill bits from Schmalkalden have been a household name for more than 400 (!) years. The first documentary mention of the drill smithy of master Friedrich Heller dates back to 1580. Generations of Hellers expanded the company to a highly recognized industrial enterprise „Gebr. Heller“ until the family was expropriated by the GDR regime in 1946. The company has existed under its present name since 1991, when it was privatized out of the Schmalkalden tool combine.



**BWS develops and produces original Smalcalda® mining tools (picture), but also produces for other manufacturers and dealers.**

In addition to the traditional product range of drilling and cutting tools for mining (brand: Smalcalda®), BWS manufactures a variety of wear tools for tunneling, the quarry stone industry, special civil engineering and shredding technology. The company benefits from its many years of experience in the manufacture of carbide-tipped tools. As early as 1931

the first carbide tools were manufactured in Schmalkalden in cooperation with Krupp.

BWS sees its strength in the development of customized tools, which are distributed by the purchaser, so that the forge can fully concentrate on economic production. Through this form of division of labor BWS has also become a system partner of well-known machine and tool manufacturers.

A wide range of products and high quality standards are the basis for high demands on production equipment and employee performance. By investing in a state-of-the-art machine park and building new production halls, BWS is today an efficient and flexible medium-sized company with around 60 skilled workers. In 2006, an older unit was replaced for the first time by a modern hydraulically driven LASCO die forging hammer with 40 kJ blow energy (HO-U 400). The advantages of this forming machine have enabled BWS to expand its market position continuously. When the continuing success made it possible to modernize the complete forging area in 2017, BWS already involved the technology supplier LASCO in the planning phase and subsequently invested in a further HO-U 315 (31.5 kJ blow energy).



**Last year BWS modernized the forging sector and increased both quality and efficiency levels.**