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Trade fair for Castings and Forgings with Processing

Messe Stuttgart
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www.castforge.eu

Opening ceremony of CastForge

Roland Bleinroth (President and CEO of Messe Stuttgart)

A very warm welcome to CastForge, Trade Fair for Castings and Forgings with Processing. I am pleased to welcome you to our opening speech!

Key to

A brief review of the beginnings of CastForge: the first edition was held at Messe Stuttgart in 2018 and proved to be an impressive début which closed a gap in the trade fair scene. I would like to take this opportunity to express my since thanks to Schlenk, as the initiators of the trade fair, for the idea for CastForge and the continuously positive and constructive cooperation. After the corona-related cancellation in 2020, the second edition was held in 2022 and made a big impression with its focused exhibition concept.

We are now faced with various challenges in the industry, for example the industrial electricity price, decarbonisation, the shortage of skilled workers and bureaucratic hurdles. However, there are also opportunities, for example due to the growing demand for high-quality parts. And this is exactly where CastForge comes into play.

Markets

In 2024, the industry will meet for the third edition of CastForge in two exhibition halls – the Ceratizit Halle (Hall 3) and Hall 5. Other events are also being staged concurrently with CastForge: Surface Technology GERMANY in the L-Bank Forum (Hall 1) and "Automotive Testing Expo" in the Alfred Kärcher Halle (Hall 8) and the L-Bank Forum (Hall 10). "Autonomous Vehicle Technology Expo" will also take place in the Oskar Lapp Halle (Hall 6). Visitors to CastForge can attend the concurrent trade fairs free of charge.

Let us now look at the facts and figures for CastForge 2024, which definitely speak for themselves: we have recorded impressive growth with a net exhibition area of 9,654 square metres, 491 exhibitors and an international share of 72 per cent. As an internationally oriented trade fair company, these figures delight us and highlight our location in the economically strong heart of Europe with direct access to international markets. I would also like to thank the international trade associations which have brought their member companies to CastForge, especially Unione Italiana Stampatori Acciaio (Association of Italian Steel Hot Forging Companies (UNISA)), the Istanbul Ferrous and Non-Ferrous Metals Exporters Association (IDDMIB), the Fédération Forge Fonderie (French professional organization of metal shaping industries), FUNDIGEX, the Export Association of Spanish Foundries, and Svaz Sléváren (the Association of Foundries of the Czech Republic). 203 exhibitors are taking part in CastForge for the first time this year. The Associations AIMMAP - Metalurgicos, Metalomecanicos e Afins de Portugal (Association of Metallurgic, Mechanical and Similar Industries of Portugal), the Association of Hungarian Foundries and the Polish Foundrymen's Association are also first-time exhibitors.

This year, CastForge will also feature a varied accompanying programme which will certainly contain something interesting for everyone. One special highlight is the BME Buyers' Day. This event will examine significant everyday challenges with which purchasing is confronted and for

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which it will receive valuable impetus. It will be a fantastic opportunity to learn from experienced experts and collect new ideas for the purchasing process.

Another exciting event is the guided tour on the topic of green forging. Five member companies of the IMU will be visited on their exhibition stands during this guided tour. You will be able there to obtain more information about environmentally-friendly forging processes and gain inspiration.

You can also look forward to a large number of technical talks here on the forum stage. Renowned institutions such as the TuWAs research project, the Fraunhofer Institute for Manufacturing Technology and Advanced Materials (IFAM), the Fraunhofer Institute for Structural Durability and System Reliability (LBF), the Institute for Forming Technology, the Austrian Foundry Institute and RWTH Aachen University will present interesting insights and findings. The German Forging Association, which is celebrating its 90th anniversary this year, will also provide some interesting highlights. Its annual general meeting will be held right next door in the Mövenpick Hotel while some awards will also be presented on the stage.

The trade fair will therefore have a great deal to offer. I would now like to wish you three successful days and interesting inputs during our opening speech.

Max Schumacher (Managing Director of the Federal Association of the German Foundry Industry (BDG))

CastForge is another important meeting point for our industry in order to discuss current developments and challenges during the difficult times we are now experiencing.

I believe that we are standing at a crossroads and need to answer the question of how we consider the future. Optimistically, is the glass (only) half full? Or pessimistically, is the glass at least half empty?

The German foundry industry along with the entire economy is now going through a process of far-reaching change that is being driven both by technological and political factors. There is great uncertainty due to the general political conditions. Our industry will leave no stone unturned to attain the climate targets while also remaining competitive. However, in order to achieve these objectives, we also need reliable and fair general national conditions which take account of the costs and risks of the transformation.

The seriousness of the situation is shown by the fact that German casting production in the first quarter of 2024 was around 30 per cent lower than in the pre-corona year 2019. This is partially attributable to the generally weak economy while it is becoming increasingly clearer that German industry as a whole has reached a crossroads. Demand from the automobile and mechanical engineering industries is also stagnating in the middle of the year. Although both export-dominated German industry and foundries are suffering as a result of a weak global economy, it cannot be denied that Germany as an industrial location is in the throes of a more far-reaching crisis.

One of the most important customer industries for our foundries is the automobile industry which is also undergoing a major transformation. The weak development in demand and the uncertain prospects regarding the ramp-up of e-mobility have led to a considerable fall in the production and sales of vehicles with direct impacts on our industry. For example, the current capacity utilisation of German foundries stands at 72 per cent, i.e. well below the historic average of 82 per cent.

Electricity costs are a key factor in this respect. Whereas German foundries are still faced with high electricity costs even after the extreme fluctuations relating to the war in the Ukraine, some international competitors only pay a third of what we have to lay out for electricity. With globally traded raw materials and the high personnel costs, this is essential for our competitiveness. There is an urgent need for an adjustment, for example through a reduction in the network charges and the avoidance of other burdens caused by the CO2 tax among other things.

We need an industry and energy policy which regards industry as a partner rather than an opponent and does not overtax the medium-sized sector. Decarbonisation of our processes is an urgent task which we can only successfully master together with politicians and through reliable general conditions.

Our medium-sized foundries are also faced with great challenges due to other general regulatory conditions in federal policy or EU policy. In spite of all deregulation approaches, the burdens are actually increasing, especially on account of documentation requirements. Even if companies do not directly have reporting obligations, they are passed on by the often much larger purchasers in the value-added chain. One prominent example is the German Act on Corporate Due Diligence in Supply Chains. A moratorium must be imposed here and sufficient account must be taken of the concerns of medium-sized companies. There is an urgent need to cut red tape in order not to endanger the innovative capacity and flexibility in our industry. The focus must be shifted again to productive forces.

We must adjust to the changed needs for castings and forgings that are arising due to electrification and digitalisation of mobility. We must also develop for our products new markets and applications which can profit from our expertise and our quality. As pioneers of the recycling economy and suppliers of key components, for example for wind energy or heat pumps, the battle against climate change can only succeed with Germany, the European casting champion. Especially in times of supply chain problems, the proximity to customers and solution-based thoughts and actions of German foundries are proving to be decisive for the functioning of complex value-added chains.

And as if that's not enough, the shortage of specialists and personnel is one of the biggest worries in our industry. We can only overcome this together. The BDG and the VDG Academy are breaking new ground here, and are actively supporting member companies and the industry to recruit, train and retain skilled workers and young people. We offer varied programmes and initiatives to increase the attractiveness of our industry, promote training and advanced training, and motivate the skilled workers of the future.

Does this mean there are more problems than opportunities for the German foundry industry? Is the glass half empty?

The German foundry industry is a highly traditional and innovative industry which has constantly adapted to new conditions. That's one of our core competencies. No wind turbine can turn and no car can drive without castings. We contribute 1 per cent to the economic output in Germany - and enable the remaining 99 per cent. We posses a high degree of know-how, experience and creativity which enable us to find solutions for the most complex and most demanding challenges. We are proud of our employees who form the basis for our success with their dedication, passion and competence.

If you look at the products and services of the (German) foundries exhibiting here, it is clear that technological excellence, problem-solving expertise and economic strength have come together. They encourage me to echo the words of Franz Kühmaier from the Major Foundry Technology Conference and not actually answer the question I posed at the beginning. It is totally irrelevant whether you have an optimistic or pessimistic view of the glass. We are enablers (possibilists) and can still pour something into the glass so that it becomes full or at least fuller for the first time.

Thank you very much for listening. I would like to wish you a successful and an interesting time at the trade fair.

Good luck!

Tobias Hain (Managing Director of Industrieverband Massivumformung e.V.)

The German forging industry, also called massive forming, contains around 230 predominantly small and medium-sized companies employing more than 31,000 people. The production volume is around 2.4 million tonnes – that amounts to approximately 1.6 billion parts and represents a production value of round €7 billion.

Our parts are used wherever safety, reliability and service life are essential. Whether cars, trains, aeroplanes, ships or construction machinery, no technical product can drive, fly, float or move without massive forming.

Forged parts play a vital role, especially within the framework of the energy transformation. Because without this technology, no wind turbine can turn, no electric vehicle can drive and no heat pump can function! Forged parts also play an important role in the current discussion on safety.

The largest market for massive forming is the vehicle market. Due to back orders, the vehicle market still generally enjoyed positive growth in 2023 with a 7 per cent increase in new registrations and more than 4 million vehicles produced in Germany. Drop forges therefore also recorded slight growth amounting to 2.7% per cent.

However, the second largest market, mechanical engineering, showed a negative trend in Germany in 2023. This especially affected open-die forges which saw a decrease of 13.5 per cent in production volumes. However, this was only partly influenced by the German sales market. In particular, the decline on international markets caused problems for open-die forges.

2024 started badly on both markets. Since the middle of 2023, we have seen substantial downturns in incoming orders – also in the automotive sector. The poorer market conditions are being felt to an ever increasing extent.

I would now like to examine all these factors. Last year and in the first six months of 2024, we experienced an avalanche of new laws and tightening of legal regulations. And all this took place against the background of energy costs which have doubled compared with the pre-crisis level.

I will only mention a few of these laws and regulations so that this becomes slightly clear:

- Act on Corporate Due Diligence Obligations in Supply Chains
- Whistleblower Protection Act
- Energy Efficiency Act
- Network and Information Security Directive
- Carbon Border Adjustment Mechanism
- European Supply Chain Directive (CSDDD)
- Industrial Emissions Directive

Each of these regulations pursues a legitimate objective, and we fully support the general aim of a sustainable economy. Over 75 per cent of our companies are small and medium-sized businesses – often family-run – and think in generations rather than in quarters.

However, all of the above-mentioned regulations are excessive, bureaucratic and detailed, and tie up an incredible number of forces which miss the actual objective, i.e. transformation to a climate-neutral industry. Excessive bureaucracy is an extreme burden on our industry and bears no relation to the benefit of these regulations.

We now have such poor general conditions in Germany that we are becoming much less competitive internationally. Why is this a problem? Because we end up in heavy dependencies if our companies have to close or relocate. Parts are then produced in China or India – incidentally with twice or three times more CO2 emissions – and are then imported into Germany. However, if supply chains are interrupted again or there is even a geopolitical conflict, every automobile plant, every mechanical engineering company, every wind turbine project and, in particular, our entire arms industry comes immediately to a standstill.

We therefore need in Germany and Europe a new awareness of the relationships and the importance of energy-intensive industry for our security and our prosperity.

Here are the most important aspects that we want to address to politicians:

- Energy costs in Germany must be reduced for energy-intensive industry. This concerns, in particular, the electricity tax, network charges and CO2 taxes. If this is not taken seriously, there is a danger of a mass exodus!

- Bureaucratic burdens must be removed. A moratorium on bureaucracy must be imposed and Germany must not continue to add more requirements to already disproportionate EU Regulations!

- The infrastructure in Germany must be whipped into shape. Roads, bridges, energy networks and communication networks are outdated and reduce our productivity.

- Environmental requirements must be realistic and open to technology. Only then will they be really implemented in Germany and not lead to an exodus of the affected industries.

The German forging industry is facing up to the challenges of the transformation: in a large number of research projects and networks we are working on a climate path and sustainable solutions for our industry. We all need strength for this purpose and all the available resources in our companies.

Our wishes are innovation and implementation rather than having to deal with forms and audits!

Wolfgang Ruch (Managing Director of Großabnehmerverband Energie Baden-Württemberg e.V.)

The Baden-Württemberg Industrial Customer Energy Federation (GAV) was founded in 1918 because industry was dissatisfied with the high electricity prices of the suppliers back then. The objective was to gain influence over energy suppli-ers. Ever since then, we have held some shares in their successors. Excessive electricity prices are therefore not a new topic and have been preoccupying us for more than one hundred years.
In addition to the mechanical engineering and automobile industries, the members also come from the municipal segment. Renowned companies such as Audi, Bosch, Dürr, Festo, Mercedes, Porsche, Wieland-Werke, Zeiss or the Lake Con-stance Water Supply Company and their suppliers have held the GAV in high re-gard as a competent network for more than one hundred years.

We have two highly successful Working Committees - Energy Industry and Energy Conservation – for which over one hundred meetings have been organised in the last few years. We and the invited speakers have held discussions on efficiency topics, decarbonisation, greenhouse gas neutrality and its realisation. Other focal points include the implementation and interpretation of energy laws, as well as supply security and costs of the energy transformation. Today I will focus on supply security and costs. First of all, the electricity supply is secure. There is a restriction in that local and regional voltage fluctuations, flickers or harmonic oscillations may occur to an increasing extent and affect power sup-ply systems.
In the past controllable power stations carried the load exclusively. In future more storage facilities and available power stations must be used, and the load must follow the volatile supply of regenerative energy units.

In the past power stations were built close to consumption centres in Germany. Electricity was transported over relatively short distances. The system was planned, built and operated extremely efficiently and cheaply, and has coped rela-tively well with the addition of almost 140 GW of renewable energies to date. The German energy transformation with a decentral generation concept is leading to the construction of millions of regenerative production units in low-load regions. The results are additional costs for connecting the systems to the distribution net-work and for transmitting electrical energy from north to south Germany via new HVDC lines.

The existing energy supply system was also characterised by high redundancy. The substantial rise in redispatch interventions by the transmission system opera-tors in recent years clearly shows that the system is reaching its limits. In order to continue to guarantee high supply security, a large number of measures must be implemented and investments must be made to also maintain the stability of the system in future.

Power station strategy: Current studies assume that there is a need to construct new gas power stations in Germany with a capacity between 15 and 30 GW in order to compensate for volatile electricity generation from renewable energies.

The power station strategy has not yet finally been adopted. The most important requirements are as follows: systematic expansion of renewable energies and power networks, the construction of highly flexible and climate-friendly power sta-tions which will use hydroelectric power, and the elimination of obstacles to the construction and operation of electrolysers.
The faster expansion of renewable electricity generation at nearly every location where this is technically feasible and economically viable is inconsistent with the demand by environmental organisations for the ecologically friendly expansion of solar and wind energy. Past experiences, which were characterised by opposition from citizens' initiatives, environmental

organisations and time-intensive and highly complex approval procedures, are not very encouraging for attaining targets.

The Press Release from the German Federal Ministry for Science and Research (BMWK) announced a much reduced power station strategy and was criticised by the GAV and other associations. The planned power stations with a capacity of just under 10 GW (23.8 GW were originally planned) are not sufficient to ensure supply security. Wolfgang Grosse Entrup, Managing Director of the German Chemical Industry Association, made the following statement in this respect: "This is not the necessary masterstroke to ensure supply security. The secured energy supply is coming under increasing pressure." And Dr. Werner Götz, Chairman of the Board of Management of TransnetBW GmbH, commented as follows: "We are pleased that the power station strategy is finally making progress and regard this as the first important step. What was presented today, however, still does not an-swer many questions. It is therefore all the most important that the now planned four 2.5 GW power stations are quickly built in the right locations, i.e. predomi-nantly in southern Germany."

The installed capacity of conventional power stations amounts to 93 GW, but with a downward trend. The annual high is around 82 GW and will further increase due to demand by additional consumers. The network development plan from 2037 to 2045 predicts a rise in the installed capacity of renewable energy plants from 140 GW to 560 GW in 2037 and from 640 GW to 700 GW in 2045. This represents an almost fivefold increase. At the same time, gross electricity demand will more than double from around 540 TWh up to the target year of 2045 to more than 1,300 TWh.

Supply security in a decentral electricity generation mix characterised by volatile renewable energies calls for high investment in storage facilities, controllable pow-er stations and electricity networks. The costs of these investments will be shifted directly or indirectly to tax payers and industry. Directly through grid usage fees and higher levies, and indirectly through special funds such as the Economic Sta-bilisation Fund (ESF) and the Climate and Transformation Fund (CTF). The ESF was used, for example, to finance the energy price breaks and the axed subsidies for network charges. The distribution network operators reacted to this at the end of last year. At the largest distribution network operator in Baden-Württemberg the network charges in the medium-voltage grid again rose significantly. Compared with 2023, the increase is just under 2 ct/kWh (+38%). Since 2010, the increase has amounted to more than 300%. At the end of 2023, the costs of the energy transformation up to 2030 were esti-mated to be €600 billion according to a joint study by the German Association of Energy and Water Industries (BDEW) and the German Association of Local Utili-ties (VKU). The largest share (€351 billion) goes into generation while "only" €126 billion was scheduled for network expansion.

The EY/BDEW Progress Monitor was published one month ago. According to this report, investments amounting to €721 billion will be needed up to 2030. The cor-responding figure up to 2035 is more than €1.2 trillion. However, I would like to now reassure you. We will not be able to come close to investing these sums. Nei-ther the necessary materials nor the personnel are available in this respect. Apart from that, we have very long approval procedures and processes.

Conclusion: The electricity supply is secure. The costs of the energy transfor-mation are enormous. The necessary investments in renewable energies, net-works, reserve power stations, security readiness, storage facilities, e-mobility, energy renovation measures and heat pumps will be promoted through subsidies, grants and feed-in remunerations, and the costs will be passed on to end con-sumers in the form of network charges and levies.
The electricity costs including network usage fees, taxes, charges and levies will continue to rise in Germany and will exceed by far the cost-cutting effect of the expansion of renewable energies on the electricity exchange price. A level playing field is becoming increasingly difficult for industry with intensive energy costs from a European and global context.