

## How To Deal With The Current Challenges

**MFN was able to get an interview with Christoph Cruse, Sales Director of Walther Trowal GmbH & Co. KG, Haan, Germany.**

**(?) MFN:** Which particular challenges are your customers facing?

**(!) C. C.:** There is indeed a great variety of challenges: environment, climate change, transition of the automotive industry, political aspects, and many others. Let us start with the environment. We are doing whatever we can to protect the environment. As a mechanical engineering company, we cannot significantly reduce CO<sub>2</sub> emission, but we can improve our machines step by step in terms of energy consumption and sustainability.

As an example, we have given our engineers the task of evaluating the machines in our product range with regard to energy efficiency. After evaluation and their findings, we introduce modifications in the machines that will reduce energy consumption. In the case of dryers in particular, we have achieved a considerable reduction in the electrical energy previously required through insulation, improvement of the energy supply, and better use of the air mass flow. We are talking about significant savings of 30 to 35 %.

**(?) MFN:** Does process control also help you to reduce energy consumption?

**(!) C. C.:** Last year for example we introduced the "Smart Abrasive" option for our THM troughed belt continuous flow shot blast machines. The "intelligent" control of the media flow drastically reduces the energy consumption and significantly extends the usable life of the blast media as well as of the entire shot blast machine.

To ensure perfect blast cleaning results on all work pieces large continuous flow shot blast machines normally work with a surplus of blast media. This results in higher energy consumption. To eliminate this waste of energy, we developed the "Smart Abrasives" option for our THM 700 and 900 shot blast machines, which are equipped with up to four blast turbines. It adjusts the media flow rate in the entire media recycling system to the blast cleaning requirements as well as the shape and size of the work pieces. The innovative control system saves not only energy. Since less media is passing through the shot blast machine, it also reduces the



**Christoph Cruse, Sales Director of Walther Trowal GmbH & Co. KG**

media consumption. In addition, the overall uptime of the shot blast machine is increased, and the amount of required work for maintenance is decreased.

**(?) MFN:** Are you using digitalization to further improve the efficiency of your machines?

**(!) C. C.:** In conjunction with surface finishing operations for metallic work pieces the new automatic process water cleaning centrifuge ZA 04 practically eliminates manual setup operations and drastically reduces maintenance work. We have equipped the new, compact peeling centrifuge ZA 04 with an integrated displacement-force measurement system that digitally controls the movement of the peeling knife. This ensures that – depending on the thickness of the sludge layer – the peeling knife always has the right distance to the inner drum wall. Moreover, it allows the automatic setup of the machine, which to date had to be done manually at regular time intervals. This reduces the workload and time requirements for the mechanical setup of the peeling knife and the required maintenance to practically zero. In the past the calibration of the peeling knife always required a manual procedure. This is now automatically done by the new machine.

**(?) MFN:** How does digitalization help your customers to become more efficient?



# Interview



**Christoph Cruse explains a new development on a THM 900/E/4 shot blast machine to a new colleague in the sales team Mrs. Laura Mrochen**

**(!) C. C.:** Many customers are confronted with a lack of qualified personnel. Therefore, we are developing more and more automated systems.

A new centrifugal disk finishing system for example allows the deburring, surface smoothing and polishing of metal components in one single finishing line. This represents a major step towards streamlining surface finishing operations. The new TT 280-A/2C system operates fully automatically – from loading the aligned raw work pieces into the processing bowl to discharging the polished and dried components. Per day the company produces hundreds of thousands of stainless-steel piston rods with lengths from 20 to 100 mm and a diameter of 2 mm. To function properly the piston rods in the dampening systems require an extremely smooth surface and precise, consistent edge radiusing. In addition, they must be perfectly aligned. Finally, the fully automatic packing of the finished components demands absolute batch integrity, i.e. work pieces from different batches cannot get mixed up. Based on these requirements we installed a fully automatic processing line based on the proven TurboTron double batch centrifugal disk finishing concept. In this system the process steps deburring, surface smoothing and polishing are sequentially integrated into one single

operation. The entire operation, from the loading of the raw aligned piston rods to the transfer to the packing station, runs fully automatically.

**(?) MFN:** What else are you doing in relation to the environment and sustainability?

**(!) C. C.:** When it comes to coating of mass-produced parts, we are closely cooperating with Rotamat users and the manufacturers of coating material to reduce PFAS. Some are using high-quality PFAS-free lacquers already today. The main challenge for the next few years will be the complete switch to PFAS-free lacquers – a globally urgent issue. Contrary to decorative lacquers many functional coating materials still contain substances like Polytetrafluoroethylene (PTFE) and solvents that must be replaced. Although these substances are not yet prohibited, there is a lot of public pressure for discarding them.

This represents a real development challenge. Especially the lacquer and equipment manufacturers must ensure that the new lacquers are suitable for automated coating operations. For example, the viscosity must be modified, and the suppliers of the coating equipment may have to implement technical modifications. But despite these challenges there is no doubt that Rotamat drum coating systems will be the dominant coating technology for small, mass-produced parts.

**(?) MFN:** Which potential do you see in Renewable Energy?

**(!) C. C.:** The energy industry is expected to continue its transition towards renewable energy sources such as solar, wind, and hydropower. Investments in

clean energy technologies are likely to grow. For our company wind power energy companies are very important customers – all the gear tracs need to get surface finished to improve the efficiency of the system.

**(?) MFN:** Are there industries which have very special requirements?

**(!) C. C.:** The aerospace industry may see growth in commercial and tourism over the upcoming years. There are predictions that especially in tourism many people still have the desire to travel by air after being stuck at home during the Covid pandemic. We do see an increasing demand for surface finishing machines for large components used in aircraft engines. This is why we developed the MV 50 multivibrator.

It is the largest of this machine type we ever built. With an internal diameter of the processing bowl of 1,600 mm this machine allows the fully automatic surface finishing of components with a diameter of up to 1,300 mm in one single operation. It cuts the cycle time for finishing the surface of big components from several days to just a few hours. For example, the MV 50 can handle extremely complex components utilized in jet engines and wind power turbines. It is equally suitable for finishing turbine disks, blisks and forging tools.

**(?) MFN:** Which other market segments do you see affected by changes?

**(!) C. C.:** As everyone knows it is quite challenging to predict the future as it depends on various factors such as technological advancements, geopolitical changes, economic conditions, and societal trends. For example, in the automotive industry – especially

« **For our company wind power energy companies are very important customers – all the gear tracs need to get surface finished to improve the efficiency of the system.** »

**Christoph Cruse, Sales Director of Walther Trowal GmbH & Co. KG**

in Europe – there is the transition from combustion to electric drives. This has a huge impact to our industry. If you take a look at how many parts need to get a surface treatment in an automobile with combustion engine you will be roughly at around 3,000 parts. If you compare it with electric vehicles, you will only find less than 100 parts. This also means that companies producing these parts need to find alternative products that they might manufacture. The transition will have an influence on important segments of our business especially in die-cast and stamping – basically the majority of the metal processing industry. However, just a few days ago I read that Chinese car manufacturers are pushing combustion engines again: Things remain exciting.

**(?) MFN:** Which technologies require new methods of surface treatment?

**(!) C. C.:** Additive manufacturing processes, such as 3D printing, often require unique surface treatments. The layer-by-layer nature of 3D printing

can result in rough surfaces or specific material characteristics that may need post-processing treatments like polishing, coating, or heat treatment to achieve the desired final surface quality. Up to now this potential field of business is still developing. We have not yet seen many mass-produced 3D printed parts: From an economical point of view it does not make too much sense yet, but the development will certainly not stop.

**(?) MFN:** What influence does the political situation have on a mechanical engineering company like Walther Trowal?

**(!) C. C.:** The political situation can indeed have a significant influence on mechanical engineering companies, as it shapes the regulatory environment, trade policies, market conditions, and customer behaviour.

If an economically important industrial nation were to pursue isolationist economic policies, such as high tariffs, withdrawal from international agreements or protectionist measures, mechanical engineering companies could

face challenges related to disrupted supply chains, increased production costs and limited access to foreign markets. This could impact their competitiveness and profitability, particularly if they rely heavily on global trade.

In summary, the political situation, including economic policies, environmental regulations, industry-friendly initiatives, and market forecasts, can profoundly influence the operating environment for mechanical engineering companies globally. Adapting to regulatory changes, identifying emerging opportunities, and maintaining agility in response to market dynamics are essential strategies for navigating these political influences effectively.

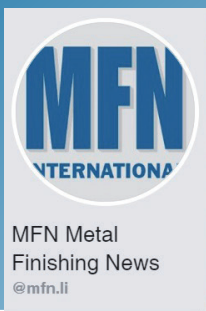
*MFN would like to thank Christoph Cruse for this interview!*

For Information:  
 Walther Trowal GmbH & Co. KG  
 Rheinische Str. 35-37, 42781 Haan, Germany  
 Tel. +49.2129.571-209  
 E-mail: c.cruse@walther-trowal.de  
 www.walther-trowal.com



MFN Metal Finishing News

Follow us now!



- Publication for the Peening, Blasting, Cleaning and Vibratory Finishing Industries
- Distributed In 67 countries and published 6 times a year
- Shot Peening Training In 9 Languages!



Join MFN on LinkedIn