upgrade

Newsletter for customers, employees and partners
volume 21, issue no. 39, May 2018

Trends

Environmental Award for torque motors

The torque motors from the Bavarian enterprise OSWALD, which are used in LASCO machines, are especially efficient in energy consumption. The German Federal Environmental Foundation (BDU) took this occasion to honor the motor manufacturer with the highly regarded German Environmental Award.

Know-how

Quicker use of complex lines

The commissioning stage of complex production lines has been tainted with time and cost risks so far, as a number of functions can only be tested and optimized after final assembly. The new LASCO service “virtual commissioning” reduces risks and shortens commissioning stages drastically.

In practice

Leistritz continuous to invest in Thailand

The Bavarian Leistritz group put another LASCO SPR 900 into operation at its site in Thailand, which was opened a few years ago to expand the group’s production of turbine blades there. The company has already been using several LASCO units in its factory in Thailand so far.

LASCO UMFORMTECHNIK
WERKZEUGMASCHINENFABRIK

Lothar Bauersachs
CEO

Looking forward to new challenges

The term “Industrie 4.0” (the fourth industrial revolution) stands for an industrial world of the future already taking shape and dynamically manifesting itself as more and more detailed: Intelligent and digitally interlinked systems shall help interlock production processes with information and communications technology to enable self-organized production as far as possible. Humans, machines, lines, logistics and products communicate and cooperate with each other directly in “Industrie 4.0” with the aim to optimize complete value chains.

The traced development can change complete industrial sectors, markets and even the ranking of whole national economies. For it is clear: Those who do not keep pace with the trend risk losing their competitiveness drastically and being left far behind. This challenges industrial enterprises just as their technology suppliers. Seldom has their close alliance been more important.

LASCO in its capacity as technology supplier has never confined itself to viewing its powerful and highly efficient machine tools in the production process of forming technology in isolation. At a very early stage in our company history already, customers tasked us with linking our products with machines and handling devices of other manufacturers to installations or whole production lines and making them centrally controllable. That is how we gained our expertise both in implementing advanced automation solutions and in succeeding in the field of multi-flexible robotics. Now we are going one step further and are making this know-how available to lines of business outside the metal-forming sector, too. At the same time, we are expanding our knowledge and experience in “Industrie 4.0” solutions.

Looking forward to the new challenges associated with this, we hope to be always the partner of your choice and success in our capacity as technology supplier.

Yours

Lothar Bauersachs

LASCO is making available decades of experience in the implementation of automation solutions across sectors now.

LASCO exhibiting at automatica for the first time

Innovative automation also across sectors now

LASCO is exhibiting at automatica 2018 in Munich from 19 – 22 June for the first time. In hall B6 on stand 514 the company is going to show how intelligent automation and robotics solutions are tailored individually to the specific requirements of industrial users.

With this exhibition debut, LASCO will make its expertise in automation solutions, which the company is known for among solid metal and sheet metal forming enterprises around the world, available across sectors now. LASCO’s presentation at the exhibition will focus on “virtual commissioning” of complex robot applications.

The 155 year-old machine tool company has more than 40 years’ experience in designing and implementing automation solutions. During this time, it automated 560 production lines. Besides handling systems, about 400 industrial robots are currently in use world-wide that have been upgraded to robot systems including process-specific LASCO gripper technology to make them suitable for forging.

LASCO has been making machine tools for 155 years, has numerous patents and realized the first fully automatic forging cell in 1999 already, in which synchronously working industrial robots replaced the blacksmith.

Fairgrounds map automatica

- A4 Safety and security technology, supply technology
- A4 B5 Machine vision
- A4 B5 B6 **Industrial robotics**
- A5 Assembly and handling technology, positioning systems
- A6 Assembly and handling technology
- B4 IT2Industry—Solutions for Industry 4.0, Professional service robotics
- B5 Safety and security technology, supply technology
- B6 Supply technology, sensor technology, control systems technology, drive technology

Mining tools from Schmalkalden are in demand

BWS relies again on LASCO

The continuing strong demand for products from Bergbauwerkzeuge Schmalkalden GmbH & Co. KG (Thuringia/Germany) enables the enterprise to invest again into its forging department.

Hydraulically driven LASCO double-acting die forging hammer HO-U 315

The enterprise, whose tradition goes back to a drill forge first mentioned in 1610, will receive another die forging machine type HO-U with 315 kJ energy from LASCO in the summer. This ultramodern unit will enhance the LASCO forging units, which have been used very successfully so far.

The efficient machine tool technology from Coburg has convinced the user in Schmalkalden and contributed to the market success of BWS. When using the unit, its advantages over the previous forging unit quickly became obvious: shorter cycle times due to a faster blow sequence, energy savings with the highly efficient hydraulic drive, higher part quality due to the repeatability of the working cycles and the very high availability with the good service LASCO is known for.

In 2017, BWS had the opportunity to modernize its forging area. LASCO played an active part in the planning stage right from the beginning.

BWS currently has 55 employees and produces a wide range of drilling and wear tools for mining and special civil engineering as well as recycling applications for the German and international market.

The majority of the required forging parts of the company is made with die forging hammers.

Production in Bayreuth is being expanded

ZF orders special presses

ZF Friedrichshafen AG has purchased from LASCO two hydraulic 4-column punching and forming presses for the production of electric component supports in its Bayreuth plant.

In the Bayreuth plant (Upper Franconia, Germany), ZF produces components for door locking systems of renowned car manufacturers. The so-called electric component supports are produced with the LASCO presses. The ZF group is expanding its production capacity with the two new LASCO machines in Bayreuth, where two identical lines have been used for quite a while successfully. The presses work fully automatically in combination with an infeed belt and a part removal system.

Aesculap ordered a die forging hammer for its plant in Poland

Braun Aesculap Chifa Sp.z.oo, a member of the Aesculap division of the B. Braun group, one of the leading medical companies world-wide, which produces e. g. chirurgical instruments, ordered a hydraulically driven LASCO die forging unit HO-U with 200 kJ energy for its plant in Nowy Tomysl (Poland). The line will be delivered in October 2018. The objective of this order is a rise both in production capacity and in product quality. According to the customer, energy efficiency, output and ruggedness of the LASCO hammer have been the decisive criteria for their order and shall help to expand the forming technology of Aesulap's Polish plant to meet the requirements of the future in the digital age. Man-machine and machine-machine communication will become universally feasible via the control concept.

Environmental Award for motor manufacturer

The Lower Franconian entrepreneurs Bernhard and Johannes Oswald (Miltenberg, Germany) were honored with the German Environmental Award 2017. Oswald proved to be a technology trendsetter, wrote the German Federal Environmental Foundation (DBU). Their electric motors without gear had brought about a clear increase in energy efficiency and productivity of lines like industrial disintegrators and machines for the forming industry. Prof. Dr. Werner Wahmhoff, Assistant DBU-General Secretary stated the advantages as follows: The idea of using torque motors as direct drive technology had revolutionized the construction of electric motors, energy consumption had gone down by up to 50 percent, the use of transmission oil had become unnecessary, the machines had become lighter, needed less space, generated lower running costs and were less noisy. The family-owned enterprise OSWALD Elektromotoren GmbH, which was founded in 1909, had become a world market leader in this technology segment, said Wahmhoff. OSWALD torque motors are used among others in highly efficient LASCO pre-forming units RCW and QKW.

New LASCO service: virtual commissioning

No time to lose

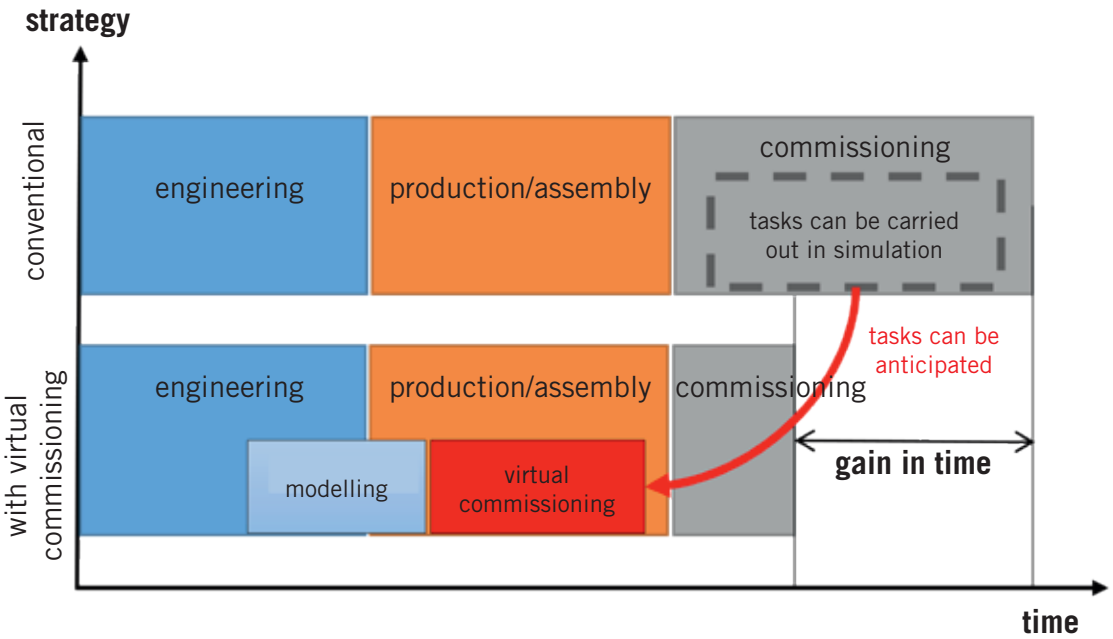
If production lines are complex and highly individualized, the time interval between the dispatch of the components, their assembly and the start of regular production operation may sometimes be quite long. This is due to the fact that the lines can only be tested properly and optimized during actual commissioning. Not only can this run into a lot of money, but it can also cause competitive disadvantages. High time for professional remedy!

Interlinked lines are becoming more and more complex and demands for the earliest possible time for putting them into operation are on the increase. International competitive pressure shortens the time more and more that users can make available for the readjustment and optimization of lines. The lines are expected to run smoothly right from the outset, if possible, in accordance with all duties imposed.

With its very advanced technology of so-called virtual commissioning, LASCO can offer customers a service which meets these requirements to a high degree.

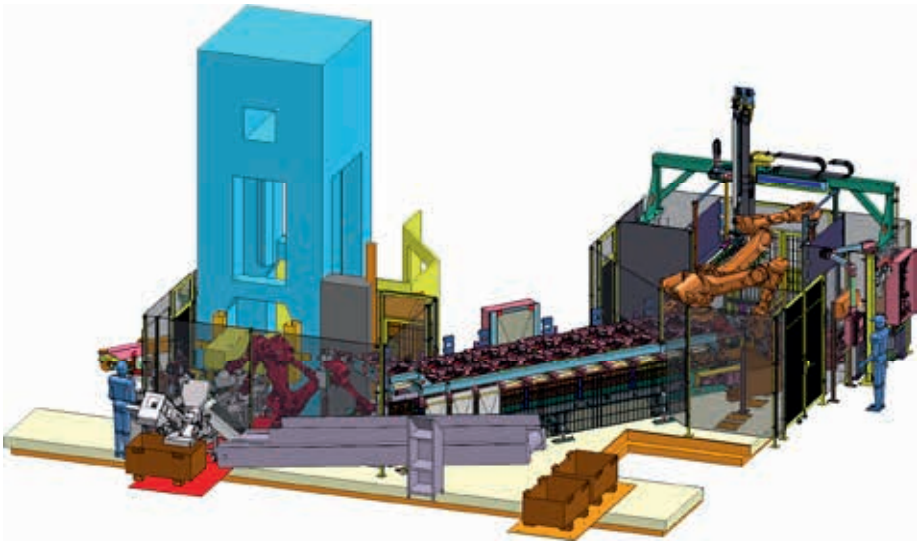
So far, the production of a line with conventional commissioning has been a sequential process in which the following items used to be handled step by step:

- conception
- planning
- realization
- testing
- commissioning
- utilization



Example: Automation project AMP9 at Hirschvogel AG

The Hirschvogel production line has already been modelled completely on the computer (cf. screens) and can be operated with the original control (cf. terminals to the right of them) as in reality, long before components are produced. Thus, the complete production process is simulated in detail with all parameters and optimized beforehand.



The line for the fully automatic production of vehicle components has been in successful operation since March 2018.

This conventional commissioning has to be amended substantially by using information technology. So far, the handling of a project has extended over a relatively long period. The costs for fault removal afterwards rise disproportionately by factor 10 – depending on the stage of fault detection. The mechanical system and the software of the line can only be tested properly after the assembly of the line has been completed. Consequently, the commissioning stage is a relatively long unproductive period for the customer, too.

Compared with this, virtual commissioning comprises the same process steps as the conventional one, but has the advantage, however, that certain work packages can already be handled parallel to the design and the production of the line in the manufacturer's works. All machine operations and operating conditions are simulated at the computer already in the engineering stage. For this, digital data from the design stage are evaluated: 3D CAD data, PLC control programs and their robot programs, drive models including parameters etc. As our virtual simulation performance already takes place far ahead of the start of the real commissioning stage by using realistic process parameters, this method allows a calculable and shortened commissioning stage on the job site. Potential faults can be spotted at an early stage and correction loops will be minimized. And apart from that, we can show the customer his machine in a virtual presentation in full working order at a very early point of time already.

Decisive advantages of virtual commissioning:

- Reduction of the commissioning time at the customer's premises by up to 75%
- Reduction of potential trouble sources
- Reduction of the commissioning costs at the customer's premises
- Quicker ROI due to earlier start of production

Frank Dobus, Head of Technical Management at Hirschvogel

Automation with high requirements

One of the first automation projects realized by LASCO by means of virtual commissioning is the production line AMP9 of the Hirschvogel Automotive Group in Denklingen (Germany). Products are forged in a mechanical press at approx. 980°C and leave the line at a specified cycle time. The work pieces are taken out by robots in pairs and put onto a belt for cooling down to a predetermined temperature. At the end of this process, they are taken off in pairs and stacked in transport boxes of a container station.

Hirschvogel tasked LASCO with the automation of the line and modified the production parameters repeatedly in order to max out the economic efficiency potential of the line. This was demanding insofar as the range of products to be manufactured at first consists of about two thirds of established work pieces, but one third of innovative new developments. Due to their materials and geometry, the new parts vary widely from the rest of the product portfolio regarding temperature ranges and cycle times to be kept in order to meet the set quality criteria. LASCO's scope of supply includes the automation concept, programming of the control, robots and interfaces as well as robots and their gripper technology, the removal of work pieces from the process for quality checks, the cooling zone, the container station and assembly.

„With virtual commissioning we were able to save a lot of time and reduce disturbance of our production processes. Due to tests of almost all parameters carried out at LASCO beforehand, complex readjustments and optimizations were reduced to a minimum", commented Frank Dobus, Head of Technical Management at Hirschvogel.

The participants in internships in Belgian, Swedish and Austrian enterprises after having received their certificates shown together with representatives of the Chamber of Commerce Coburg and the Staatliche Berufsschule II Coburg (vocational school).

Fairs + Dates

FABTECH
Toronto, Canada
12.–14.06.2018

automatica
Munich, Germany
19.–22.06.2018

AMB Iran
Mumbai, India
26.–29.06.2018

LASCO apprentices show interest in European economy and culture

Work experience abroad starts during apprenticeship

Four apprentices from LASCO took part in a three-week internship in Belgian, Austrian and Swedish enterprises within the scope of the „Erasmus+" mobility project at the Staatliche Berufsschule II Coburg (vocational school).

Florian Hartel, Felix Holzheimer, Andreas Kaul and **Joshua Elitzke** received their „Europass Mobility" certificates together with 18 colleagues from other industrial companies in Coburg. They all took part in this year's internships. The certificates were handed over in a ceremony at the Chamber of Commerce Coburg, whose elected honorary President is Friedrich Herdan, the longtime sole General Manager at LASCO and current Chairman of the Board of LASCO Langenstein & Schemann, Holding.

The highly export-oriented economy in the Coburg area has manifold business relations to partners in the European Union. Therefore, Europe also plays an important role in vocational training. Within the scope of the „Erasmus+" mobility project at the Staatliche Berufsschule II Coburg (vocational school) more than 100 young people have done internships so far. The majority of them are young qualified employees in the industrial/technical job sector. In the host companies, the apprentices have the opportunity of working in different divisions and getting to know the language and culture of the country as well as its people. The project also gives a general idea of the German system of dual vocational training in theory and practice, which is often regarded abroad as the reason for the high professionalism of German skilled labor.

The apprentices from Coburg who were at Volvo in Gothenburg/Sweden got some insight in the vehicle manufacture, at SKF, a manufacturer of ball-bearings, they got to know among other things modern production techniques for the manufacture of ball-bearings. At De Coene Products near the Belgian town Waregem, the young people participated in the production of furniture. In Vöcklabruck (Austria) the future specialists from Coburg got some insight in the production of weighing scales at Kukla, and at Hawle they were involved in the production of industrial valves. In return, apprentices from European partner schools did internships in renowned industrial firms in Coburg, among them also LASCO.

Once again, school physics meets real mechanical engineering

LASCO has always maintained close contact to the grammar/high schools in Coburg, where its headquarters are located. In times of growing shortage of skilled labour in Germany, this is becoming more and more important with regard to the recruitment for technical professions. Therefore, LASCO provided a one-day workshop called „School physics meets mechanical engineering" once again. 18 school students from Gymnasium Albertinum (grammar/high school) experienced the direct relationship between theory and practice together with their physics teacher Thorsten Geißler (far right).
Our picture shows the guests together with the LASCO sales director Jochen Günnel (1st from left), sales engineer Sebastian Künzel (2nd from left) and LASCO physicist Mathias Taubmann from the design and engineering department (middle).

LASCO stands for successful professional biographies

Company jubilarians of merit

Four employees, who have been working for the enterprise for many years, were honoured for their performance and loyalty in a ceremony at LASCO Umformtechnik GmbH, among them also Robert Welsch, Managing Director Production, for 25 years of employment.

In a ceremony, Friedrich Herdan, Chairman of the Board of LASCO Langenstein & Schemann, Holding, honoured the performance of Robert Welsch for 25 years in prominent position in the company. Following this, CEO Lothar Bauersachs thanked Matthias Löffler for 40 years at LASCO as well as Angela Rath and Stefan Fink for 25 years' commitment to the company. In the presence of Managing Director Thomas Götz and David Hall, works council chairman, the long-time employees received certificates, loyalty bonuses, honorary certificates of the Chamber of Commerce and Industry as well as decorations of the Board of Trustees of Bavarian Employers.

Robert Welsch –
Managing Director Production
25 years ago, Robert Welsch started his career in production as head of quality control and gained additional qualifications as graduate in business management in an extra-occupational course. Within few years, he was promoted to the deputy plant manager and took over the function of a plant manager in sole responsibility and thus the direction of production, service and logistics in 2002. Since then, he has been head of production at LASCO.

At LASCO, in-house manufacture of components for machines and lines for forming technology as well as for the production of construction material reaches a very high level of 70%. Individual components that weigh 120 to are not uncommon. They have to be processed in high precision in the µ range, delivered and commissioned world-wide on time. Numerous investments in production and administration equipment have been realized on Welsch's initiative in 25 years. He has been committed especially to achieving optimum manufacturing costs and realizing on-time completion. Due to excellent production know-how and the implementation of efficient operational procedures, Robert Welsch was appointed Managing Director Production in 2016.

In the picture (from right): Lothar Bauersachs, CEO, Frank Reißenweber, head of the engineering department automation, the jubilarians Matthias Löffler and Angela Rath, Matthias Blinzler, head of the electrical workshop, Friedrich Herdan, Chairman of the Board of LASCO Langenstein & Schemann, Holding, Jochen Günnel, sales director, the jubilarians Robert Welsch, Managing Director Production, and Stefan Fink as well as David Hall, works council chairman.

40 years in the company
Matthias Löffler started his career at LASCO as apprentice draughtsman in September 1977. Not long after passing his final exams, he was charged with demanding engineering tasks for the automation of forging machines. Furthermore, he qualified as a technician for machine tools in an extra-occupational course and passed his final exams in 1993 very successfully. In 1998, he was appointed deputy head of the automation department and has been contributing his expert knowledge to automation solutions for LASCO machines world-wide since then.

25 years at LASCO
Angela Rath joined the LASCO sales department as a typist in January 1992. In 1994, she did some further training to become a certified secretary. Today she supports the customer acquisition in the field of contract manufacture. Angela Rath is highly appreciated both by her colleagues and by customers.

Stefan Fink started at LASCO as apprentice energy electronics technician (engineering operations and maintenance) in 1992. After finishing his vocational training successfully, he took part in further training and has been deployed as chief mechanic for machine installations since then. Currently, Stefan Fink is working in the electrical workshop in the field of machine installations and commissionings.

10 years with LASCO

Klaus Knapke	01.01.2018
Rene Ertlschweiger	19.02.2018
Ralf Butz	01.04.2018

25 years with LASCO

Angela Rath	07.01.2017
Robert Welsch	01.05.2017
Stefan Fink	01.09.2017

40 years with LASCO

Matthias Löffler	01.09.2017

Sadly mourned

Siegfried Hausdörfer	† 21.07.2017
Kurt Fey	† 02.10.2017
Rudolf Guhl	† 07.04.2018

up grade
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Interview

An easy decision

Sven Nieper
Managing Director
Leistritz Turbinentechnik GmbH
(Remscheid)/Germany

up grade: Mr. Nieper, your plant in Thailand already uses three LASCO screw presses and a fleximat 40/90. What caused you to instal a fourth screw press now?

Sven Nieper: Leistritz (Thailand) Ltd. follows the growing demand for turbine blades worldwide. This is why we are expanding our production capacities in Thailand and investing in another 900 t precision press from LASCO.

up grade: What parts will be manufactured with the machine?

Nieper: Forged turbine blades from titanium alloys as well as nickel alloys for aircraft engines for the complete compressor range in the engine (low, intermediate and high pressure compressors).

up grade: How will your company benefit from the new machine equipment?

Nieper: We will increase the output of the plant significantly and will comply with the extremely high quality requirements for the products at the same time. LASCO has been a reliable partner of Leistritz for many years. The machines come up to our ambitious expectations in the field. It was easy for us to decide on the purchase of a new LASCO unit due to its quality, value for money and the world-wide after-sales service.

Leistritz plant in Thailand is investing

Plant on the ascent

Planes are to fly faster by using less fuel at the same time. Besides, the maintenance costs of their engines are to drop. To make this possible, Leistritz Turbinentechnik GmbH produces a new generation of turbine blades, which are also produced in the plant in Thailand – and with LASCO technology.

The Leistritz group has a global staff of about 2,000 in four divisions at twelve locations, one of which is the division Leistritz Turbinentechnik GmbH. For more than 113 years, Leistritz Turbinentechnik has been supplying engine and turbine components to business partners in the aviation industry and power generation. Leistritz' customers benefit from the long-standing experience and technology leadership of the enterprise, which employs a staff of more than 1,000 world-wide.

At the headquarters in Remscheid, at the Nuremberg plant (both Germany) and the branch establishments in Thailand and Croatia, all important production technologies are available: precision forging, CNC milling and grinding, hot and cold rolling, electrochemical treatment as well as all kinds of surface treatment. Today, Leistritz Turbinentechnik GmbH is one of the leading partners in the development of production solutions for engine components.

The company has established its reputation mainly as full-range supplier, who covers the whole supply chain from forging technology to treatment. There would be no efficient jet engines without high-precision forging parts. Therefore, Leistritz has devoted itself for many decades already to the production of die forging parts for engine components made from a variety of high-performance material. At its Chonburi site (Thailand), the enterprise has been producing forged turbine blades for all new generations of engines currently available since 2012 and has successfully been using four SPR 900 meanwhile as well as a multi-axial press FLEX 40/90 from LASCO for this purpose. The lines were commissioned in 2012, 2016 and 2018.

As "heart valves" of modern aircraft turbine engines, the turbine blades used for compressing the influent air are exposed to extreme load and are subject to wear and tear. The material and geometry directly influence the performance, efficiency and ruggedness of the engine. Leistritz is one of the globally leading manufacturers of turbine blades and produces a new generation of these system components in Thailand.