

Hygiene is paramount here – Cleanzone 2020.  
(Source: Messe Frankfurt / Petra Welzel)

## Safety in a time of coronavirus: **Cleanzone 2020 shows how it is done**

18th - 19th November 2020: CLEANZONE 2020, Frankfurt am Main (D)

Cleanzone is taking place on 18 and 19 November in Frankfurt am Main, offering the cleanroom industry the opportunity to present the pioneering innovations needed today for protecting against infection and contamination. To ensure that Cleanzone offers a safe environment during a time of coronavirus, Messe Frankfurt has developed a concept uniting hygiene, organisational and medical measures.

Cleanzone, the international trade fair for contamination control and cleanroom technology, is being held in Frankfurt am Main on 18 and 19 November in Hall 1.2. Cleanroom technology is an interdisciplinary technology that offers nearly unlimited possibilities for research and development to create practical solutions that increase safety. At Cleanzone, manufacturers of contamination control products – for whom face masks, personal protective equipment, air exchange systems and disinfection are already daily practice – can showcase their full range of products that not only safeguard hygiene and quality in production facilities, but also restrict the spread of the novel coronavirus.

Josef Ortner from Ortner Reinraumtechnik, who is also a member of the Cleanzone strategy commission, points in particular to the responsibility and resulting opportunities for the cleanroom industry: “Cleanzone is coming at just the right time, giving the industry the chance to present their innovations for the fight against the novel coronavirus.

I myself do not expect there to be a second COVID-19 wave in autumn like the first one, nor do I believe that there will be a repeat of the large-scale lockdown measures like we had earlier this year, because we now have the capacity to precisely target our response to local outbreaks as the situation demands.”

## Cleanzone 2020 shows how it is done

Kerstin Horaczek, Group Show Director Technology at Messe Frankfurt, is also delighted that Cleanzone can be held in November: "We have been hearing the same thing from all sides: exhibitors and visitors alike want to return to trade fairs so that they can meet one another in person and establish business contacts. That is why we are so pleased that our officially approved hygiene concept will allow Cleanzone to take place in autumn 2020."

### Messe Frankfurt's hygiene concept

Messe Frankfurt has developed a hygiene and safety concept that has been approved by the responsible authorities of the federal state of Hesse. This concept focuses on distancing, hygiene, fresh air and traceability.

The trade fair's exhibitors and visitors will be required to complete a full registration with all essential information, including a self-declaration on their own health status. Furthermore, tickets will only be valid for specific days to ensure full traceability of all participants. Online ticketing also allows for a fully digital registration process and contactless payment, while spacious hall designs featuring five-metre-wide aisles for two-way travel and three-metre-wide aisles for one-way traffic ensure proper distancing. The wearing of face masks will also be required if mandated by the regulations in force when Cleanzone opens. Horaczek added that: "We will be providing exhibitors with

tips and recommendations on how they can design their stands in compliance with applicable regulations to ensure safety for everyone involved." Exhibitors and visitors can find the latest information on the safety and hygiene concept on our website: [www.cleanzone.messefrankfurt.com/hygiene](http://www.cleanzone.messefrankfurt.com/hygiene)

Messe Frankfurt bases all its measures for improving hygiene on the exhibition grounds on the recommendations of the Robert Koch Institute. Furthermore, all provisions comply with the applicable requirements set out in Hesse's ordinance on restricting contact and operations due to the coronavirus issued on 6 July 2020.

More ...

## cleanzone

### cleanzone

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### September 2020

Dear subscribers,

as fast as the virus came, we did not recover that fast. The more testing is done, the more infected people are found. The fear of a second shutdown paralyzes and prevents in personal like business life the usual, normal.


Many events in autumn/winter were cancelled or postponed. Nevertheless our calendar is full as always (see at the end of NL DE).

Currently we are preparing the Cleanroom Yearbook 2021. It will be published end of January 2021. We still have a few pages left and are pleased, if you use the possibility to present your company, your products and services. Just get in touch with me. We will find solutions! Remember: All those who don't go to trade fairs read the yearbook in their home office.

In the current newsletter you will find among others the following articles:

- > **New sterile laboratory for „Burg Apotheke“ in Königstein**
- > **Cleaning structural joining surfaces effectively and efficiently**
- > **Additive Manufacturing requires the expertise of powder specialists**
- > **Clean air in manufacturing plants**
- > **Award-winning refrigerant from Weiss Umwelttechnik**
- > **Special mixing system plus digital mirror for improved hand hygiene in public areas**
- > ...

Yours sincerely

  
Reinhold Schuster



# New sterile laboratory for „Burg Apotheke“ in Königstein

## Cleanroom monitoring with image documentation for safe preparation of sterile products

**An intelligent monitoring system is required in the preparation of sterile products in order to minimise risks for employees and patients and to provide the producer with maximum legal security. For this reason, the „Burg Apotheke“ has invested in an image-based weisstechnik® monitoring system.**

Sterile products often have to be prepared specifically for patients. Due to their short shelf lives, they are often produced in pharmacies with their own cleanroom. In this respect, it is important to have a comprehensive overview of the production processes to exclude all sources of errors. As the producer of patient-specific infusion solutions, „Burg Apotheke“ is committed to the highest requirements of cleanliness, quality and service. The ready-to-use products are prepared in its own laboratory in accordance with the regulations of ApBetrO (Apothekenbetriebsordnung – German pharmacy operation ordinance). In the field of parenteral drug production, the 2012 modification brings ApBetrO into line with the EU GMP regulations. The cleanroom necessary in this regard was extended and with an innovative monitoring system that records additional images as well as the usual process data.

### Cleanroom with integrated upgrade option

As an established cleanroom specialist, Weiss Klimatechnik GmbH can refer more than 100 projects in the field of GMP conform cleanrooms. This experience gave us an instrumental advantage in the planning and implementation of the project, for example in regards to defining the measuring points and the avoidance of possible sources of errors. However, „Burg Apotheke“ special requirements call for individual challenges.

With a total area of 200 m<sup>2</sup>, 150 m<sup>2</sup> qualified cleanroom area and 50 m<sup>2</sup> non-qualified area for equipment and adjacent areas were to be installed. There had to be space for five clean workbenches and

an isolator in the production area. In the first stage of the expansion, the GMP cleanroom was to be set up for production in the cleanliness classes euGMP A in C as per ApBetrO. If required, at a later date it can be converted to production in the cleanliness classes euGMP A in B and production in accordance with the German Medicinal Products Act (Arzneimittelgesetz). The vestibule necessary in this regard also had to be considered during the planning, as did the design of the personnel and material airlocks and the dimensions of the ventilation technology components.

### Planning and construction of the GMP cleanroom

For structural reasons, the room was equipped with a compact air conditioning unit with its own integrated cold-water chiller. In this way, the aim of increasing the operational safety of the cleanroom system independent of external supply media was achieved. The system works in recirculation air mode with process-dependent outside air. Using additional filter fan units with H14 high-efficiency particulate air filters in the production room and a separately controllable preparation room. The necessary temperature and cleanroom class are generated in the sterile laboratory. An innovative monitoring system is installed to identify process deviations and contaminations as quickly as possible at the „point of use“ and to prevent them in a lasting manner.

### Innovative monitoring system with image documentation

The control and operating software is easy to use and provides

## New sterile laboratory for „Burg Apotheke“ in Königstein

reliable results. It monitors all relevant standard values. In this way, temperature (limit temperature 25 °C), humidity, room pressure and particle load are recorded. The EU GMP conform particle monitoring system measures particles sized 0.5 and 5 µm using an isokinetic sampling probe within the workbenches. Furthermore, the patent-pending monitoring function takes additional image documentation during the process.

Depending on its settings, the image is taken by the system at defined time intervals or on an event trigger and is time stamped. Combined with the further sensor data, it means that the production of each batch can be accurately tracked. It provides the manufacturer with uninterrupted tracking for every batch and therefore the highest legal security because with the new monitoring system it is possible for the first time to prove what the conditions were and what events occurred for any point in time. When completed, a total of six cameras are planned for the work stations.

### SIMPATI monitors processes

The SIMPAC®control is the centre piece of the monitoring system.

It has web visualisation and free interfaces to laboratory **More ...** which could be used to connect scales, e-sign or a bar-code scanner for example. For „Burg Apotheke“, the new upgradable cleanroom with monitoring system provides optimal production conditions for the present and many additional options for the future.



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# Complete takeover of Heating Systems

## ebm-papst Landshut boosting their heating division

Effective as of 1 January 2021, ebm-papst is fully taking over the Dutch heating specialist and system vendor ebm-papst Heating Systems. For more than 10 years, the technological leader in fans and motors has held a 50% stake in this company. Full ownership is to further boost the heating division at ebm-

papst Landshut in Bavaria, particularly in the field of electronics and controls.

“Having successfully assumed full ownership of our development partner ebm-papst Heating Systems is a key strategic milestone for ebm-papst Landshut. This allows us to enhance our know-how and speed of inno-

vation in close cooperation with our start-up in Osnabrück, thus sustainably improving the economic development of ebm-papst Landshut”, explains Stefan Brandl, CEO of the ebm-papst Group.

Paul Kuipers, the former joint owner, will take on the new role of Product Manager Heating and share his expertise for the benefit of the entire company. Both parties have agreed not to disclose the selling price.

“Pooling our competences will make us far more effective and more agile than we are now”, says Johannes Pfeffer, Group Managing Director Divisions St. Georgen and Landshut. “Fully integrating the electronics and control specialist Heating Systems is a key step in developing into a system supplier for innovative products in heating technology.”

ebm-papst Heating Systems in s’Hertogenbosch (The Netherlands) employs a staff of 36. The market segment Heating at ebm-papst has an annual turnover of around €200 million.

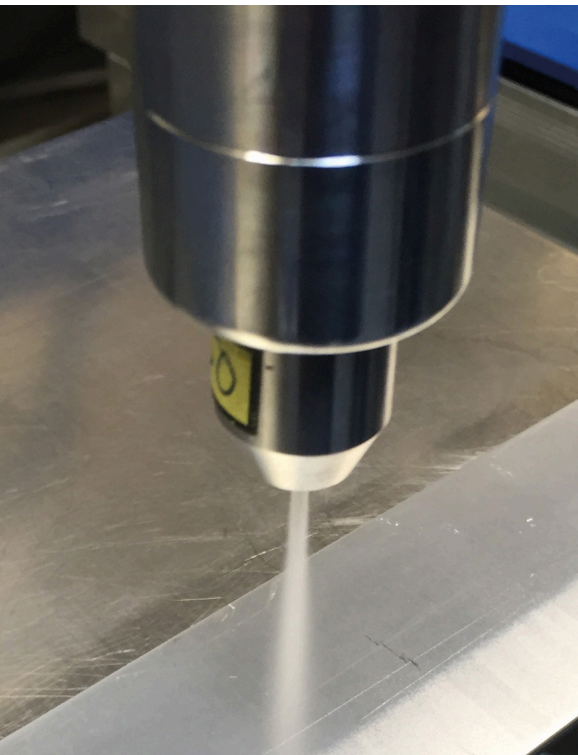


ebm-papst Heating Systems in s’Hertogenbosch (Holland)

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# Cleaning structural joining surfaces effectively and efficiently

## Optimum preparation of bonding sites with CO<sub>2</sub> snow



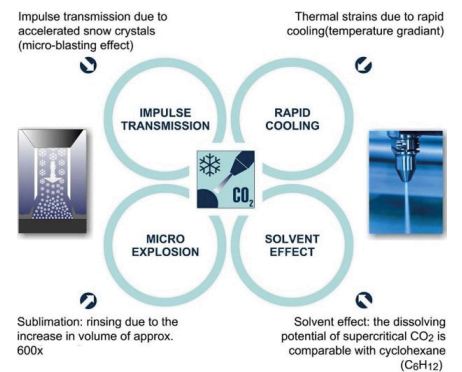
In order to save weight, an increasing number of assemblies used in the automotive industry today are made of plastic or lightweight metal which need to be glued together. The reliable pretreatment of the joining surfaces is a must, especially where structural components are concerned. This is where quattroClean comes into play. The climate-neutral technology has a number of advantages over other dry cleaning processes.

Lightweight construction is not new to

the automotive industry. However, as electromobility is becoming more popular and CO<sub>2</sub> emissions continue to be reduced, this topic is becoming increasingly relevant. OEMs and suppliers are therefore turning to lighter materials such as aluminum and plastics for body parts, e.g. doors, vehicle roofs, trunk lids, tailgates and engine hoods. Changes in manufacturing and joining methods such as bonding instead of welding, riveting or screwing, enable further weight savings. To guarantee the necessary adhesive strength when bonding structural body parts or battery housings, for example, the joining surfaces must meet high cleanliness and wettability requirements.

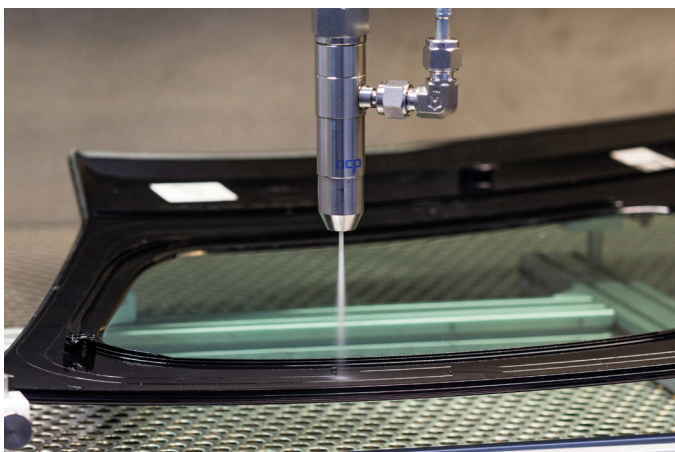
### Efficient partial dry cleaning instead of full-surface wet cleaning

For various reasons, conventional wet-chemical cleaning processes with water-based media or solvents are not suitable for this. Among others, the areas to be joined invariably have to be much cleaner than the rest of the component. Such cleaning processes cannot be integrated into a production or assembly line - or can only be integrated with extreme effort. Consequently, dry processes are preferable, for example the environmentally-friendly quattroClean snow jet cleaning technology from acp systems AG. It is implemented in a wide range of industries for the selective or full-surface cleaning of components made from practically all types of material. The cleaning process is so gentle



on materials that even delicate substrates can be treated.

The cleaning medium used by the technology is liquid carbon dioxide, which is generated as a by-product from chemical processes and energy generation from biogas and therefore environmentally neutral. It is guided through a wear-free two-component ring nozzle and expands on exiting to form fine CO<sub>2</sub> snow. This core jet is then bundled by a separate jacketed jet of compressed air and accelerated to supersonic speed. When the easily-focused jet of snow and compressed air impacts on the surface to be cleaned, a combination of thermal, mechanical, sublimation and solvent effects occur. The interaction of these four mechanisms of action detaches particulate (e.g. dust, chips, abrasion, micro burrs) and filmic contamination (e.g. separating agents, drawing oils, emulsions, silicones, traces of powder) in a reproducible manner. The aerodynamic force of the compressed air carries away the detached



## Cleaning structural joining surfaces effectively and efficiently

contamination, which is then removed by an integrated extraction system.

### Cold, easily-automated cleaning process with wide operating window

Developed more than 20 years ago, the quattroClean technology is one of the most efficient, effective and versatile dry processes on the market. Various process-related properties enable the technology to achieve better and more reliable results in series production than other dry cleaning methods such as atmospheric pressure plasma or laser cleaning. It is also more robust and has a wide operating window. A further advantage is that the component areas to be treated do not become hot when they are cleaned.

Thanks to the scalability of the industry 4.0-compatible quattroClean system, it can be easily adapted to different applications and component geometries in a space-saving way. All process parameters, such as the volume flows for compressed air and carbon dioxide, the number of jets and length of time and area the jet is applied to, are precisely tailored to the respective component as the result of pilot tests performed in the acp technical center. The parameters also take material properties and the type of contamination requiring removal into account and

can be filed as part-specific cleaning programs in the system controls. Tailored system concepts are developed by acp on the basis of standard modules. These take the form of stand-alone solutions and as well as systems for integration into production lines and networked manufacturing environments.

### Adhesive pretreatment of structural components made of plastic and metal

The quattroClean process established itself over atmospheric pressure-plasma cleaning as a pretreatment (removal of separating agent residues and surface activation) for two parts to be joined that are made of fiber-reinforced polyamide (PA) and non-reinforced PA. Components cleaned by plasma were unable to meet the requirements of the destructive adhesion test carried out after bonding. Furthermore, the narrow window of the plasma cleaning process meant that parameters such as exposure time, distance and angle of incidence of the plasma had to be strictly observed in order to clean the surface effectively and not overactivate the plastic. For this application, acp worked together with the company to develop a multi-stage process in which the components are not only cleaned automatically but also activated and bonded.

An Asian OEM was looking for a process to remove minimal amounts of residues of drawing oil from formed aluminum body parts before bonding. The company carried out comparative tests with plasma, laser and quattroClean cleaning technologies. While the plasma process proved to be unsuccessful, laser cleaning was able to remove the drawing oil. However, the component became hot during cleaning, which resulted in undesirable side effects. This was an exclusion criteria, as was also the relatively low speed of the process. In addition to achieving the target cleanliness values and demonstrating high process speeds and reliability, the quattroClean process also impressed with its robustness and cost-effectiveness. According to the OEM's calculations, investment costs are only a quarter of those for a wet-chemical process, and operating costs are less than half.



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## Monitoring medical assets in the Finnish Red Cross Logistics Centre

Two hundred kilometers north of Helsinki, in a storage facility carved into the Finnish bedrock, you can find a trove of goodwill and generosity. The Finnish Red Cross Logistics Centre in Tampere is full of tents, blankets, water purifiers, hygiene packages, and other necessities for emergency response. The centre also stores life-saving medical supplies that can be delivered to the scenes of catastrophes. Vaisala's viewLinc system monitors those invaluable assets continuously.

The logistics centre is central to the Finnish Red Cross's (FRC) preparedness to provide disaster relief and respond to developmental cooperation activities. Supply preservation within the centre is an increasingly essential element of Finnish national emergency preparedness. "This logistics centre coordinates, stores, packs and manages the logistics of all the aid supplies the Finnish Red Cross delivers to various locations, both domestic and global. As the destinations vary from the Bahamas to Bangladesh, so do the aid needs too," says Jari Koiranen, Emergency Response Unit (ERU) Planner, Medical, from the Finnish Red Cross. In almost any disaster, emergency medical aid is a

critical element of response effectiveness.

"Time is of the essence when disaster relief aid is sent to the emergency site. That's why we need to hold a stock of products ready for urgent deliveries. Medicines and vaccines play an important role in many of our operations. However, they are also the most regulated items to store. The medical supplies require audited storage conditions and we are regularly audited by the Finnish Medicines Agency, FIMEA," Koiranen explains. To help ensure FRC operations are responsive, efficient, and GxP-compliant, Vaisala donated a wireless viewLinc Continuous Monitoring System to safeguard storage conditions of the medicines around the clock.

### Inside the bedrock

The location of the FRC Logistics Centre has a long, but not-so-peaceful history. "This place used to be an ammunition factory, built before the second world war. Manufacturing ammunition was a high-

## Monitoring medical assets in the Finnish Red Cross Logistics Centre

risk business, and we are actually in a huge cave, excavated several meters inside the Finnish bedrock," says Koironen. "Each floor is 1,500 square feet in size and the height equals a three or four-storey apartment building." Even in the unusual location inside the rock, the ambient conditions must be suitable for storing equipment, devices and supplies. Thick concrete walls and solid rock surrounds have obvious requirements for the monitoring system.

"The new viewLinc monitoring system is a fantastic tool for us, compared to the old method of manually collecting the data. Alarms and reports are making our work efficient and we can concentrate on the other tasks we have, which are plenty..." Jari Koironen ERU Planner, Medical, Finnish Red Cross.

While most of the aid supplies and medicines are stored at room temperature, some of the vaccines and drugs are refrigerated. Vaisala's viewLinc system was installed to monitor the temperature in four medical fridges, and humidity and temperature in three storage halls. "We need to monitor the environmental storage conditions with a validated monitoring system. Some of the drugs need to be stored in cool conditions of 2–8 °C. But even if the medicines are stored in room temperature, we must be able to provide evidence of those conditions to FIMEA. Ambient room conditions must also be within a certain range in order to keep the drugs in perfect condition," says Koironen.

### Continuous monitoring with remote alarming and automated reports

As a GxP-regulated and validated site, FRC's logistics centre already had a monitoring system in place before the installation of the viewLinc system. The new system replaced old data loggers they had been using manually before. The newly installed system consists of Vaisala RFL100 VaiNet Wireless Data Loggers and AP10 VaiNet Wireless Access Points, Vaisala viewLinc 5.1 software and the validation IQ/OQ protocols for installation and operational qualifications. The new monitoring system brought many advantages, including long-range wireless data logger communication inside the challenging building

structure, accurate and reliable humidity and temperature measurement, remote SMS alarming, and automated reports.

"With the old system, we had to download the data from the loggers manually and create the reports from that data once or twice a month. It all was very labor-intensive. Someone always had to go to each individual logger, download the data and create the report. In addition to the extra work, we were missing the remote alarming and confidence that everything was running normally," says Koironen. As soon as the Vaisala data loggers were installed and the viewLinc software validated on the FRC server, there were immediate observations.

"There was a temperature measurement display on some of the fridges," says Koironen. Once the loggers were installed inside the fridge, we could see the variation in the measurement values of the fridge's factory installed thermometer compared to the logger value. Both shown temperatures were still within the storage temperature range, which is important to keep the medicines in a good condition, but this was a good reminder to value the accurate and fast response measurements Vaisala provides. "The new viewLinc monitoring system is a fantastic tool for us, compared to the old method of manually collecting the data. Alarms and reports are making our work efficient and we can concentrate on the other tasks we have, which are plenty. There is a lot of distress in the world," he concludes.

### The viewLinc Continuous Monitoring System & VaiNet Wireless Technology

Vaisala's wireless monitoring system provides accurate and reliable data on the storage conditions of critical assets in regulated environments like pharmaceutical warehouses, laboratories, fridges, freezers, and cleanrooms. The system ensures gap-free data, dependable remote alarming, and reports that aid in compliance with GxP-regulations and guidance.

The viewLinc system consists of the viewLinc software, data loggers that can connect over Ethernet, Wi-Fi or Vaisala's proprietary wireless protocol VaiNet, and optional IQ/OQ and other GxP/GAMP documentation. The innovative Vaisala proprietary VaiNet wireless technology offers a typical indoor signal range of over 100 meters between data loggers and access points, even with concrete walls, metal shelves, and other typical obstructions. In unobstructed environments, the wireless signal range can be several times longer.

The wireless data loggers and access points are easy to connect, extremely energy efficient, and provide accurate measurements for temperature and humidity. The viewLinc software collects and saves the measurement data from the data loggers, sends automatic alarms if the monitored parameters deviate from permitted values, and automatically generates and sends reports to designated personnel.



# VAISALA

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## Additive Manufacturing requires the expertise of powder specialists

**Industrial 3D printing, otherwise known as additive or generative manufacturing, is growing in importance at a huge pace. New areas of application are taking shape, and advances are constantly being made in material development and process optimization. Many of the materials used come in powdered form, and require the expertise of powder specialists in their manufacture, quality assurance, processing and logistics. The forum for innovation in this field is POWTECH, the Leading Trade Fair for Powder and Bulk Solids, which takes the form of a Special Edition in Nuremberg from 30 September to 1 October this year. The Special Edition, adapted as a consequence of the global Covid-19 pandemic, focuses this year on knowledge sharing, including the area of 3D printing.**

Additive manufacturing had its origins in rapid prototyping. The crucial advantage – reducing cycle times from product development to manufacturing to market launch – opened the way for this technology to be used in mass production. It is now possible to customize products and incorporate additional functions without difficulty in much shorter timeframes and at lower costs. Additive manufacturing thus gives companies an excellent opportunity to differentiate themselves from the competition, act more swiftly, and use fewer resources in their manufacturing processes.

This method of manufacture has now found its way into many industries. It offers new opportunities both for sophisticated fields like Healthcare, Automotive & Mobility and Aerospace, and for mass markets like Lifestyle & Consumer Goods or Production &

Industry. The focus is always on establishing points of differentiation and remaining viable for the long term using industrial 3D printing.

### **20 institutes form alliance for generative manufacturing**

Finding the best way to integrate the complex variety represented by this future-oriented manufacturing technology is the task of the Fraunhofer alliance “Generative Manufacturing”, which was created for the purpose. The alliance brings together 20 Fraunhofer Institutes throughout Germany that deal with additive manufacturing with a focus on research into materials, technology, engineering, quality, and software and simulation. In other words, they cover the entire process chain.

Materials research provides answers to

current questions in the areas of energy, healthcare, mobility, information and communication technologies, construction and living. The latest lightweight materials save costs and energy, ceramic micro fuel cells supply power to electronic devices, and new materials based on sustainable resources ease the burden on the environment. In the area of additive manufacturing the institutes in the alliance focus on the following materials:

- Metals – steels, titanium and aluminium
- Ceramics – oxides, carbides, silicates and bioactive ceramics
- Plastics – polymers and thermoplastic materials

Metallic, ceramic and polymer-based powders serve directly, or are incorporated into filaments to serve as the raw material for most additive manufacturing methods.



## Additive Manufacturing requires the expertise of powder specialists

Their morphology and material composition influence not only how they can be worked during the manufacturing process, but also – and critically – the component properties that can be achieved. As the basis for new innovative products and to optimize additive manufacturing processes, the Fraunhofer Institute applies technologies to adapt the powdered materials to suit the manufacturing processes and product properties. To achieve this, the powdered materials are coated with a thin layer using physical vapour deposition (PVD) or atomic layer deposition (ALD). This can address a range of functions, depending on the coating material used. Thus, for example, the coating material can be used to microalloy metal powders to optimize specific critical material properties (crack sensitivity, ductility, etc.). Flow properties can also be significantly improved, enabling even highly agglomerating powders to be processed. This makes it possible to adjust the electrical conductivity of the powder – and thus of the

end product – and improve its corrosion resistance. Future developments will focus on the deposition of thin hard material layers, for example, which will open up new opportunities for material development. There is also an interest in scaling to larger production volumes to make industrial implementation possible.

The Fraunhofer Generative Manufacturing alliance also offers individually adapted materials for special applications, individual processes and entire process chains, which can also take conventional technologies into account.

### POWTECH 2020 Special Edition: Safe Networking

For specialists in the process industries and engineers relying on the future technology of additive or generative manufacturing, the POWTECH trade fair offers the ideal environment for sharing knowledge

on everything from particle analysis to the core process stages of mixing, filtering, deposition and classification, and the broader themes of powder dosing, storage and logistics. POWTECH will also include a display of solutions for dedusting metal powders. Following the global impacts of the coronavirus pandemic, this year's edition has a particular focus on knowledge sharing. At the heart of the POWTECH Special Edition are the trade forums, which will be held in two exhibition halls with due observance of all safety regulations. The accompanying exhibition will give all exhibitors the opportunity to present their innovations in an efficient and appealing manner. Predefined stand designs and spacious meeting areas will guarantee the observance of all hygiene and safety regulations. Following the event, parts of the programme will be made available online for participants.

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# The digital transformation in powder and bulk solids processes

**Contactless, social distancing, protective equipment: the keywords of the (post-) coronavirus age. That also relates to all the levels of contact between plant and component manufacturers, plant operators and service providers in the powder and bulk solids industries. Grandparents and grandchildren led the way with video chats, the Internet serving as the key to information-sharing and maintaining contact. The crisis is thus also helping to drive forward the much vaunted Internet of Things. Coronavirus made it clear: it is time for the digital transformation to take the final step toward becoming a reality. How that can happen is the theme of POWTECH, taking place as a Special Edition in Nuremberg from 30 September to 1 October this year. The Special Edition, adapted as a consequence of the global Covid-19 pandemic, will focus this year on knowledge sharing, including the digital transformation.**

“Until now we have lacked awareness of the need, and of the transformation itself. We’ve been overwhelmed by anxiety about what is facing us. But the monster that has everyone worried about losing control has been amongst us for ages, with buzzwords like IoT, Predictive Maintenance and Big Data,” commented Dr Uwe G. Seebacher (MBA), Global Director Marketing, Communication & Strategy at Andritz AG in Graz (Austria) last year, even before the coronavirus arrived. Gathering measured data, analysis, pattern recognition, remote diagnostics and remote process optimization – these fully contactless information flows are already in place. But, as Seebacher warned: “False conclusions are being drawn in many places regarding IoT, Big Data and Predictive Maintenance, in other words, data-sharing beyond the company walls. In this situation, suppliers and customers ultimately lack sufficient determination when making the necessary decisions and investments.”

Because digitalization penetrates every area of a process plant, from development using simulation to digital twins of assets and plant, from field level to ERP, predictive maintenance and process

optimization, it offers a whole raft of opportunities for migration and optimization. These information flows are also the key to new levels of contact between process operators and plant or component providers. Contactless information sharing is becoming a competitive advantage for everyone involved. The time is now right to accept the services and information streams available, and to be there for each other with data systems as a means of developing new strengths. The coronavirus is making us reassess the digital transformation completely anew. The tools involved are not new, but simply need to be looked at differently.

### New relationship between suppliers and users

“Digital twins” and “cloud solutions” are not the central elements in the digital transformation. These are just tools that have made the path to the Fourth Industrial Revolution possible. What is at the heart of Industry 4.0 is a completely new and challenging relationship bet-

## The digital transformation in powder and bulk solids processes

ween suppliers and buyers. Optimizing this relationship will determine who wins the competition for customers. As in the case of Amazon et al. in the area of consumer goods, the most important elements in the competition for customers are an extremely short response time to buyer enquiries, more customized products and services, and more careful use of resources as an economic variable. Digitalization in all areas of industry provides businesses with more and more effective tools for this competition for market share.

Rich experience with digitalization in sectors mainly involving discrete manufacturing has steadily flowed into the process industries. Despite a tightly woven data network in the form of process control systems, industries based on process engineering have had trouble until now in turning the benefits of digitalization to good use in competition and thus to added value. However, powder and bulk solids processes, in particular, which normally run in batches, are ideally suited to the digital transformation in the process industries.

Manufacturers of process plant and processing components are going a step further in incorporating both process product customization and the plant itself into data structures, and turning the products and services imposed by the digital transformation to good use.

The state of the art, for example, is represented by standalone solutions for process-optimized operation of grinding systems with a focus on performance, throughput, product consistency and availability. For example, to make further use of the expertise of Netzsch Vakumix, a regular participant in POWTECH, plant operators are already able to draw on globally available online monitoring and online support for complete systems. Simulation tools make operator training possible in this way, using a realistic functional copy of the plant and the process. Servicing, preventive maintenance, plant audits, general and simulation training, and migration and process optimization are also offered online.

### Improving efficiency with data analysis

Prominent POWTECH exhibitor Hosokawa Alpine also offers a re-

mote service if required, which can be used to analyze process settings and plant operation, and minimize or completely prevent potential breakdowns if the need arises. On an optional basis, the company offers support with process optimization. This gives service specialists the opportunity to access all relevant measurement data online. Remote service involves incorporating a data logger in the machine controller. This enables process data from the plant to be continuously saved and transferred to Hosokawa's remote service. In this way the plant operator alone is able to determine who has access to the data.

Entirely in line with the challenge represented by Industry 4.0, these service deployments take place extremely quickly and at short notice; they are individually coordinated with the requirements of the operator and the plant; and they go easy on resources, since there is no need for time-consuming travel by a service specialist.

### POWTECH 2020 Special Edition: Safe Networking

As the World's Leading Trade Fair for Powder and Bulk Solids Processing and Analytics, the 2020 Special Edition of POWTECH will offer process industry specialists the best opportunity to talk with plant and component manufacturers about their digital and contactless products and solutions. Following the global impacts of the coronavirus pandemic, this year's edition has a particular focus on knowledge sharing. At the heart of the POWTECH Special Edition are the trade forums, which will be held in two exhibition halls with due observance of all safety regulations. The accompanying exhibition will give all exhibitors the opportunity to present their innovations in an efficient and appealing manner. Predefined stand designs and spacious meeting areas will guarantee the observance of all hygiene and safety regulations. Following the event, parts of the programme will be made available online for participants.

NürnbergMesse GmbH  
D 90471 Nürnberg





Good news for manufacturers operating high-performance extraction systems, such as KLR filter elements from Keller Lufttechnik: Our units that filter the finest particulate from the air can also capture a high percentage of airborne fungi, bacteria and spores.

## Clean air in manufacturing plants



Ulrich Stolz is Head of Technical Engineering at Keller Lufttechnik in Kirchheim unter Teck. Keller Lufttechnik specializes in clean air for all industries. The family run company, now in its fourth generation, commands a global presence. Ulrich Stolz is responsible for all technological innovations and future product development.

### The Corona pandemic is a wake-up call to improve air quality inside manufacturing plants and other occupied spaces

Technological solutions are available for manufacturers to maintain their plant air relatively free of fine dust and viruses. Ulrich Stolz, Head of Technical Engineering at Keller Lufttechnik in Kirchheim unter Teck near Stuttgart, explains how this works, which systems are required, and where it is advisable to use them.

Until recently, air pollutants such as coolant and oil mist, welding fumes or dust from machining processes have been the primary focus when it came to the safe filtration of emissions in manufacturing plants. Presently, during the time of the Corona pandemic, the question arises as to whether companies should also protect their employees against viruses, especially the Corona virus Sars-CoV-2, and how to effectively implement this protection.

#### The Corona virus is a largely airborne hazard

It is important to know that viruses are microscopic in size. They measure only 20 to 330 nanometers (= thousandths of a micrometer,  $\mu\text{m}$ ). According to current studies, the Corona virus is between 80 and 120 nanometers in size. The tiny viruses usually adhere to droplets ( $> 5 \mu\text{m}$ ) or to aerosols ( $< 5 \mu\text{m}$ ). Droplets are generated when people sneeze, cough or yell. Aerosols are already generated during normal speech. Aerosols can remain in the air for between a few seconds and several hours, depending on the surroundings. Based on current knowledge, 45 percent of people infected with Corona are infected via droplets, 45 percent via aerosols and ten percent via direct

contact such as shaking hands or touching contaminated surfaces. This means that the primary means of transmission is airborne.

#### Efficient filtration systems stop viruses

This is positive news for manufacturers operating high-performance extraction systems, such as using KLR filter elements from Keller Lufttechnik. Equipment which filters the finest particulate from fine dust can also capture a high percentage of airborne fungi, bacteria and spores. Combined with a secondary filter level of H13 or H14 quality filters, even viruses can be reliably separated. We can combine such a secondary filter level with all types of separators - whether dry filters, wet scrubbers, coolant and oil mist collectors or electrostatic separators. If necessary, we can add UVC radiation or ozone as additional air disinfecting measures.

#### Wake-up call: Checking the indoor air quality

The questions and discussions regarding air quality during the Corona pandemic should be seen as a wake-

## Clean air in manufacturing plants

up call to perform an air quality analysis inside plants and work spaces, and to initiate improvements. Changes in production processes often result in creeping modifications, and consequently the increasing dust load in a plant is barely noticed. Ideally, extraction systems capture the airborne pollutants released during machining processes as close as possible to the emission source, and extract them. However, such proximity cannot always be feasible in terms of process technology. Impurities can then circulate into plant air and impact the overall air quality in the work environment.

### Finest particulate can be hazardous

If the fine dust load increases as a result of some manufacturing processes, it provides viruses additional opportunity to spread. Recent studies have indicated that viruses can not only spread with the aid of droplets and aerosols, but can also attach themselves to fine dust particles. Such fine dust particles are already a proven health hazard even without a virus load and can lead to various diseases of the lungs and cardiovascular system, among others. This makes it imperative to filter the finest particles from the overall work environment.



The AmbiTower from Keller Lufttechnik extracts the dust laden overhead air and returns it in purified form to the employee work space. As a result, the combined extraction at processing machines and room air extraction using the AmbiTower creates optimal air quality. It significantly reduces basic contamination by air pollutants such as fine dust, viruses, bacteria, fungi, pollen and spores.

### Reducing the basic load of fine dust

Companies intending to minimise employee health hazards can adopt countermeasures with an overall plant extraction system that complements the machine extraction system, and significantly reduces contamination with pollutants such as fine dust, viruses, bacteria, fungi, pollen and spores. The AmbiTower from Keller Lufttechnik is a product that has been designed for this very purpose. This separator with high performance filter plates and a secondary filter stage is available in various designs and dimensions. It supports the stratified air principle, wherein dust laden air is extracted from the overhead air space of the plant and returned as purified beneficial supply air to the work area. Consequently, a combination of direct extraction at processing machines and ambient air extraction using the AmbiTower provides optimal operating conditions. The systems can also be flexibly modified at any time so that the operator can always reliably comply with all relevant occupational exposure hazard limits.

### Breathable environment

In addition to the AmbiTower, there is the AmbiWall to handle high volumes of fine dust emissions in highly polluted areas, especially in workplaces where extraction directly at the tool is impossible. The wall-shaped dust collector also protects from harmful noise, splashing and employee vision hazards - essential in welding operations, for example. Several AmbiTowers and AmbiWalls can be combined into a single unit that automatically adjusts the air flow according to the volume of fine dust. This means that each unit only extracts as much as is actually necessary.

### Weighing the various benefits

The final solution adopted depends strongly on each individual case. The situation in a company where many people work closely together in a confined space must be handled differently than in a company where a few employees operate machinery in an expansive hall. It is necessary to eventually weigh all the risks, costs and benefits involved. While the costs can be quantified quite accurately, the risk/benefit assessment also depends on individual factors. Based on experience, several beneficial safeguards can frequently be combined. If the fine dust volume in plants and work areas is decreased, the following advantages can be achieved. Cleaner air prevents various diseases, especially those of the respiratory tract. Employees enjoy a more comfortable and safe work environment, supporting their overall motivation. In addition, less dust is deposited, noticeably reducing cleaning requirements. Machines and systems have a prolonged service life, and the risk of accidents is reduced.

### Conclusion

Anyone contemplating improved air quality in their manufacturing plants and workshops should consider a coordinated system of exhaust air, supply air and recirculated air. We are in a position to combine collection and room extraction close to the source in such a way that even the finest particulate is separated, which is ecologically sensible, energetically optimized, compliant with laws and regulations, and customized for your individual needs.

## Fronius welds prototypes for suppliers

**In late autumn 2020, the new prototyping centre from Fronius International will be put into operation. At the site in Wels, Upper Austria, the welding technology manufacturer will not only be working on individual solutions for customers in the field of joining technology, but also welding small series components for the prototype phase.**

Trends such as e-mobility are resulting in new components and thus new challenges in production, for example when it comes to specific knowledge in joining technology. The special systems that are required, particularly for prototype manufacturing, can pose an investment risk. "When working with suppliers over the past few years, we have discovered that the construction of prototypes is an important topic that comes with a degree of uncertainty for our customers. For this reason, we have decided to support them in this regard," explains Harald Scherleitner, head of sales in the Fronius Business Unit Perfect Welding.

As an important strategic step towards becoming a solutions provider, in the future Fronius Perfect Welding will be welding com-

ponents for prototypes according to customer requirements. This means the customer does not need to invest in their own prototyping centres and also has the welding knowledge of Fronius at their disposal. Wolfgang Scherleitner, head of the prototyping centre, continues: "We offer our customers technical support and develop the ideal welding solution for the specific component in house. If this eventually goes into series production, as a general contractor we can also supply the necessary welding systems." The Fronius prototyping centre will be put into operation at the start of November this year.

Fronius International GmbH  
A 4643 Pettenbach



The new prototyping centre in Wels covering a total area of 900 square metres consists of two welding cells with MIG-CMT and LaserHybrid technology, as well as an optical measuring system. Components with dimensions up to 3x2 metres can be processed here. (Photo: Fronius International GmbH)

## Sumitomo (SHI) Demag modernises production logistics and training centre

**Since 2016, Sumitomo (SHI) Demag Plastics Machinery has invested almost EUR 20 million in modernising facilities and equipment at its two German sites in Schwaig and Wiehe. On 29 June 2020, a groundbreaking ceremony was held to mark the next project phase within the growth strategy of the Japanese-German injection moulding machinery manufacturer: the construction of a new light-weight warehouse with 1,600 m<sup>2</sup> of floor space in Schwaig.**

„The optimisation of our internal logistics is the logical consequence of the capacity expansion and modernisation of production. We can further increase production efficiency and throughput times and achieve faster delivery times,” says CEO Gerd Liebig.

The new hall location enables a direct material flow from goods receipt and the dispatch loading zone to production. Future plant expansions have also been accounted for in the planning of the building. Notably, the new hall houses the central collection point for production waste in order to make sorting, disposal and recycling even more efficient.

### Expansion of training centre complete

The expansion and modernisation of the training centre in Schwaig is now also complete. Doubling capacity for customer training, the expansion of new training rooms provides direct connection to the applications technology department. As a result, the company's training team has expanded to eight team members, providing training in machine technology, application technology and robotics.

The rooms are equipped with the latest media technology, including digital boards with touchback function and an online studio, which enables course participants from all over the world to benefit from professional online training.

„With our modular training concepts and the worldwide integration of training material, our solutions can be used in an even more target-oriented and efficient way,” explains Liebig.

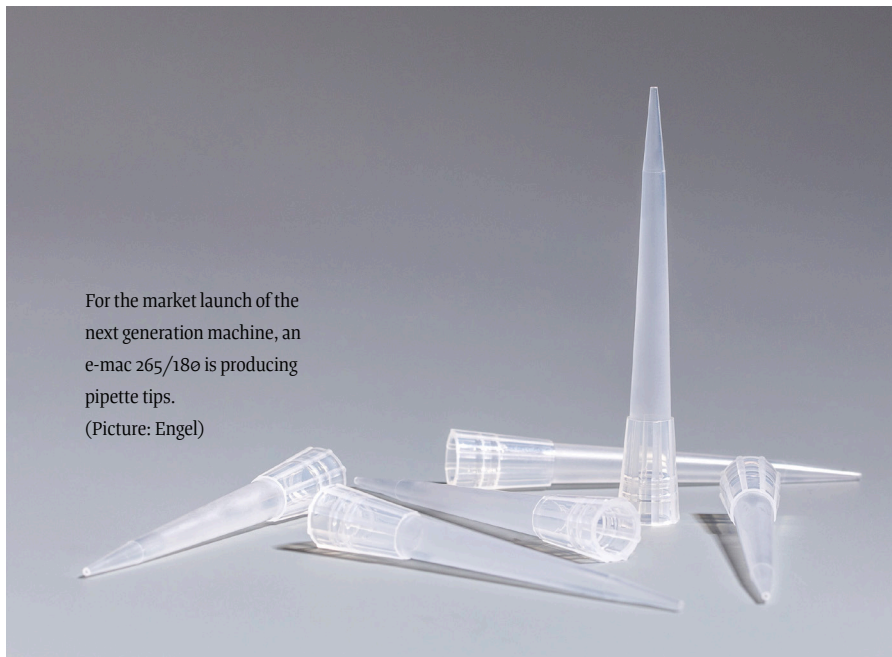
„We can now tailor the training courses to suit individual needs. As a result, customers are more readily prepared and can immediately utilise the competitive advantages of new machinery and application technologies from the start. Thanks to modern media technology, we now offer efficient online training which reduces the time people need to allocate to professional skills development and performing practical exercises,” adds Dr. Thorsten Thümen, Senior Director Technology at Sumitomo (SHI) Demag.

Sumitomo (SHI) Demag  
D 90571 Schwaig

# Compact, flexible, cost-effective

## ENGEL presents next generation all-electric e-mac injection moulding machines

In October 2020, ENGEL is presenting the next generation of its all-electric e-mac injection moulding machine series in a challenging application for the manufacture of pipette tips. Offering maximum flexibility for individual customer requirements, the e-mac is now even more compact.



For the market launch of the next generation machine, an e-mac 265/180 is producing pipette tips.  
(Picture: Engel)

The quality of pipette tips largely depends on the precision of the injection process. At the same time, the long cores in the mould require absolutely precise movements of the mould mounting platens during opening and closing. All-electric injection moulding machines are therefore the preferred solution in this application segment, where cost-effectiveness is a decisive factor in choosing a machine. In the form of the e-mac, ENGEL has an all-electric injection moulding machine in its portfolio that combines high output and energy efficiency with an extremely compact machine design, ensuring the lowest possible unit costs even in a cleanroom environment. ENGEL has now reduced the footprint of the e-mac machines even further. Thanks to an optimised toggle lever geometry, the e-mac 265/180 presented for market launch is 450 mm shorter than the previous 180-ton version, without reducing the opening stroke. Among the all-electric machines on the market, the e-mac machines of the new generation are the most compact worldwide in their respective per-

formance segment across the entire series.

All movements of the ENGEL e-mac – including the nozzle movement and ejection – are performed by servo-electric drives. This means that the machine achieves very high overall efficiency. If required, a servo-hydraulic unit can be integrated into the machine frame without requiring additional space.

The ENGEL e-mac injection unit was developed from scratch with a focus on even better dynamics. It is available in three performance classes. As a result, the machine can be precisely adapted to requirements in order to achieve the highest overall efficiency for the widest variety of applications.

### Fully automated on the smallest footprint

The e-mac 180 is demonstrating the performance of the next generation machine with the production of pipette tips made of polypropylene in a 64-cavity precision mould by Tanner (Feuerthalen, Switzerland). The cycle time is six seconds, which is exactly the range in which the e-mac machines fully play to their strengths. For precision appli-

cations with cycle times of more than four seconds, the e-mac is often the most economical solution in the field of all-electric injection moulding machines. Apart from medical technology, the machine is deployed in the fields of packaging, teletronics and technical moulding.

The automation makes an additional contribution to the very small footprint of the production cell on show. An ENGEL viper 20 linear robot removes the 64 pipette tips from the mould and transfers them to the integrated compact cell for cavity-sorted depositing. ENGEL's new automation cell can be custom designed. It houses all automation components and downstream process units, such as quality control, a tray server or box changer, and is significantly narrower than conventional safety guarding. Its standardised build-up allows for speedy mould set-up of the production unit in case of a product change.

### Smart assistance boosts process consistency

On customer request, ENGEL supplies production cells that are precisely tailored to the application and include solutions for digitalisation and networking in addition to the injection moulding machine and automation. For the production of pipette tips, the production cell is equipped with the iQ weight control and iQ flow control smart assistance systems.

While iQ weight control readjusts the melt volume for each individual shot, ensuring consistently high quality of the injection molded products, iQ flow control automatically adjusts temperature differences in the cooling water manifold circuit. To do this, the software uses the measured values determined by the e-flomo temperature control water manifold system. This results in constant temperature control conditions and significantly improved energy efficiency, as the speed of the pumps in the ENGEL e-temp temperature control devices is also automatically managed to reflect requirements.

# Award-winning refrigerant from Weiss Umwelttechnik

## German Innovation Award 2020

Weiss Umwelttechnik has received the German Innovation Award 2020 for its R-469A refrigerant. It is an ideal, eco-friendly alternative to the climate-damaging R-23.



"With its revolutionary R-469A refrigerant, Weiss Umwelttechnik has developed a more environmentally friendly substitute for the extremely climate-damaging R-23 refrigerant used up to now. The company is thus making an important contribution to environment and climate protection," the jury explained. "It is remarkable that Weiss Umwelttechnik is not a chemicals giant but rather a medium-sized company for environment simulation

systems. This makes the development performance for such an agent all the more impressive."

Overall, more than 700 innovations were submitted as entries for the award by companies including industry giants such as SAP, Evonic, L'ORÉAL and Continental. With the German Innovation Award, the Design Council honours pioneering and sustainable innovations.

The special feature of the R-469A refrigerant is that it cools down to  $-70^{\circ}\text{C}$  and still fulfils the requirements made by the EU, since it releases 90 percent less greenhouse gases than alternative refrigerants. R-469A is used in environment simulation systems for product and quality tests among other things. Up to now, refrigeration systems were only able to reach extremely low temperatures of below  $-40^{\circ}\text{C}$  with the aid of the R-23 refrigerant. Yet R-23 has an enormous global warming potential and is thus only permitted within the context of a transition regulation in the EU.

Weiss Umwelttechnik sells the refrigerant with the official designation R-469A under the brand name WT69. The company has already converted half its own portfolio to the new agent. It is available independently of the climate chambers from Weiss Umwelttechnik.



More ...

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# Gerresheimer supplies the primary packaging for dexamethasone

Gerresheimer has been commissioned by a well-known customer to produce plastic containers in which the active ingredient dexamethasone is to be filled. According to a study, the active ingredient can reduce the mortality of people who are seriously ill with Covid 19. Only recently, the medical journal and other media reported that the World Health Organization (WHO) had called for an increase in the production of the active ingredient dexamethasone.

"Thanks to globally standardized processes and technologies, we are able to produce flexibly, locally and sustainably. This also includes optimizing procurement and transport routes for our customers," says Jens Friis, Vice President Europe & Latin America at Primary Plastic Packaging, responsible for sales. "For the packaging of dexamethasone, we supply 100ml drug cans with closures." He explains that already in December 2019 the first mould was successfully transferred to

the production site in Vaerloese, Denmark, in order to be able to supply local European markets in an optimal way.

As a specialist for pharmaceutical primary packaging, Gerresheimer for the packaging of the active ingredient. Even at the beginning of the corona pandemic, the company responded flexibly to its customers' requests for containers for filling hand disinfectants. At Gerresheimer the factors of procurement security, supply chain management and clearly



This is the plastic can DB39 from Gerresheimer in which the dexamethasone tablets for the treatment of seriously ill Covid 19 patients are filled.

defined throughput times are decisive key factors for high customer satisfaction in the service of people's health.

Gerresheimer AG  
D 40468 Düsseldorf



## Special mixing system plus digital mirror for improved hand hygiene in public areas

With the new CWS SmartWash Plus hygiene bundle, comprising the innovative CWS SmartWash mixing system and a digital mirror, CWS is now offering a future-oriented solution for efficient handwashing and improved hygiene levels. An animation on the mirror not only reminds users to wash their hands, but also guides them optimally through the process. The special mixing system dispenses premixed soapy water automatically and without contact followed by clear water for rinsing.

Mirror mirror on the wall who has the cleanest hands of them all? Almost perfect hand hygiene is guaranteed when you wash your hands with the CWS SmartWash mixer system and follow the instructions displayed on the digital mirror.

The procedure is both simple and effective: The mirror draws visitors' attention to the issue of handwashing with an animation and encourages them not to leave the washroom without performing this important hygiene measure. Potential infection chains can thus be broken.

When the sensors in the mixer system detect hands approaching, the system dispenses water premixed with soap and air, making it virtually impossible to avoid using soap. After all, only around 30 per cent of washroom visitors use soap to wash their hands unless prompted.

The settings in the mixer system and the animation are synchronised: lather, rub, rinse. The smart mirror then finally reminds users how important it is to dry their hands. The patented mixing technology also cuts down water consumption by up to 90% and soap consumption by up to 60%.

Testing by an independent test institute concluded that hands are cleaned gently and bacteria effectively combated with the CWS SmartWash.

### Soap can be easily replaced by cleaning staff

When the soap is running low, a light on the CWS SmartWash system indicates that refilling is required. The soap bag can be conveniently replaced without any mess in just a few steps.

### Broad range of applications

The CWS SmartWash Plus hygiene bundle is ideal for companies and businesses of all sizes. The retail and gastronomy sectors as well as mobility hubs such as airports, train stations and motorway service stations can all benefit from this comprehensive hygiene offering.

### The advantages at a glance:

- Improved hygiene standards thanks to the sensor controls in the mirror and contact-free mixing system
- The infection chain is broken by the automatically premixed soap, water and air mixture
- Costs are cut and resources are saved due to the reduced consumption of water and soap
- Extremely user-friendly
- Simple cleaning

More ...

CWS

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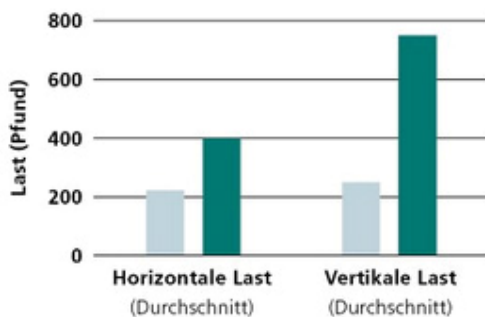
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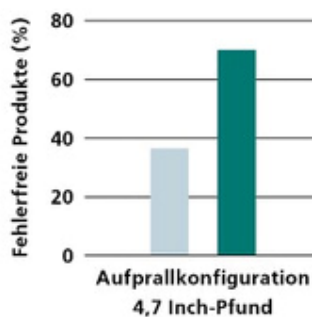
Internet: <http://www.cws.com>



### Kompressionstest



### Aufpralltest Seitenwand



Gx Elite Vials are clearly superior to standard products. They perform significantly better in the compression test and side impact test.

## Injection vials for vaccines for protection against Covid-19

The vaccines under development to protect against Covid-19 are, like many other drugs, filled in so-called injection or vials made of type 1 borosilicate glass, also known as vials. The large worldwide demand for vials is met by the Gerresheimer Group's plants in Europe, America and Asia, where they are manufactured to high quality standards for customers in the pharmaceutical industry. The Company has already received initial orders for vials for drugs and vaccines against Covid-19.

„Our injection vials, manufactured according to ISO standard, have been successfully used by our customers for decades and have proven themselves in the use with vaccines. Thanks to the continuous development of our portfolio, we are now able to produce a portfolio of injection vials that is geared to the increased needs of our customers. The keyword patient safety is at the heart of all our developments,“ says Hans-Ulrich Pieper, Senior Director Sales Pharma Parenteral Solutions Europe & MENA, who is responsible for tubular glass products (Tubular Glass Converting).

Gerresheimer's product range includes vials for conventionally manufactured pharmaceutical drugs as well as for biotechnologically produced and other specialty pharmaceuticals. In order to meet the different requirements of the applications, Gerresheimer produces not only standard vials but also a corresponding range of different qualities of injection vials, also known as vials.

All Gx Vials (Standard, Pharma-Plus, Gx Elite and RTF) are manufactured and inspected using the latest technology and image processing techniques. The quality level of the agreed specification is decisive. Gerresheimer can use its camera systems for a wide range of parameters with or without restricted tolerances and for differently agreed quality levels, also known as AQLs (Acceptable Quality Levels).

### Standard Vials - classic and proven

In addition to glass ampoules, injection or piercing vials are the standard for the primary packaging of parenterally administered drugs and vaccines. They are the classic packaging material for numerous vaccines and medicines. Gerresheimer produces the vials in all

sizes in accordance with international standards and the requirements of pharmacopoeias.

### Pharma Plus Vials - injection vials - exceeding the standard

Pharma Plus injection bottles are designed to exceed the pharmaceutical industry's requirements for critical dimensions and cosmetic quality. The Pharma Plus Type I injection vials have a high standard that is critical to meet customer requirements. The vials are manufactured using state-of-the-art technology and are inspected during production using image processing technology.

### Gx Elite Vials - Extremely stable and free from cosmetic defects

A Gx Elite Vial is a flawless container (cosmetic defects less than 100 microns) with two to three times the strength, a high process capability (Cpk) for critical features and improved delamination resistance. Gx Elite is a product development that exceeds all known market requirements for a Type I borosilicate injection vial. These vials increase patient safety while reducing the total cost of ownership (TCO).

### Gx RTF Vials - sterilized and ready for filling

The Gx RTF injection vials are made of borosilicate glass type I and meet all current requirements of the applicable ISO standards and pharmacopoeias (USP and Ph. Eur.) They are formed according to cGMP, washed in a clean room, packed in trays or nest and tub and sterilized. Gerresheimer offers its own packaging configurations, but

## Injection vials for vaccines for protection against Covid-19

also the wellknown Ompi EZ-fill packaging format. This means that the vials are ready for the subsequent process steps in filling. The advantages are obvious: sterile delivery, a simplified filling and finishing process, the highest quality standards, flexibility through different packaging configurations and a wide range of filling and sealing technologies. All of these factors together ensure an improvement in overall manufacturing costs throughout the product life cycle.

### Modern inspection systems

All tubular glass plants producing vials work with standardized control, inspection and packaging technologies. These are mainly the Gx G3 and Gx RHOC technologies. The inspection systems are in-house developments and part of a tightly meshed inspection system that ensures the highest precision and quality assurance according to the most modern standards. For example, the Gx G3 inspection sys-

tem uses state-of-the-art HD cameras to ensure reliable detection of cosmetic defects. The intelligent software detects and classifies the defects in fractions of a second. Gx RHOC ensures dimensional quality with high-resolution matrix cameras and a hyper-centric ID camera.

### All Gx Vials are the patient-safe packaging material of choice for vaccines

The Gerresheimer Vial portfolio leaves no customer wishes unfulfilled because it can be tailor-made. All vial qualities are suitable as packaging material for numerous vaccines and have proven this many times over. The future vaccines for protection against Covid-19 will be equally patientsafe.

Gerresheimer AG  
D 40468 Düsseldorf

# CWS with new website

More ...

## The digital platform for the world of hygiene, workwear and fire safety

By way of a completely revamped website on [cws.com](http://cws.com), international hygiene specialist CWS is opening up new opportunities for addressing customers digitally. The new digital platform is a further step in the strategic realignment of the CWS brand as end-to-end digital system provider for hygiene, workwear and fire safety solutions in Europe.



Adriana M. Nuneva,  
Chief Digital Officer  
at CWS

Intuitive navigation and clear design now make it even easier for the website's visitors to get a quick overview of the wide range of products and services on offer by CWS. Numerous response options simplify it for them to find what they are looking for among the various offerings and make contact with CWS even faster.

### Digital platform for existing and potential customers

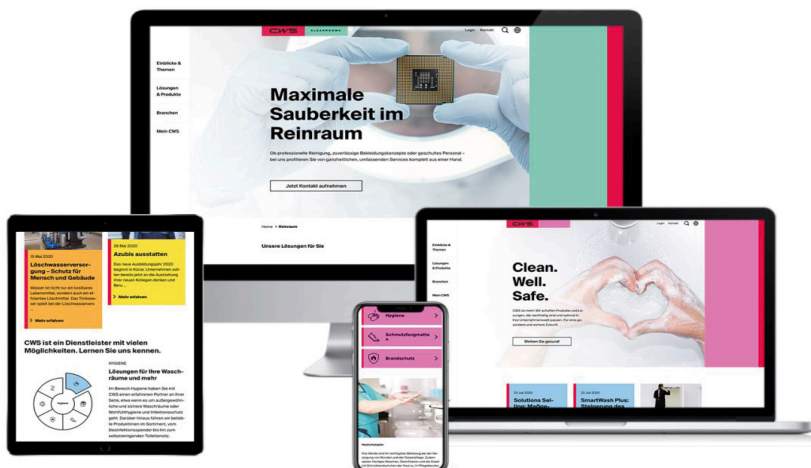
„The website as presentation platform for the values and advantages our products and services provide is the starting point for our innovative and sustainable digital

rental solutions,“ says Adriana M. Nuneva, Chief Digital Officer at CWS. „We are targetedly expanding the digital channel to our existing and potential customers via our new platform.“

### Further functions planned

Concept and design, UX and UI conception as well as the planning and production of the content are the work of the Berlin-based Digitas Pixelpark agency in cooperation with a transnational CWS team in all European countries.

The relaunch of the [cws.com](http://cws.com) website for the German market marks the roll-out of the broadened digital customer approach. The portal will be launched in other countries of the international CWS family in the coming weeks and months, besides which it is planned to have e-commerce and e-self service functions in place by the end of the year.



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Endress+Hauser Switzerland turns 60: the first sales center was located at Sternenhofstrasse 21 in Reinach.

Modern headquarters: today Endress+Hauser Switzerland shares the “Sternenhof” building in Reinach with various other Group companies.

# Endress+Hauser Switzerland turns 60

## Although global, the Group is firmly rooted in Switzerland

**The Swiss sales center of Endress+Hauser is celebrating its 60th anniversary. Active in Switzerland since 1960, today the global leader in measurement instrumentation, services and solutions for industrial process engineering helps customers in a wide range of industries to improve their products and manufacture even more efficiently.**

Endress+Hauser was founded in 1953 in Lörrach, Germany. Swiss engineer Georg H. Endress recognized the major potential for innovative electronic level instrumentation in the German market, which he wanted to target together with German banker Ludwig Hauser. This led to the birth of Endress+Hauser Switzerland seven years later when the founder opened a sales center in his native country on 1 January 1960.

### Highly demanding market

“Although the history of Endress+Hauser Switzerland represented a home field advantage from the very start, it has always demanded 100 percent effort on our part,” says Alex Gasser, Managing Director of the Switzerland sales center since 2017. While the Swiss process industry trusts the company’s products, solutions and services, it nevertheless places high demands on the market leader. “In order to persuade our customers, we have to constantly enhance our offerings.”

To manage its customers in Switzerland, the company has a workforce of 110 employees, most of whom work at the headquarters in Reinach (Basel-Landschaft canton) where Endress+Hauser Switzerland was founded 60 years ago. Sales engineers and service technicians are distributed across the country to provide customer intimacy. The sales organization is aligned with specific industries, which allows

it to offer expert advice and consultation. And the lean structure means that both small-to-medium enterprises and large companies can be well managed.

### New offerings create added value

Endress+Hauser Switzerland specialized in value-added services and automation solutions at an early stage. The sales organization also boasts extensive experience in the efficient management and completion of large-scale projects. “We support our customers across the entire life cycle of a system from engineering, project management, consulting, installation and commissioning activities, to maintenance, service and training,” explains Alex Gasser.

Endress+Hauser Switzerland benefits from the fact that the Group is present in 125 countries, yet still maintains its roots in the Basel region. One-third of the Group’s more than 14,000 global employees work in the tri-border area of Switzerland, Germany and France. Innovative products are developed and manufactured in the region, while the global network is coordinated and managed from Reinach. “This is the heartbeat of Endress+Hauser,” says Alex Gasser with confidence. “And for our customers we constantly have our finger on the pulse!”



Exchange: At the annual Innovators' Meeting the inventors of the Endress+Hauser Group show their developments (archive picture from 2017).



Digital change: At Endress+Hauser a growing number of patents concern developments for the Industrial Internet of Things and Industry 4.0.

# Registering patents non-stop

## Endress+Hauser strengthens the protection of intellectual property with a special program

**Innovative products are essential to the success of a technology company. That's why the Endress+Hauser Group has been paying special attention to the protection of intellectual property for two decades now. The most recent figures confirm the success of this initiative: 318 initial applications in 2019 and a portfolio of more than 8,000 patents and patent applications worldwide mark new highs.**

For 20 years now, a separate department at Endress+Hauser has been dealing exclusively with the protection of intellectual property. In 1999, the company merged and realigned all activities in this field. Today, 30 employees – 26 in Weil am Rhein, Germany, four in Greenwood, Indiana, USA – take care of patent issues, trademark protection and related contracts. The Patent Rights Incentive Program was launched at the same time. It encourages the Group's employees to submit invention disclosures.

"If we want to protect ourselves from unauthorized imitators, we need to be aware of all relevant developments," says Angelika Andres. The physicist and patent attorney has headed the Group's IPR department since 1999. Her team determines whether the submitted inventions are worthy and eligible for protection. This applies in four out of five cases. The specialists then draft a patent application that grants comprehensive protection for the invention.

### Success can be measured in numbers

In 1999, Endress+Hauser submitted 55 initial patent applications – in 2019 there were an impressive 318. "We took a leap forward in the first year after the introduction of the Patent Rights Incentive Program and registered almost twice as many patents," says COO Dr Andreas Mayr. "Since then the numbers have been steadily growing." The share

of patents related to digitalization is increasing, and the field of analytical technology – a strategic focal point – is also gaining importance.

Endress+Hauser was granted 677 patents worldwide last year, protecting the company's products in all major European markets as well as in China and the USA. Today, the Group's entire IPR portfolio comprises more than 8,000 patents and applications. This is mainly due to the work of the more than 1,100 employees in research and development. "But any employee can file an invention disclosure," emphasizes Andreas Mayr. "Innovation is not limited to certain areas."

### Awards for inventing and not inventing

The Endress+Hauser Innovators' Meeting should have taken place for the 20th time in 2020, but it was cancelled due to the coronavirus pandemic. The meetings focus on the exchange between inventors. At the same time, prizes are awarded: Endress+Hauser honors economically important patents, particularly active innovators, the improvement of processes and procedures – and the reuse of patents already granted. Angelika Andres: "You don't always have to reinvent the wheel!"



The high-quality LSR and PP mouth and nose mask was developed by Arburg itself and realised with partners. (Photo: Arburg)



In April, a trade fair demonstrator became an application for safety goggles – distributed to nursing and medical staff during the corona pandemic. The glasses are manufactured on a turnkey system around an electric Allrounder 570 A. (Photo: Arburg)

## Arburg despite corona: “Wir sind da.”

- Even in times of crisis: Further developing innovative technologies
- Protective equipment: Turnkey exhibits produce high-quality masks and safety goggles
- Looking forward: Arburg is well positioned for the future

**Arburg has responded to the Corona crisis very early on with great prudence and excellent know-how. Thanks to that, the machine manufacturer based in Lossburg considers itself well-positioned for the future after the pandemic, in terms of technology, know-how and organisation: production continues to progress and the development of innovative solutions for injection moulding, industrial additive manufacturing and progress in digitalisation is being driven forward. In order to contain the pandemic, Arburg produced high-quality masks and safety goggles very quickly at its headquarters in Lossburg as proof of its technology.**

During the corona crisis, Arburg has been and continues to be able to provide its customers with unrestricted delivery, competence, reliability and solution orientation. Despite or even because of the Corona pandemic, innovative first-class technologies are still being developed.

### **Arburg produces high-quality protective equipment**

In recent months, Arburg has very quickly initiated several specific projects to contain the corona pandemic. Since spring, four injection moulding machines and turnkey systems have been producing high-quality safety goggles and multifunctional LSR masks at the Lossburg headquarters. The protective clothing and equipment were distributed to employees as well as to nursing staff in charitable and medical facilities in the region. The two sophisticated applications also show how the original Arburg know-how in automation and digitalisation can contribute to increasing production efficiency.

### **Safety goggles “ready to wear”**

Arburg implemented the „safety goggles“ project within a very short time together with the Swiss speciality chemicals group Ems-

Chemie and the German protective and safety glasses manufacturer Uvex. Because it was possible to build on the experience of the K trade fair: Arburg had already presented the fully automated production of sunglasses there as a trade fair demonstrator. Thanks to first-class and unbureaucratic coordination between the parties involved, the sunglasses could also be used to produce safety goggles quickly, using the same tools and thus the same design. Ems agreed to the use of the tool and Uvex made the goggles usable for the new application with a quick certification. Since 16 April, safety goggles have been produced at Arburg in Lossburg and thus bottlenecks during the corona pandemic have been immediately eliminated. The goggles are produced in one piece on an electric Allrounder 570 A with the Gestica control system in a cycle time of about 50 seconds. Handling and depositing are carried out with a six-axis robot. The packaging is done manually downstream via a packaging station.

In the comparable trade fair application, it was shown by way of example how processes can be visualised using the Arburg Turnkey Control Module (ATCM) and how all relevant process and quality data can be merged for specific parts. With the help of this Scada system for turnkey systems, individual parts or installed assemblies can be 100 percent traceable.

## Arburg despite corona: "Wir sind da."

### From the prototype to the certified high-tech mask

On 11 May, Arburg started production of LSR and PP mouth and nose masks for everyday use. The project impressively shows how „time-to-market“ can be accelerated in exceptional cases – namely when all partners pool their competencies, technologies and equipment. The companies involved in this project are Sigma Engineering (LSR component and mould simulation), Polar-Form, Foboha and Wilhelm Weber (mould), Ewikon (cold runner), Männer und Günter (hot runner technology), Mechanik (grippers), Wacker und Borealis (materials), Karl Küfner (filters), Herrmann Ultraschall (welding technology) and Packmat (packaging technology).

Arburg developed the high-quality and sustainable masks made of flexible LSR and PP itself and produced the first prototypes with its Freeformer additive. The flexible multifunctional masks consist of a soft LSR mask, which is put over the nose and mouth, and a fixed holder made of PP with eyelets for fastening elastic bands. To prevent infection in everyday life, the mask opening is closed with a cover so that the breathing air is discharged downwards. To reliably protect the carrier themselves from the coronavirus, a disposable filter can be placed on the opening.

### Mask production set up in record time

The injection moulds for the LSR and PP components were built in a record time of only five weeks. The very special corona pandemic situation certainly played a role here. Since mid-May, a Allrounder 570 A with a clamping force of 2,000 kN has been producing the LSR masks with a 4-cavity mould from Polarform in the Arburg Training Center, while a Allrounder 520 E Golden Electric with a clamping force of 2,000

kN and a 2-cavity mould from Foboha is simultaneously producing the associated PP shields in the Customer Center. The larger injection moulding machine operates with an LSR dosing unit from Elmet and a six-axis robot from Kuka, which removes the flexible masks from the mould in a demanding moulding removal process and places them on a conveyor belt. In the second machine, a linear Multilift Select robotic system takes over the easier handling of the PP shields. Finally, the PP label is manually placed on the silicone mask with form closure, the mask is completed with the corresponding elastic straps and packed. As a next step, it is planned to produce the disposable filter, which can be placed on the opening, also at Arburg. Arburg is in contact with the partners Karl Küfner (nonwovens) and Wilhelm Weber (mould) for this purpose.

### With know-how and turnkey solutions against coronavirus

The application shows how complex turnkey systems can be implemented within the shortest possible time, if necessary, in order to efficiently manufacture high-quality products. Arburg does not want to earn money with the masks and safety goggles project; they are therefore not sold individually to end customers. The aim is rather to use the know-how and machine fleet to support hospitals and care facilities with protective clothing and equipment in the fight against the coronavirus as well as to show the injection moulding market the huge amount of know-how available at Arburg that allows them to design and supply highly complex systems for economically efficient and technologically advanced production in the shortest possible time, even in high-wage countries.

ARBURG GmbH + Co KG D 72290 Loßburg

## SÜDPACK to invest in India

**SÜDPACK has entered a Joint Venture with Kamakshi Flexiprints Pvt. Ltd., one of the leading producers of printed flexible packaging materials in India based in Ahmedabad. Kamakshi Flexiprints was founded in 1994 and serves the food and non-food industry with high quality and innovative flexible packaging solutions.**

The Joint Venture is also setting up a new facility nearby Ahmedabad to cater to the maturing packaging needs of the Indian markets with a vast range of products into barrier, aesthetics and convenience flexible packaging. The well-designed infrastructure will include state of the art extrusion, printing, coating and lamination capacities and is scheduled for inauguration in summer 2021. The facility shall be Green Building as per IGBC and comply with GMPs and effective international regulations and standards of the food industry, as for example BRC, FSMS ISO 22001, QMS ISO 9001, SMS-ISO 45001.

The investment in this Joint Venture is a further step of the international growth strategy of the SÜDPACK Group. "We see a growing demand for high-quality in barrier, medical and lidding flexible materials in the Indian market mainly due to the evolving matured packaging needs in the Indian sub-continent arising from constant demo-

graphic changes. With Kamakshi Flexiprints we have found a partner to share our culture and our strategy and last but not least our high standards of quality and service to our customers," says Tharcisse Carl, Managing Director of the SÜDPACK Group.

"Together with our partner we are building the process capabilities to deliver advanced structures of flexible packaging for which SÜDPACK has a long and deep understanding. With the well-designed infrastructure we will be able to meet the industry specific operational excellence facilitated inter alia by the automation in process control", Harish Goel, Managing Director of Kamakshi Flexiprints, further explains.

SÜDPACK Verpackungen GmbH & Co. KG  
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# The European medtech community together for three days in cyberspace

## Virtual MedtecLIVE with MedTech Summit

20th - 22nd April 2021: Medtech 2021, Nürnberg (D)

From 30 June to 2 July 2020, MedtecLIVE and MedTech Summit Congress & Partnering held their first purely virtual, live event after this year's on-site edition of the exhibition was unable to take place due to COVID-19. The event – featuring 153 exhibitors, more than 3,000 registered visitors from 62 countries and over 160 speakers in four virtual conference rooms – was a complete success. With so many events being cancelled, it was enthusiastically welcomed by the medical technology community as a long-awaited opportunity for networking and knowledge sharing. Summary: MedtecLIVE and MedTech Summit stand for unique, face-to-face networking, whether digital or on site.

For three days, the medical technology community was treated to a non-stop programme of four simultaneous presentation streams. The sessions were well-attended and offered exciting discussions and virtual networking. MedtecLIVE transferred the essence of a successful event to cyberspace. Of particular importance was the fact that all the participants were able to schedule one-on-one video calls at any time and message other visitors. A matchmaking system shared by MedtecLIVE and MedTech Summit and based on the participants' interests and areas of focus helped them to find the right partners. Thanks to this efficient interaction between visitors, many different contacts could be made and new collaborations established. The approximately 42,000 messages exchanged between visitors, speakers and exhibitors as well as some 3,000 video calls confirm the high demand for networking and exchange within the industry.

Of the over 3,000 registered visitors, 32 percent were from outside Germany, as were 46 percent of the 153 exhibitors. The countries represented included the U.S., Switzerland, the Netherlands, Japan and France. The 54 first-time exhibitors contributed new impetus and fresh ideas.

### The place to be for medtech networking

"It was a truly international networking event with participants from 62 different countries. These days, that's possible only with a virtual offering. We're extremely satisfied with how the virtual MedtecLIVE with MedTech Summit turned out, and I'd like to expressly thank all the partners and supporters who enabled us to organize this meeting

of the community within a period of only two months," said Rolf Keller, Managing Director of MedtecLIVE GmbH. "The need for discussion and dialog in the medtech industry was huge," added Christopher Boss, Director of MedtecLIVE at NürnbergMesse. "MedtecLIVE has successfully proven that it's the place to be for inspirational, future-oriented networking and for initiating transactions!"

### MedtecLIVE supporting programme: from financing to production

MedtecLIVE's supporting programme featured a mix of user presentations by participating companies, expert presentations and start-up pitches. It was co-designed by leading industry associations and media. For example, BVMed offered a half-day session and panel discussion on surgical robots. The digital association bitkom focused on the topic of "AI in medicine, care and home." At the virtual live start-up contest, eleven promising young entrepreneurs presented their pitches. The contest was organized by EIT Health, Medical Valley EMN and Voisin Consulting Life Sciences.

The winners were the start-ups Mowoot (Medtech category) and Mindpax (Digital Health category). Both companies can look forward to mentoring and workshop packages, a booth at MedtecLIVE 2021 and prize money amounting to over 11,000 euros. Second prizes went to Nu-Rise (Medtech) and Allelica (Digital Health), and Visseiro won the audience award. Additional presentations and sessions dealt such topics as financing, recruiting, funding guidelines and the introduction of new technologies and research methods.

### MedTech Summit: virtual knowledge sharing and first-class ideas

The MedTech Summit Congress provided first-class medical technology expertise. The congress programme was already established pre-COVID-19 pandemic. Based on current events, the main issues attracting particular attention were digital technologies, clinical innovations, networked health, artificial intelligence, effective manufacturing and regulatory affairs. Via live streaming, 57 internationally renowned experts from the healthcare and medical technology industries shared their knowledge with the community in 12 sessions held over a three-day period and inspired new approaches for meeting the current challenges and initiating future projects. The product presentations were especially well attended, with around 100 listeners per session. During the live transmission, participants were able to ask questions of moderators and speakers via live chat. This option was

The infographic features a light blue background with a pattern of grey hexagons. At the top left, it says 'Nürnberg, Germany 2020' and 'MedtecLIVE THE EVENT GOES VIRTUAL Connecting the medical technology supply chain'. At the top right, it says 'MedTech Summit Congress and Partnering'. In the center, there are three main statistics: '153 EXHIBITORS' with an 'OPEN' icon, '3.000+ PARTICIPANTS' with a group of people icon, and '160+ SPEAKERS' with a speaker icon. At the bottom right, it says '» SAVE THE DATE 20-22 APRIL 2021'.

## The European medtech community together for three days in cyberspace

actively embraced and greatly appreciated by visitors. International visibility was increased by free access to the live streams and the event's English-language orientation.

Dr. Jörg Traub, project manager of MedTech Summit Congress & Partnering, favourably summarized the event: "The MedTech Summit in its first virtual incarnation was a complete success. The intensive preparations for relocating the event to a digital space more than paid off. We especially salute the moderators and speakers who enabled a firstclass knowledge exchange as well as the numerous visitors and exhibitors for their lively interaction both during and after the presentations. We're already looking forward to 2021 when the meeting place of the industry will hopefully return to its customary surroundings in Nuremberg."

All the presentations and sessions are now available online until the start of the next MedtecLIVE in combination with MedTech Summit. Anyone who was unable to attend the virtual MedtecLIVE or any participants who missed individual presentations can connect to the event platform at any time and benefit from bundled knowledge as well as networking with other participants.

### MedtecLIVE 2021: NürnbergMesse strengthens its commitment

With the successful completion of this year's virtual MedtecLIVE, NürnbergMesse is assuming overall responsibility for MedtecLIVE, and

trade fair specialist Informa Markets will no longer be a member of the joint venture. The two companies jointly launched the event in 2018. "I wish to thank Informa Markets for working so well with us, for their strong commitment and their pioneering spirit in making MedtecLIVE such a success," comments Rolf Keller, Managing Director, MedtecLIVE GmbH. "Nuremberg as a location is both a success factor and the home base for MedtecLIVE. It is therefore only logical that, in addition to its operational activities, NürnbergMesse should also be fully responsible for its conceptual and strategic orientation. By continuing to engage with the MedTech sector in a spirit of partnership, we aim to bolster the position of MedtecLIVE as the international meeting place for the industry, and maintain its high quality aspirations."

### Save the date 2021

The next edition of MedtecLIVE in combination with MedTech Summit will take place on 20 to 22 April 2021 at the Exhibition Centre Nuremberg. Exhibitors can already register and reserve their booth space, and the sooner the better: Those who register by 31 October will benefit from an early-bird discount.

MedtecLIVE GmbH  
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# POWTECH 2020 Special Edition cancelled

26th - 28th April 2020: POWTECH 2022, Nuremberg (D)

**NürnbergMesse has decided not to hold the POWTECH 2020 Special Edition that was planned for September this year. With this decision the trade fair organisers are addressing the reservations of many exhibitors and industry players about having an on-site event. Recently, exhibitors have been particularly hesitant in view of the partly unforeseeable effects of the coronavirus pandemic on the ability to travel and the economic situation of the various sectors involved. The next POWTECH will therefore take place in Nuremberg on the usual scale from 26 to 28 April 2022. The leading trade fair for the processing, analysis and handling of powder and bulk solids will be held in combination with the PARTEC Congress.**

Initially, exhibitors, partners and associations showed a lot of interest in the POWTECH 2020 Special Edition, a solution adapted to the current circumstances that would have allowed an industry gathering to nevertheless take place this year. The Bavarian government's safety and hygiene concept for trade fairs taking place from 1 September 2020 also provided a degree of planning certainty. The concept for the POWTECH 2020 Special Edition was developed on this basis within just a few weeks and in close consultation with our institutional sponsors APV and VDI.

### Energy and ideas for 2022

"In recent weeks, many POWTECH exhibitors, partners and visitors have felt as we did: Although our hearts were saying yes, the current situation meant that our heads had to once again say no. In particular, the economic situation of many companies in the wake of the worldwide coronavirus crisis but also uncertainty about how the pandemic is going to evolve continue to be stumbling blocks to what is

a much longed-for trade fair attendance," says Beate Fischer, Director POWTECH at NürnbergMesse. "I would like to explicitly thank partners, industry associations and exhibitors for their constructive and creative engagement over the last few months. Special thanks also go to the POWTECH team that came up with a workable concept in such a short time. We are now going to embody this energy and the many new ideas proposed into our preparations for POWTECH 2022."

### Additional online option for professional dialogue

The next POWTECH will be held at Exhibition Centre Nuremberg from 26 to 28 April 2022 in combination with the PARTEC Congress for particle technology, which is following its regular three-year conference cycle. The next round of the POWTECH Virtual Talks, a webinar series on powder and bulk solids technologies in collaboration with the APV, will take place as soon as 3 September 2020.

NürnbergMesse GmbH D 90471 Nürnberg



# 8th MEDICA MEDICINE + SPORTS CONFERENCE broaches themes that quite literally have their finger on the nation's pulse

**COVID-19, sports and data - the average German's heart beats 61 times per minute (at rest)**

16th - 19th November 2020: MEDICA 2020, Duesseldorf (D)

How has the corona crisis altered sports? Prof. Dirk Brockmann will answer this question. He is one of the first speakers at the 8th MEDICA MEDICINE + SPORTS CONFERENCE which will be held in Düsseldorf on Wednesday 18 and Thursday 19 November within the scope of MEDICA 2020, the world's leading medical trade fair (run time: 16 – 19 November). The themes broached by the high-profile attendees at this English-speaking sports medicine conference extend from space medicine and implementing artificial intelligence (AI) to tailored exercise programmes and sports during the era of a highly infectious virus, Covid-19, and against a backdrop of increasing environmental pollution.

At the start of the conference, Brockmann will illuminate infectious diseases and their consequences for professional and leisure sports from an epidemiological point of view. Brockmann works at the Humboldt University of Berlin and the Robert Koch Institute (RKI) where he develops mathematical models on the Covid-19 outbreak. The RKI has been measuring the "pulse" of the nation since the beginning of April thanks to a data donation app. Brockmann had a hand in developing this app. The concept: Data



from wearables (e.g. fitness bracelets and smart watches) can supply indications that symptoms of Covid-19 are present, and can do this before the subject is even aware of the symptoms. The user can make this data available to the RKI using the Corona Data Donation App. Together with data from other sources, such as official registration data, the wearables data helps scientists to better record and understand the spread of the coronavirus. They thus produce a sort of map that represents the "pulse" of the nation. The average resting pulse rate in Germany is currently 60.79 beats per minute (as of 12 June 2020, website: <https://corona-datenspende.de/science/en/reports/pulse/>). According to the RKI, over 500,000 people have already downloaded the app (as of 24 April 2020). This means that the option to donate data, which users will receive when digital patient files are brought out in 2023, is available to some extent today.

## Returning to sports in the wake of Covid 19

Although nobody knows how the Covid-19 pandemic will develop over the coming months, we're sure that sports during this era of highly infectious viruses will remain a hot topic, even when the pandemic abates. Prof. Wilhelm Bloch, Head of the Molecular and Cellular Sports Medicine Department at the German Sport University of Cologne, issued prescient warnings on the potential sequelae of infection with the co-

ronavirus that could prove fatal for professional athletes' careers. He also recommended that amateur sports lovers, particularly those with symptoms, be checked over rigorously before returning to their sport. This also matches the recommendations from the German Association for Sports Medicine and Prevention (DGSP) for returning to sport after a Covid-19 infection. According to the Prof. Bloch, a risk analysis should be executed and documented before taking up a sport again even if the person's medical history does not appear to necessitate this, including for people that are simply doing sports as a hobby. This should include: Medical history, contact with persons infected with Covid-19 or stay in a risk area and close contact with persons at risk. Sport in sports facilities or in a team may then only be permitted if there is no risk, provided that hygiene provisions are observed. Testing is indicated in the event of doubt.

Prof. Bloch will give an update based on the progress of the pandemic situation as it currently stands in November at MEDICA 2020. As it is highly unlikely that a comprehensive vaccination program will have been rolled out by then, prevention remains a crucial tactic in the fight against the coronavirus. This also applies to sports. Dr. Ulrich Jerichow, CEO of VitaScale, is working on systems that team sports players can wear during games in order to prevent infection. He is doing this by developing a face guard, made of silicone and polycarbon with ventilation and respiratory gas diagnostics, with a flexible visor



## 8th MEDICA MEDICINE + SPORTS CONFERENCE

sheet with plastic edging and rubber band fastenings so that competitive sports can be played safely without limiting visibility.

### Pollution can be deadly too...

One topic that is set to reign on long after the corona pandemic is pollution. At the end of last year, researchers from the European Environment Agency hit the alarm button: the number of premature deaths that have been caused by air pollution in Europe appears to be higher than previously assumed. One of the major causative agents of cardiovascular deaths is fine particulate matter. Now, scientists in Münster have determined that the consequences of air pollution have reduced the average life expectancy for Europeans by 2.2 years and are a dominant factor in causes

of death, predominantly deaths caused by cardiovascular conditions. The study results published in the European Heart Journal are thus significantly higher than the latest calculations from the Global Burden of Disease (GBD) study on the impact of air pollution. Dr. Thomas Münzel, university professor and Director of the Cardiology I Unit at the Cardiology Centre of the University Medical Centre of Mainz, will present his results and the conclusions from them in Düsseldorf in November. The damage caused by playing sports in certain environmental conditions could even potentially outweigh the benefits.

The MEDICA MEDICINE + SPORTS CONFERENCE will be completed with a session on digital innovation in sports and healthcare. New training tools, measuring body temperature with "hearables", percussion therapy

and precise 3D recording and analysis of body movement with sensors or camera data and more are all investigated here.

This year, the list of renowned conference partners includes the International Federation of Sports Medicine (FIMS), the German Association for Sports Medicine and Prevention (DGSP), the German Society of Sport Science (DVS) and the WISS (The German Federal Institute for Sports Science), the European Federation of Sports Medicine Associations (EFSMA), and the American College of Sports Medicine (Exercise is Medicine initiative) and also extends to companies such as Sport Speaker, Orthogen, movX, movisens, DORNER Health IT Solutions, ledsreact, Loewi and WT Wearable Technologies.

Messe Düsseldorf GmbH D 40001 Düsseldorf

## Next Fakuma in October 2021

12th - 16th October 2021: FAKUMA 2021, Friedrichshafen (D)

**In cooperation with the exhibitor advisory board for Fakuma 2020, trade fair promoters P. E. Schall GmbH & Co. KG have decided to postpone the 27th Fakuma international trade fair for plastics processing to 2021. The next industry highlight covering all aspects of plastics processing will take place from the 12th to the 16th of October, 2021.**

This year's Fakuma will be postponed until next year. From the point of view of the trade fair organisers, the 27th Fakuma could have been held in Friedrichshafen from the 13th through the 17th of October, 2020. "Together with all involved parties, we struggled for a long time to amend the general conditions demanded by the corona pandemic in such a way that Fakuma 2020 could have been promoted successfully," says Bettina Schall, managing director of P. E. Schall GmbH & Co. KG. A hygiene and security concept was developed for safe trade fair promotion to this end. "We fulfilled all of the prerequisites. However, in cooperation with the exhibitor advisory board we've now decided to postpone Fakuma 2020 to October, 2021."

### Rational Thinking, Care and a Sense of Responsibility

Bettina Schall emphasises that this decision is based on rational thinking and a sense of responsibility: "As trade fair promoters, we see ourselves as service providers for our exhibitors and expert visitors. Current uncertainties amongst exhibitors and visitors, for example with regard to travel and sending employees to events, are making it necessary to look to the year 2021 with pragmatism and confidence." The fact that time is now running short also speaks in favour of postponement. Cooperation partners and expert visitors waited for a long time for concrete information, but official regulations and decision-making delays forced them to be patient. The time has now come to focus on the future: "Exhibitors and expert visitors alike should look ahead to building on the success of previous Fakuma trade fairs. This is why we're now all working together on thorough, detailed planning for the upcoming year," says Bettina Schall. The mutual decision

taken by the exhibitor advisory board and the trade fair promoters to postpone Fakuma 2020 underscores their care and foresight, as well as their consideration for the interests of the exhibitors and expert visitors. The efforts of all involved parties are now being focused on intensive preparations for the upcoming trade fair highlights of the plastics industry with the objective of getting ready for the future.

### Fakuma – Approaching the Future with Important Issues

Fakuma is deemed the first port of call for injection moulding, extrusion technology, thermoforming and 3D printing. It presents innovations covering all aspects of materials, machines, peripherals, processes, simulation, procedures, technologies and tools, as well as plastics processing. The trade fair functions as an industry and technology barometer and is internationally networked. More and more attention is being focused in particular on the issues of environmental protection, sustainability, efficient use of resources, circular economy and bioplastics. With careful planning for Fakuma 2021, trade fair promoters P. E. Schall GmbH & Co. KG are now establishing the necessary and suitable platform for adequately addressing these important issues, which are significant for the present as well as the future. And thus as a highlight for the industry sector, Fakuma 2021 will be an indispensable platform and is being awaited with especially great anticipation.

The next Fakuma will take place from the 12th through the 16th of October, 2021.

P. E. Schall GmbH & Co. KG  
D 72636 Frickenhausen

# Digital launch of Chillventa eSpecial in October

11th - 13th October 2022: CHILLVENTA 2022, Nuremberg (D)

CHILLVENTA  
eSPECIAL

Between 13 and 15 October, the Chillventa eSpecial will offer the international refrigeration, air-conditioning, ventilation and heat pump community three days of industry knowledge, dialogue and innovation – this year, for the first time, in the form of a virtual event. As the world's leading exhibition for refrigeration technology, it will carry the spirit and drive of the event over to the digital world. As usual, participants at the Chillventa eSpecial will be able to establish contacts, cultivate their networks, share knowledge, and discuss new products, projects and developments in the sector. Here, too, the focus will be on the theme of "Chillventa Connecting Experts".

"In recent weeks, our customers' wish for an industry platform offering intensive knowledge sharing has taken shape, at least in digital form in the absence of a live event at the Nuremberg exhibition venue," observes Daniela Heinkel, Director Chillventa. "The Chillventa eSpecial is our response to the level of interest from our Community, and will reflect a large part of the world's leading exhibition for refrigeration technology in virtual form."

The Chillventa CONGRESS will be held on Tuesday 13 October, the first day of the Chillventa eSpecial. Experts worldwide can look forward to a top-level, international congress programme. Company profiles and product presentations will be available to participants throughout the event. On Days 2 and 3, the digital event will focus on the highly professional, first-class programme of lectures by the participating companies.

"With the Chillventa eSpecial, we place particular value on direct and personal interaction for the entire duration of the digital event," continues Heinkel. "Just as our customers are used to at the on-site

event. We must remember that Chillventa is the international business platform for the refrigeration, air-conditioning, ventilation and heat pump sector. And if we can't see each other in person at the exhibition venue in Nuremberg this year, we can enjoy meeting up with our customers via the web at the Chillventa eSpecial."

## High priority on matchmaking and professional dialogue in 2020

During the event, a range of communication options will enable the participating companies and individuals to contact each other quickly. For example, a clever matchmaking system will give all event participants suggestions regarding contacts that most closely meet their requirements. Other services will include chatrooms and many other options to meet business friends, and directly discuss and learn about new and innovative products and news from the sector.

NürnbergMesse GmbH D 90471 Nürnberg

## PaintExpo 2020 Cancelled After All

### 8th World's Leading Trade Fair for Industrial Coating Technologies in Karlsruhe (Germany) from 12 to 15 October 2020

26th - 29th April 2022: PaintExpo 2022, Karlsruhe (D)

Due to the still fragile corona situation, stricter hygiene and distancing regulations for trade fairs in Baden-Württemberg and sustained restrictions on international travel, PaintExpo 2020 will be cancelled after all. The next world's leading trade fair for industrial coating technology will take place as scheduled in 2022.

"Together with our exhibitors and partners, we had hoped to hold PaintExpo 2020 in October with corresponding health and safety measures for all participants. However, the circumstances have changed in the meantime, amongst other things due to new regulations for holding trade fairs in Baden-Württemberg, so that we now have to cancel the event after all," reports Jürgen Haußmann, managing director of event promoters Fair-

Fair GmbH. This decision was taken on the basis of a survey of all PaintExpo 2020 exhibitors, a large number of whom were also against postponing the trade fair once again.

Many companies are currently struggling with the economic impact of the corona pandemic and trade fair participation is thus not at the top of their priority list. Beyond this, health protection and preventing the spread of infection continue to play a central role

as well. As a result, face-to-face contact and travel are being restricted to absolutely necessary interaction. What's more, companies prohibit trade fair visits in some cases and international travel is still subject to strict limits. The requirements stipulated in the planned "Corona Regulation for Trade Fairs" issued by Baden-Württemberg's state government are a further significant reason for deciding against holding PaintExpo 2020.

"We now intend to devote all of our energy to preparing the next regularly scheduled PaintExpo in order to provide the industry sector with the best possible conditions for successful trade fair participation." The next world's leading trade fair for industrial coating technology will take place at the Karlsruhe Exhibition Centre from the 26th through 29th of April, 2022.

FairFair GmbH  
D 72644 Oberboihingen



# Disinfectable keyboards and tablets minimize the risk of transmission of pathogens

Fully disinfectable keyboards and touchscreens can significantly reduce the risk of transmission of pathogens in medical environments. The Robert-Koch Institute recom-

mends the use of such devices in patient care. Systec & Solutions, a specialist in cleanroom hardware, offers technical solutions for clinics, hospitals, and pharmacies. Tech-



(Image rights: Systec & Solutions GmbH)

nical innovations of this type are particularly important in times of the novel coronavirus SARS-Cov-2.

Hardware such as keyboards and touchscreens are regarded as particularly critical surfaces for the transmission of pathogens in the medical environment. Studies on the contamination of technical devices in hospitals showed that in some cases up to 100% of computer keyboards were microbially contaminated.<sup>1</sup> When comparing different surfaces in an operating room, keyboards were even the most contaminated objects.<sup>2</sup>

In times of the novel coronavirus SARS-Cov-2, which may remain capable of reproduction for several days on surfaces,<sup>3</sup> the effective containment of the germ load is particularly important. "Our medical keyboards and touchscreens can be treated with all common disinfectants," commented Andreas König, CEO of Systec & Solutions. "The tablet is completely encased in stainless steel, has IP65 certification, and no dead zones. This makes it very robust and suitable for many cleaning cycles." Thanks to its smooth glass surface, the medical glass keyboard also manages without keys that could become contaminated, and can still be operated with gloves.

The Robert-Koch Institute (RKI) explicitly recommends the use of special disinfectable devices in the care of patients.<sup>4</sup> Conventional keyboards with their numerous openings are often unable to meet the high medical requirements. In contrast, contamination with potentially infectious germs can be efficiently and quickly reduced to an absolute minimum with disinfectable devices.



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<sup>2</sup> Petersen-Fitts G et al. Comparison of Microbial Count on Various Surfaces in Operating Rooms at Different Times of the Day. *J Surg Orthop Adv*. 2018;27(4):281-285.

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# GEMÜ develops new motorized control valve

The semiconductor industry places stringent requirements on valves, measurement and control systems. Pneumatically operated valves are to an increasing degree no longer able to comply with the control requirements of leading process equipment manufacturers. For this reason, valve specialist GEMÜ has developed the motorized GEMÜ C53 iComLine control valve.

The 2/2-way diaphragm globe valve GEMÜ C53 iComLine was developed for precise and demanding control applications in semiconductor production. The sealing concept of the valve is based on the tried-and-tested GEMÜ PD design, with actuator and medium separated by a regulating cone made of resistant PTFE. As the regulating cone contour, actuator stroke and connection size can be customized to meet customers' requirements, the GEMÜ C53 iComLine satisfies virtually all control and flow requirements of the high-tech semiconductor

industry. Thanks to the combination of the precise stepper motor with ultra pure body materials, the valve is particularly suitable for lithography, CMP and etching processes, as well as applications in the analysis field of any semiconductor production process.

The GEMÜ C53 iComLine diaphragm globe valve cannot only be installed as a simple 2/2-way valve. It can also be integrated into a GEMÜ PC50 iComLine M-block in order to realize complex flow charts using minimal space. For example, when machining silicon wafers, a multi-port valve block can be used



The GEMÜ C53 iComLine motorized diaphragm globe valve for ultra pure processes.

in a FOUF cleaner to control the temperature of the DI water. In addition, check valves and sensors can be integrated into the GEMÜ PC150 iComLine M-block.

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