



hans j. michael gmbh



MT-Messtechnik



It is the standard that makes the difference

It is already a big challenge to construct a clean room crane in compliance with ISO 146441 requirements. However, it is an even bigger challenge to design it in a way that there will be no contamination due to operation, cleaning and maintenance works as well as the retrofitting with components or functions. This is a distinctive feature which is standard in clean room cranes by ALTMANN.



2 single girder overhead travelling cranes with 2 x 8 to hoists each - both cranes and all four hoists synchronized in all driving axes with a precision of +/- 1 mm

For 25 years ALTMANN has manufactured crane solutions and hoists that have to meet very special requirements in most cases, such as a crane manufactured completely from stainless steel 20 years ago. With this crane, the company from the Upper Bavarian Albaching laid the cornerstone for its very successful clean room cranes. Among them the world's biggest synchronised clean room cranes, with a lifting capacity of total 60 tons (30 tons each) and a span of 30 metres. But what exactly is the difference between ALTMANN clean room cranes and others on the market?

At first sight, the continuously smooth surfaces stand out, making the crane very easy to clean. All components are discreetly integrated. This means that cables, geared assemblies, screw connections, electrical components, sensors etc. as well as the hoist with electric belt hoist are all hidden in the housing. Due to the housing, the otherwise complex cleaning of undercuts is not required, particularly in the drives. To improve clean room conditions for maintenance works, the housing cover is equipped with a quick-release fastener. It can not only be opened quickly but unlike a screw, it does not produce any wear.

Benefits of powder coating

To avoid wear is the most important criterion in surface treatment and the choice of material combinations. Powder coating is suited to protect the components made of steel against corrosion, such as for example the supporting structure. Only with this method such smooth surfaces can be created, so that no wear will be produced when isopropyl alcohol wipes are used for cleaning. Severe shortcomings of varnished surfaces (also water-based coatings) are outgassing, poor wear resistance and the total lack of cleaning resistance. An increased air exchange in the clean room is necessary until the contamination caused by the evaporated solvent has settled. This means additional costs for the company and can be avoided from the start by using powder coating.

A further advantage of powder coating compared to varnish is its scratch resistance. A running wheel that moves on a varnished surface, removes the varnish gradually, pushes it forward, thus loses grip and starts to spin after a certain time. This problem can be easily avoided by dispensing with varnish on the running surfaces. How-

It is the standard that makes the difference



Double girder overhead crane, capacity 6. To, low overall height for maximum lifting height

ever, it is inevitable that rust will appear on the uncoated steel surface, which is mostly invisible because it is abraded by the running wheel. This is a contamination which cannot be eliminated by using wheels made of stainless steel, as they would also start to corrode someday (galvanic corrosion). To avoid wear of the considerably more scratch resistant powder-coating on the running surfaces, ALTMANN uses running wheels made of synthetic material specifically suited for this application. These wheels have even proved effective in the world's largest clean room crane. This is why a completely sealed surface and the plastic running wheels are part of the clean room standard defined by ALTMANN.

Maintenance-free and inherently stable load belt

When it comes to improved clean room compatibility through clever use of material, it is above all the ALTMANN load belt that scores. On the one hand, it is completely maintenance-free, which means that unlike chain or rope it does not need any lubrication which would again contaminate the clean room. On the other hand, it hardly expands due to its particular material combination. Conventional textile belts first expand in length, before the load is actually lifted. As a consequence, the compulsory emergency stop button for the highest hook position closes too early under load and the maximum lifting height cannot be achieved. However, in clean rooms in particular, this slight effect may become a big problem as these rooms are dimensioned as small as possible for cost reasons. With the inherently stable duplex belt by ALTMANN, the cut-off point remains consistent.

Due to its low-wear material combination, the load belt is subject to very low wear. Its long service life is in addition due to the complex belt guide – also in the hook block –, due to which the load belt is only exposed to rolling friction. The belt guide prevents the belt from striking against the guidance elements, even with vibrations caused by the load. Finally, a high-precision positioning of the load is possible due to its low inherent vibration. To avoid wear on the rotating load hook, it is either made of stainless steel or hard nickel-plated, in compliance with DIN 15400.



Jib crane, capacity 1,25 to, lifting, cross traveling and swiveling frequency controlled

Technology also considers details

As far as clean room cranes are concerned, ALTMANN attaches importance to optimum clean room compatibility not only in design and material. The technology in particular takes into account the special conditions in the clean room and above all its enormous operating costs. Each detail that may contribute to cost reduction is standardised. For example, the drives do not have fan impellers. These impellers would emit particles which are sucked off to the bottom by the clean room ventilation and finally get stuck in the ceiling filters. The design of the drives thus has a positive effect on the exchange cycle of the expensive filter pads.

Often the goods to be moved are also expensive. This is why it is for example possible to move sensitive loads with a speed of 5 mm/min in order to reduce shocks of the load as best as possible. As a standard, the speed relation between slow and fast in the inverter controls of trolley and hoist axis is conceived with 1:100 and can be adapted continuously. As an option, a spread (ratio slow versus fast speed) of 1:1000 for the hoist axis and positioning with millimetre accuracy are available.

PLC for more safety and functionality

The PLC included as standard in the ALTMANN crane control is a very good platform for extensions. It has got a load master with blackbox function and provides the option to evaluate and display the electronically measured load, without much extra effort. Either on the wireless remote control which is part of the standard equipment or on a digital display that can be easily retrofitted. The special thing is: The accuracy of the digital load display is 2 % instead of the otherwise usual 5 % of the nominal load. As this specification refers to the maximum lifting capacity and not to the current load, this may possibly have fatal consequences in operation.

It is easily possible to extend the PLC with monitoring functions such as cumulative load monitoring of several cranes on the same or a neighbouring crane runway. It is precisely because such borderline cases rarely occur, this monitoring should be left to the PLC which is programmed to stop one of the cranes in such a case. Due to the electronic load measurement, the overload protection mandatory for a load capacity of 1,000 kg or more is of course more precise than a load measurement by means of spring or friction clutch. Here the cut-off is also checked again via the PLC.

It is the standard that makes the difference

With the PLC as standard component, different extension levels are subsequently possible without much additional expenditure. For example, a touchless and millimetre-precise position sensor system can be upgraded fast and easily, without contaminating the clean room. As the sensor only needs to be connected to the PLC, no further hardware extension is required. Retrofitting a pendulum damping (no hook movement when starting or braking the crane) is also possible at any time. ALTMANN is even capable of equipping cranes with positioning with integrated pendulum damping - a novelty in the world of cranes.

Options and features

The position sensor system is part of the extension kit that ALTMANN offers for its PLC. Furthermore, the retrofitting with partially and/or fully automatic solutions is possible. In addition, the following solutions are available: electronic load monitor for recording operating data, tandem operation function for simultaneous control of two or more crane systems, synchronisation of several crane axes with millimetre accuracy, wireless communication for data exchange with neighbouring clean room cranes or higher-level process control systems,

distance monitoring of neighbouring clean room cranes as well as avoidance controls for permanently installed obstacles in the clean room crane area.

Generally, the clean room cranes with lifting capacities between 500 and 15,000 kg are available in various designs: Under flange push or motor carriage, double girder trolley with optimised construction height, two-rail crab with optimised lifting height and special models such as internal rotors or versions complying with explosion protection. Different qualities can also be chosen for the model that is completely made of stainless steel.



ALTMANN GmbH
Oberdieberg 23-25
D 83544 Alpbaching
Telefon: 08076 / 8879-0
Telefax: 08076 / 8879-20
E-Mail: kontakt@altmann-foerdertechnik.de
Internet: <http://www.altmann-foerdertechnik.de>



JANUARY 2021

Dear subscribers,

The year 2020, which we said goodbye to a few days ago, has turned all our lives upside down. Nothing is the same anymore.

2021 started 12 days ago and so we wish you all the best belatedly.

What the year will bring us, we do not know, but we should not lose hope that everything will change for the better....

What you can definitely expect in the near future, however, is a new cleanroom yearbook. We are close to the end and I think it is a good summary. Hoping that you will think so too when you hold it in your hands at the beginning of February.

But first, here is the first cleanroom online newsletter this year with some interesting articles. We report, for example, on:

- > **It is the standard that makes the difference**
- > **Panel PCs for wall installation in cleanrooms**
- > **Hohenstein tests according to European guidelines for community masks**
- > **One-stop shopping**
- > ...

I wish you interesting reading. Stay healthy.

With kind regards


Reinhold Schuster



Panel PCs for wall installation in cleanrooms

– What you need to know

Integrating an HMI system in a cleanroom wall is among the classic installation options that enjoys particular popularity. Due to the deep design of older generations of HMI systems, wall installation provided the opportunity to install the system in a manner that is elegant, space-saving, and above all easy to clean. Since devices are now becoming increasingly sleeker and lighter, other installation options also offer ergonomic benefits. However, the flush-mounted display undoubtedly remains the option that can be cleaned the quickest. In the following, Systec & Solutions will present the questions that customers should ask before opting to install a panel PC.

Where should the panel PC be installed?

The conditions of the wall are crucial. You need to know whether it's a thin, classic cleanroom/system wall, a sealed dry wall, or a glass or solid wall.

Panel PCs can generally be installed without problems in the former. However, it is important to check if the wall has sufficient load capacity to securely hold the screen in question. It may be necessary to mechanically reinforce the wall first.

If your cleanroom has a dry wall, you must individually decide if a panel PC can be used. Since a dry wall tends to break out, it makes it difficult to create clean installation recesses. Systec & Solutions recommends using a suitable installation frame.

In the case of a glass or solid wall, it is not possible to use an HMI system in the wall. In these circumstances, there are other installation solutions such as floor or ceiling installation, or you can use mobile operating stations.

Of course, a panel PC can also be installed in a switch cabinet.

Which panel PC installation versions are there in cleanrooms?

Generally speaking, panel PC installation versions can be divided into flush-mounted installation in the cleanroom wall or installation with a stainless steel-frame, making it slightly protrude from the cleanroom wall. The variant with the frame can be installed from the rear or from the front.

Option 1: How does flush-mounted installation work?

Flush-mounted installation requires a recess in the cleanroom wall and rear studs to which the device is screwed on from the rear. The wall must be accessible on the rear. The recess must be accurate to the millimeter and precisely match the manufacturer's specifications to create an even joint to be filled with silicone. In addition, an inconsistent recess would not look very appealing. This type of installation is therefore the most complex one and is particularly ideal for new constructions in which the wall should already have the appropriate recesses. Once the existing joint has been sealed with silicone, the cleanroom is closed again.

By the way: Systec & Solutions has developed a special installation system for the 7- and 10-inch displays of their MODI series that enables



flush-mounted installation, even without having access to the rear of the wall. The mounting frame has magnets that hold the device that is inserted on the front. No screws are required, and it can easily be removed from the front again by using a suction cup.

Option 2: How does installation on the rear with a stainless-steel frame work?

If the rear of the wall is accessible, installation on the rear with a stainless-steel frame on the front is the simplest installation option. Once the recess and drilling pattern have been created, the device and frame with the welded stud bolts are inserted from the front and screwed in from the rear. By doing so, no screw heads are visible. The joint to the wall is sealed with silicone or sealed with an attached sealing cord. In this case, the recess must also be made according to the manufacturer's specifications, although it offers far more tolerances since smaller deviations can be covered by the frame. This variant is particularly useful for existing production sites, as the recess can be easily made in the wall afterwards.

Option 3: How does installation on the front with a stainless-steel frame work?

For installation on the front, there is no need for rear access to the

Panel PCs for wall installation in cleanrooms – What you need to know

cleanroom wall. A recess in the wall and the corresponding drilling pattern with the blind rivet nuts placed in the wall are required for installation. The device and the stainless-steel frame are inserted from the front and screwed in. The joint to the wall is sealed with silicone or sealed with an attached sealing cord. In this case, the recess must also be made according to the manufacturer's specifications, although it offers far more tolerances since smaller deviations can be covered by the frame. This variant is also particularly useful for existing production sites, as the recess can be easily made in the wall afterwards. Please note that with this solution, the screw heads must remain visible. It is easy to clean, but not as easy as with the other two options.



CONTROL: Flush-mounted installation work (Option 1)
(Image Rights: Systec & Solutions GmbH)

stainless-steel frame only if you do not have access to the rear and have extremely confined spaces. (see table 1)

Where do the required cables run?

Ideally, the cabling runs inside the wall, therefore making it invisible and posing no risk of contamination. Systec & Solutions strongly advises against wiring outside the wall for the sake of cleanliness.

What should you be aware of if a panel PC needs to be replaced in the cleanroom?

Please bear in mind that the drilling patterns in the wall are specific to the device and model. When replacing the unit, it may therefore

Now, which option is the best?

That depends on your requirements and situation. All solutions are exceptionally space-saving. The flush-mounted version is the easiest to clean, although it entails the greatest amount of installation work. In this case, a good compromise is installation on the rear with a stainless-steel frame. You should consider installation on the front with a

be necessary to modify the installation recess and the drilling pattern. Changing to a smaller display means that the resulting difference must be compensated for. In addition, the cleanroom must be opened during replacement and subsequently be released for production again.

To make replacement easier for you, Systec & Solutions has developed a special protective enclosure for the CONTROL series. The device is inserted into this enclosure and installed as usual. The cable feeds are designed in accordance with protection class IP65. If replacement is necessary, the silicone joint is removed and the device can simply be removed from the enclosure without creating an opening in the cleanroom wall.

	Option 1: Flush-mounted installation	Option 2: Installation on the rear with a stainless-steel frame	Option 3: Installation on the front with a stainless-steel frame
How easy is it to clean?	+++	++	+
How easy is it to install?	++	++	+++
How space-saving is the solution?	+++	++	++
How flexibly can the device be replaced?	+ / +++ (if it can be accessed on the rear)	+ / ++ (if it can be accessed on the rear)	+ / +++ (with protective enclosure)

Table 1

How do my employees use the display?

You can obtain panel PCs with and without a touch display. Your employees can conveniently control the screen via touch. However, if the application in use does not allow for that because, e.g., an on-display keyboard requires too much space or the selected display does not have touch functionality, a keyboard can be added. Ideally, this

is installed below the device using a torque hinge on the wall, allowing the cables to be run into the wall. They can then be ergonomically adapted to the user or folded away in a space-saving manner if needed.

Connecting a separate keyboard or a mouse to, e.g., a shelf would require an external USB port or a cable outlet. In both cases, cleaning is far more difficult. A Bluetooth connection can be implemented, but please bear in mind that the batteries must be regularly charged in a timely manner to prevent outages.

	CONTROL	MODI
Available sizes	17 – 32 inches	7 – 10 inches
Applications	MES system, DCS system	KPI, status display, room information display
Can be used as a(n)	industrial PC, thin client, or monitor	IoT PC, remote display, monitor
Resolution	1920 x 1080 Full HD / 1280 x 1024 SXGA	1024 x 600 WSVGA / 1280 x 800 WXGA
Touchscreen	Analog resistive or multi-touch	Multi-Touch
Extras	Protective enclosure for easy replacement	Installation frame for flush installation on the front

Table 2

Panel PCs for wall installation in cleanrooms – What you need to know



MODI Room information display - as well suitable for flush mounted installation from the front (Image Rights: Systec & Solutions GmbH)

How can my employees authenticate themselves?

An interface is required in order to enable simple release processes, such as via an RFID card or the Nymi band, and some keyboards already have this built in. Alternatively, Systec & Solutions offers a supplementary installation variant of the CONNECT BOX which is subsequently positioned next to the screen. This can also be flush-mounted like the panel PCs or mounted with a stainless-steel frame.

Which screen is the right one for my application?

The screen size, the technical equipment, and the position of the device depend on the device's application. If you only want

to display the cleanroom status, then a smaller model is usually sufficient for you. To that end, Systec & Solutions offers the MODI series with 7 and 10-inch diagonals. If the MES system or other applications are to be controlled by your employees, a larger display is recommended, as it makes it much more ergonomic and easier to operate. For these applications, Systec & Solutions recommends the CONTROL series, available from 17 to 32 inches. When making a choice, always observe the software manufacturer's device resolution requirements. (see table 2)



Systec & Solutions GmbH
Wilhelm-Schickard-Str. 9 D 76131 Karlsruhe
Telefon: +49 (0)721 66 3510 Telefax: +49 721 6634 444
E-Mail: talk@systec-solutions.com
Internet: http://www.systec-solutions.com

Hohenstein tests according to European guidelines for community masks



The Hohenstein Quality Label for Tested Community Masks makes the quality and durability of the products visible. (© Hohenstein)

Testing service provider and research partner, Hohenstein now tests according to the first European guideline for community masks, the CEN Workshop Agreement (CWA) 17553:2020. Hohenstein had already taken a big step towards safety and functionality with the introduction of its quality label for Tested Community Masks. The new „Community Face Coverings-Guide to minimum requirements, methods of testing and use“ sets minimum requirements for design, performance evaluation, labelling and packaging of both reusable and disposable masks.

Community masks are important in containing the spread of the coronavirus, SARS-CoV-2. But: to fulfill their function, they must meet certain requirements. The objective of the standard is to support manufacturers of masks who have switched production to non-medical, everyday masks. This will provide them with assistance regarding the requirements for such masks, which must also meet the legal requirements for textiles and satisfy

certain functional demands.

Uniform product quality and durability standards across Europe are particularly important for containing the spread across borders. Clear product information helps consumers rely on the safety of community masks. The guideline can therefore also serve as a marketing aid for suppliers in international competition.

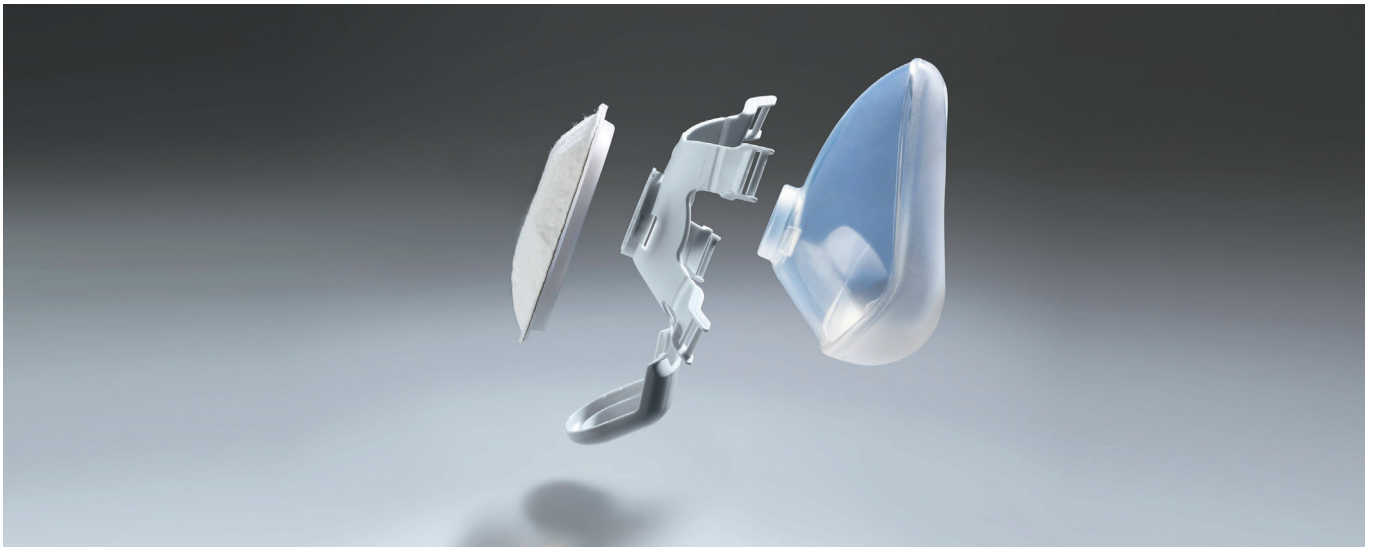
Standardized test procedures at Hohenstein provide information as to whether everyday masks have sufficient breathability and filter

performance. Other quality parameters include washability, fit and safety from harmful substances. Hohenstein also checks compliance with legal requirements and proper labelling and use instructions.

Manufacturers of everyday masks can also earn the Hohenstein Quality Label for Tested Community Masks by proving product performance and certifying to STANDARD 100 by OEKO-TEX®.



Standardized test procedures at Hohenstein provide information as to whether everyday masks are sufficiently breathable and have sufficient filter performance. (© Hohenstein)



Complete: Filter for Arburg mask rounds off coronavirus project

The complete Arburg face mask consists of the LSR mask, the holder and the filter (from right to left): all components were injection-moulded on Allrounders at Arburg in Lossburg. (Photo: Arburg)

- **More protection: additional filter for face mask from Arburg**
- **Swift implementation: only 41 days from conception to series product**
- **Concentrated expertise: many partners are involved in the coronavirus project**

Arburg has been very active in the fight against coronavirus since the beginning of the pandemic. An outstanding example is the multifunctional face mask, which was developed in collaboration with partners and made ready for series production in only 41 days. May saw the start of production of face masks made from LSR (liquid silicone rubber) and PP (polypropylene), initially as versions for everyday use. To protect both the wearer of the mask and those in the surrounding area from the virus, this was followed by the next step: the design and manufacture of a supplementary disposable filter that can be easily attached to the mask opening.

„It was important to us not only to develop the mask as a product for everyday use, but also to prioritise personal protection with the additional filter,“ says Gerhard Böhm, Arburg Managing Director Sales. He mentioned a high level of wearing comfort, sterilisability and multiple use in terms of sustainability and resource conservation as further requirements.

Strong partners

Dr Thomas Walther, Head of Application Technology at Arburg adds: „The mask project clearly shows how the time-to-market for new product ideas can be accelerated in very special cases if all partners pool their expertise, technologies and equipment.“ The companies involved in the project were Sigma Engineering (LSR component and mould simulation), Polar-Form (LSR mould), Foboha and Wilhelm Weber (thermoplastic moulds), Ewikon (cold runner), Elmet (LSR dosing unit), Männer und Günter (hot runner technology), Barth Mechanik (gripper), Wacker und Borealis (material),



The filter can be easily attached to the Arburg mask, which thus protects the wearer and those in the surrounding area from coronavirus infection. (Photo: Arburg)

Karl Kufner (filter design), Herrmann Ultraschall (welding technology) and Packmat (packaging technology).

Multifunctional mask

The mask itself consists of a soft LSR component, which is put over the nose and mouth, and a firm PP holder with eyelets to attach the elastic bands. The LSR masks were injected on an electric Allrounder 570 A with a clamping force of 2,000 kN and a 4-cavity mould, and removed by a Multilift V robotic system. The associated PP holder was produced on an electric Allrounder 520 E Golden Electric with a clamping force of 1,500 kN and a 2-cavity mould. The injection moulded parts were removed here by a Multilift Select robotic system.

To prevent infection in everyday life, the mask opening is closed with a cover so that the breathing air can escape downwards. A disposable filter can be placed on the opening to protect the wearer and also people in the surrounding area from coronavirus.

Complete: Filter for Arburg mask rounds off coronavirus project

Filter for more safety

The filter was developed in collaboration with Karl Kufner – a company specialising in the production of filters, which has been using Arburg machines in injection moulding production for decades.

Project manager Manuel Frick, who as Arburg Sales Manager LSR designed the face mask, explains the production of the mask filter: „We used an Allrounder 470 H with a clamping force of 1,000 kN and a 4-cavity mould to produce the thin-walled filter housings made of PP.



A highlight of the „Arburg Summit: Medical 2020“: the production of the LSR mask on an electric Allrounder 570 A, presented live by Manuel Frick. (Photo: Arburg)

As this hybrid high-performance machine is designed for high-speed applications, we can produce the parts in a cycle time of around 5,5 seconds.“ This makes it possible to very efficiently produce around 2,500 housings per hour, which are then ultrasonically welded to a high-performance fleece to form the finished filter.

Customers benefit from the face mask project

The question as to whether Arburg will be producing masks for the market as an injection moulding company in future is clearly answered in the negative by Gerhard Böhm: „We do not want to earn money with the production of masks, but rather wanted to show how such high-quality products can be developed quickly and manufactured economically in series production.“ This project has enabled Arburg both to demonstrate its expertise in the turnkey sector and to gain interesting experience – from the design of the mask to prototype production with the Freeformer and series production with automated Allrounders. „Our customers can now also benefit fully from this. We have already received enquiries from companies who would like to start producing face masks with turnkey systems like this,“ enthuses the Managing Director Sales.

ARBURG GmbH + Co KG
D 72290 Loßburg

Cherwell appoints Director of Sales to support continued company growth and future customer needs

Emma Millburn brings a wealth of experience in strategic planning to newly created leadership role

Cherwell Laboratories, specialist suppliers of environmental monitoring and process validation solutions for the pharmaceutical and related industries, has appointed Emma Millburn as Director of Sales, which is a new leadership role within the business. The appointment supports Cherwell's continued commitment to further grow and strengthen the business, whilst maintaining its traditional customer service focused values which



Emma Millburn, Cherwell Laboratories' new Director of Sales

have contributed to the Company's ongoing success.

Formerly the National Sales Manager for a Human Tissue UK distributor, Emma brings a wealth of experience in strategic planning in a highly regulated environment. Emma will apply her skills in developing efficient sales processes to strengthen Cherwell's Sales Team and enhance delivery of the best possible cleanroom microbiology solutions to meet the specific requirements of customers.

Andy Whittard, Managing Director of Cherwell, commented, "To meet our future growth aspirations, we identified a need for strategic planning within our sales team and therefore created a new role of Director of Sales. This new role will focus on providing the necessary direction and objective setting to allow our business to meet our targets for growth by deepening our understanding of the future needs of our customers and the market. We are delighted to welcome Emma

to the team and look forward to an exciting future."

Emma comes from a highly successful customer support and sales background, having worked for both Blue-Chip companies and family run businesses. Commenting on her new role, Emma Millburn said, "I have developed a passion for creating high performing sales teams and processes. Having worked in many highly functioning teams in both the sales and sports medicine environment, I understand what success looks like in this area. I look forward to a long, productive future with Cherwell, leading the sales team to deliver ambitious growth plans by deepening customer relationships and continuing to support customers' growing environmental monitoring and validation requirements."

Cherwell Laboratories Ltd
OX26 4XB BICESTER
Vereinigtes Königreich

MBV LTD and MERCK KGaA renew Global Distribution Agreement for Market-Leading Microbial Air Monitoring Instruments

MBV Ltd announces the renewal of its cooperation with Merck KGaA for the next five years. The two companies have been a strong partnership for many years. The leading technology of the MAS-100® air samplers developed and manufactured by MBV Ltd and the global network of Merck KGaA is uniquely placed to meet the challenging needs of customers worldwide in the pharmaceutical, biopharmaceutical, food and beverage, medical device and cosmetics industries.

The distribution and service agreement is regulated as follows:

- Merck KGaA is the exclusive distributor outside Switzerland for the MAS-100 range of portable air samplers manufactured by MBV Ltd in the abovementioned industries.
- Merck KGaA will also continue to offer air monitoring systems for isolators and RABS on a non-exclusive basis.
- Service and support during the entire product life cycle of MAS-100 systems will continue to be provided jointly by Merck KGaA (globally) and MBV Ltd (mainly focused on Europe).

Two leading experts, one partnership

MAS-100 air samplers are the world's leading microbial air monitoring systems, offering outstanding accuracy and safety. MBV Ltd has specialised in the development and production of these precision devices. The MBV Ltd and MERCK KGaA partnership complements Swiss precision engineering of the MAS-100 device with 350 years of expertise and knowledge in the life sciences by MERCK KGaA. This partnership ensures continued access to high-precision measuring instruments, technical expertise, and services worldwide.

"Through this partnership with a global leader in environmental monitoring solutions, users of the MAS-100 products will receive value

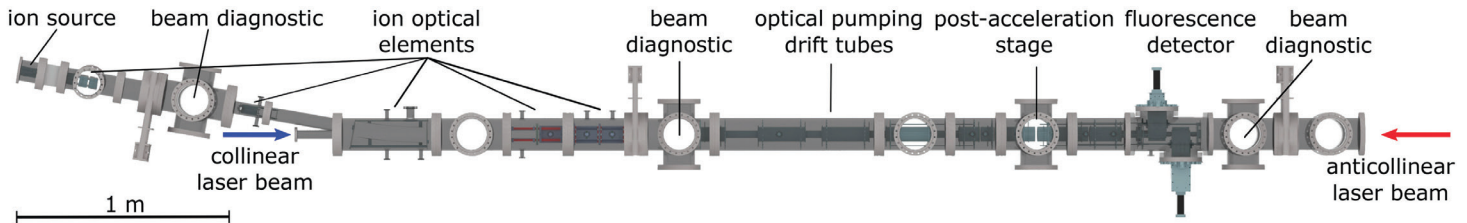


beyond the product itself," noted Ronny Zingre, CEO, MBV. "The feedback collected from a global customer base by a Merck application specialist also boosts our ongoing innovation capability."



MBV AG
Microbiology and Bioanalytic
Industriestrasse 9
CH 8712 Stäfa
Telefon: +41 44 928 30 80
Telefax: +41 44 928 30 89
E-Mail: welcome@mbv.ch
Internet: <http://www.mbv.ch>





Schematic overview of the Collinear Apparatus for Laser Spectroscopy and Applied Physics (COALA) beamline.

Pfeiffer Vacuum awarded supply contract from TU Darmstadt for DREEBIT ion beam system

- Laser spectroscopic measurement of atomic radii
- Dresden subsidiary DREEBIT GmbH to deliver required ion beam system
- Innovative vacuum apparatus

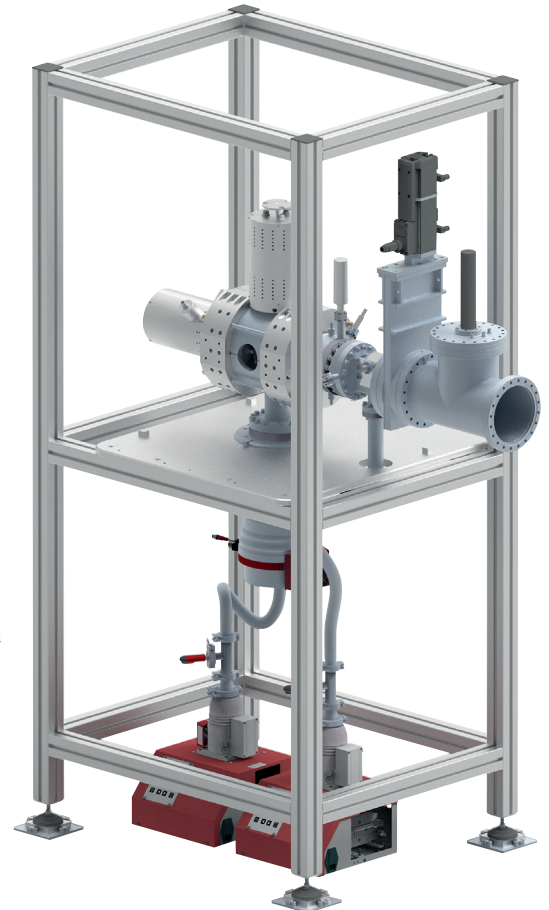
Pfeiffer Vacuum has been awarded a major contract from the Technical University of Darmstadt for the delivery of a DREEBIT ion beam system for use at the Technical University of Darmstadt's Institute of Nuclear Physics. The Darmstadt researchers in the LaserSpHERE working group conduct precision experiments involving the interface of atomic, nuclear and particle physics. The research focuses on the laser spectroscopy of highly charged ions and exotic short-lived isotopes.

Construction of the "Collinear Apparatus for Laser Spectroscopy and Applied Physics" (COALA) large-scale research facility began at the end of 2014 at the TU Darmstadt's Institute for Nuclear Physics, where the commissioned ion beam facility will be used. For the experiment, the EBIS-A type ion source used will generate electrically charged ions of light chemical elements which will be coupled into the beamline of the COALA apparatus. A clean ultra-high vacuum is essential to ensure the particles can move as freely as possible in the beamlines. An extremely powerful and reliable vacuum generator is necessary to maintain such a low pressure. This is even more so in the case of the new ion source since the ions remain in this for a much longer time.

Each element emits and absorbs the light of certain, very precisely defined wavelengths, which are perceived as a color by the human eye. This property is also the basis behind the appearance of colors in fireworks. The color depends on the chemical element and the state of charge of the atom. Very precise measurement of the wavelength not only provides information about the chemical element and its state of charge but it is even possible, through comparison with highly precise theoretical calculations, to determine the size of the atomic nucleus.

Prof. Dr. Wilfried Nörtershäuser, head of the working group at the TU Darmstadt, explains the technical advantages of the COALA beamline: "Up to now, spectroscopic measurement of atomic radii has only been carried out on hydrogen-like systems with a single electron, since the theory is only sufficiently accurate for this. Experimentally, however, these simple atomic systems have the disadvantage that

DREEBIT ion beam system for generating charged particles for the experiment.



the wavelengths to be used lie well into the ultraviolet range of the optical spectrum and are therefore difficult to access with today's laser systems. Currently, however, there are promising efforts to achieve the required accuracy even for more complex helium-like systems with two electrons. Their wavelengths are much more accessible for laser systems and in the future will allow the radii of atomic nuclei from helium to nitrogen to be determined much more precisely than is currently possible. The COALA apparatus will provide the ideal conditions for this once the DREEBIT ion beam facility with the EBIS-A ion source has been installed."

Since DREEBIT GmbH was founded in 2006, the "Ion Beam Technology" division has developed and brought to market various ion source types such as EBIS and ECRIS, which are principally used in particle accelerators for research and medical applications, such as ion beam therapy. Since 2017, DREEBIT GmbH has been part of the Pfeiffer Vacuum Group, focusing on the development of special systems and servicing of vacuum products. Some 70 people are currently employed at the Dresden and Großröhrsdorf locations.

The research project is supported by the German Research Foundation (DFG) within the Collaborative Research Center (SFB) 1245.

A Thin-Film Short-Wave-InfraRed Image Sensor with Sub-2 μ m Pixel Pitch

The monolithic integration of the thin-film photodetector with CMOS readout circuitry offers a path to high-throughput wafer-level manufacturing

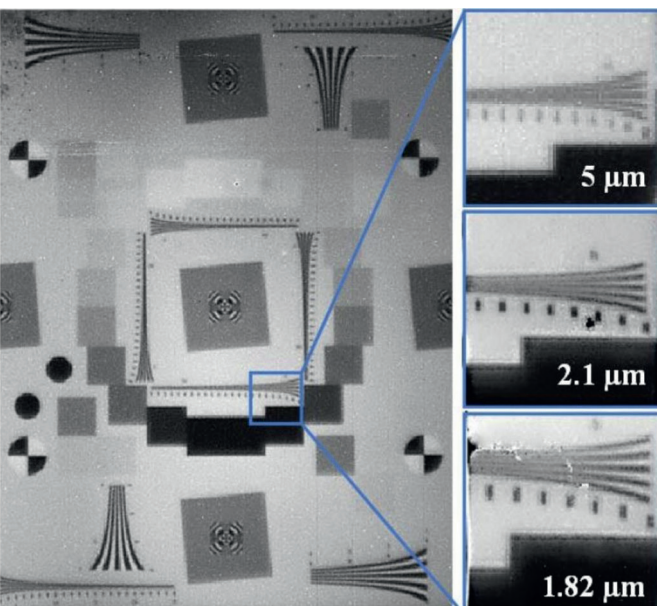
Imec, a world-leading research and innovation hub in nanoelectronics and digital technologies, presents a prototype high-resolution short-wave-infrared (SWIR) image sensor with record small pixel pitch of 1.82 μ m. It is based on a thin-film photodetector that is monolithically integrated on a custom Si-CMOS readout circuit. A fab-compatible process flow paves the way to high-throughput, wafer-level manufacturing. The presented technology largely exceeds the capabilities of today's InGaAs-based SWIR imagers in terms of pixel pitch and resolution, with disruptive cost and form factor potential. New applications are enabled even in cost-sensitive domains, such as in industrial machine vision, smart agriculture, automotive, surveillance, life sciences and consumer electronics. Imec will present these results at IEDM Conference 2020 in session 16.5.

Sensing in the short-wavelength infrared (SWIR) range (with wavelengths from around 1400 nm to above 2000 nm) offers advantages over the visible (VIS) and near-infrared (NIR) range for some applications. SWIR image sensors can, for example, see through smoke or fog, or even through silicon – which is especially relevant for inspection and industrial machine vision applications. To date, SWIR image sensors are produced through a hybrid technology, in which a III-V-based photodetector (usually InGaAs-based) is flip-chip bonded to a silicon readout circuit. These sensors can be made extremely sensitive, but the technology is quite expensive for mass manufacturing and limited

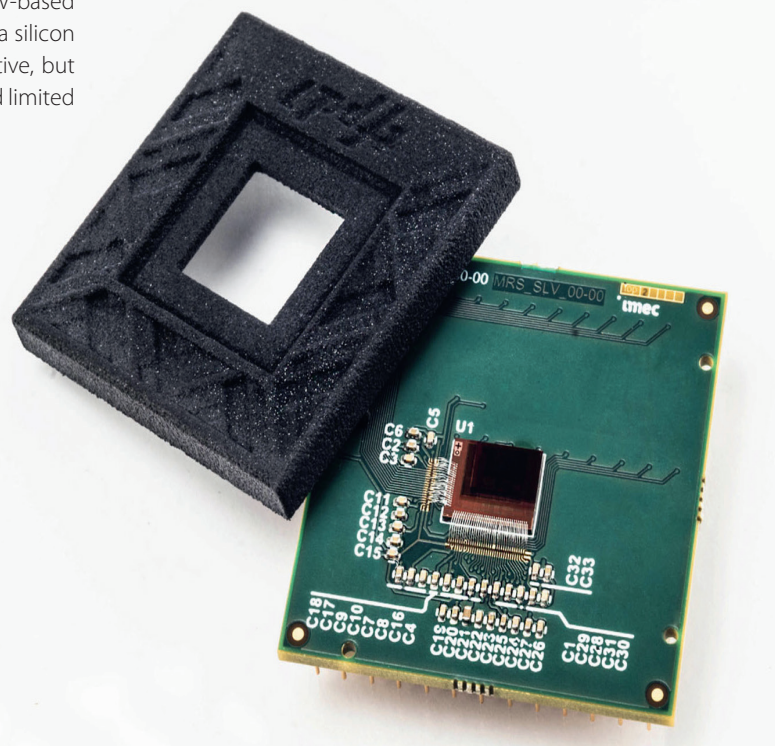
in size of pixel and number of pixels – hindering its adoption in markets for which cost, resolution and/or form factor are crucial.

Imec introduces an alternative solution that enables record small sub-2 μ m pixel pitch, by monolithically integrating a thin-film photodetector stack with a Si-CMOS readout circuit. The photodetector pixel stack implements a thin absorber layer such as 5.5 nm PbS quantum dots – corresponding to peak absorption at 1400 nm wavelength. The peak absorption wavelength can be tuned by adjusting the nanocrystal size and is extendable to wavelengths even above 2000 nm. At the peak SWIR wavelength, an external quantum efficiency (EQE) of 18% is obtained (and can be upgraded towards 50% with further improvements). The photodetector stack is monolithically integrated with a custom readout circuit, processed in 130 nm CMOS technology. In this readout circuit, the 3-transistor pixel design was optimized for the scaling of pixel size in the accessible 130 nm technology node, resulting in record small pitch of 1.82 μ m for the prototype SWIR imager.

Pawel Malinowski, imec's thin-film imagers program manager: "With our compact, high resolution SWIR image sensor technology, we



SWIR images for 3 different pixel pitches. Highest resolution images could be captured with the smallest (1.82 μ m) pixel pitch.



The thin-film photodetector was monolithically integrated on a custom Si-CMOS readout circuit. (Source: Imec)

Imec Presents a Thin-Film Short-Wave-InfraRed Image Sensor

offer our customers a path to affordable low-volume manufacturing within imec's 200 mm facility. These image sensors can be deployed in industrial machine vision (e.g. photovoltaic panel monitoring), smart agriculture (e.g. inspection and sorting), automotive, surveillance, life sciences (e.g. lens-free imaging) and many more. Due to their small form factor, they can potentially be integrated in small cameras, such as in smartphones or AR/VR glasses – with eye-safe SWIR light sources. Some of exciting future developments include increasing of the EQE (which currently is already at 50% in SWIR on test samples), reducing

the sensor noise and introducing multispectral arrays with customized patterning approach."

The prototype SWIR image sensor was developed in imec's Pixel Technology Explore research program. In this activity, imec collaborates with material companies, image sensor companies, equipment suppliers and technology integrators to develop accessible innovative and customized CMOS imaging technologies.

IMEC Belgium BL 3001 Leuven

One-stop shopping

Endress+Hauser makes instrument selection easier on endress.com

More and more measurement instruments are being ordered online from Endress+Hauser. In the first five months of 2020, incoming orders via endress.com nearly doubled. With the introduction of the new FLEX product segmentation structure, integration of the global E-direct portal into the website and further optimization of the e-commerce area on endress.com, finding and ordering the right products online will be even faster and easier for customers.

"By merging both shops and introducing several innovations on endress.com, we are making it even easier for customers to do business with us digitally," says Nikolaus Krüger, Chief Sales Officer at the Endress+Hauser Group. While the global E-direct portal was designed for simple products that serve basic measurement needs, endress.com offers the

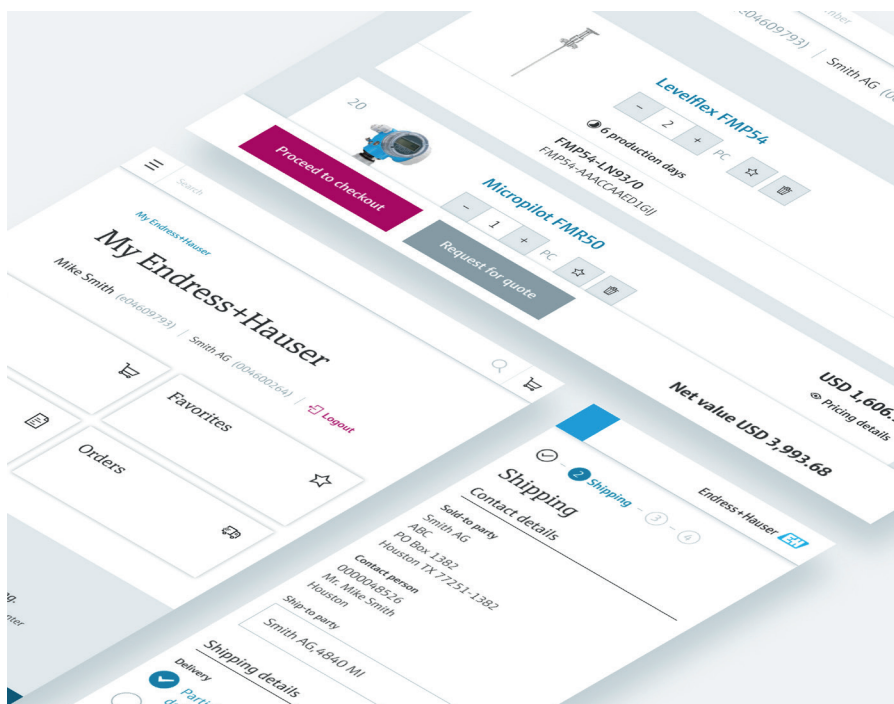
entire Endress+Hauser portfolio. With the migration on course to be completed by the end of the year, everything will be available at a glance and from a single source online, thus eliminating the need to switch shops and accounts.

To do that the FLEX product segmentation was introduced on endress.com. This

new feature supplements the existing selection options and divides the Endress+Hauser measurement instrument portfolio into four areas according to the needs of the customer. The 'Fundamental' segment contains basic products that are easy to select, install and operate. 'Learn' features reliable and robust instruments designed for the efficient management of core processes. 'Extended' shows all innovative process optimization technologies, while the 'Xpert' segment combines specialized products for demanding applications. "FLEX makes it even easier for our customers to locate the right product for their individual needs," says Nikolaus Krüger.

Newly revamped e-commerce section to provide the best possible user experience

In addition, the endress.com e-commerce area was expanded with useful functions to improve the user experience. After signing in, customers can now use their 'My Endress+Hauser' account to more easily manage all of their activities, such as product offers and orders. The account structure, shopping cart and checkout have been optimized as well. Enhanced order tracking provides full transparency, which now gives customers the ability to call up the status of their orders at any time and from any device.



With the new FLEX product segmentation structure, selecting measurement instruments from the Endress+Hauser website will be even easier.

FINAT Awards: Three First-Place Awards for Schreiner

Schreiner Group Makes Clean Sweep in 2020 FINAT Label Competition

The presentation of the 2020 FINAT Awards was a resounding success for Schreiner Group. The high-tech company based in the Munich metropolitan area convinced the jury of its product entries in three categories: The Autoinjector-Label and the Covert-Hologram Seal from Schreiner MediPharm and a translucent Color Film with a value-adding function from Schreiner ProTech each received a first-place award. The annual awards are presented by the European Association for the Self-Adhesive Label Industry (FINAT) that celebrates its 40th anniversary this year.

Schreiner Group went home with no fewer than three prizes from this year's awards ceremony of the FINAT Label Competition, although the expression "went home" was not completely appropriate: For the first time in FINAT's history, the awards ceremony was held without guests and an in-person audience, but streamed online. Even though, due to corona, the setting was unusual for everyone, it was a gratifying and memorable occasion. Schreiner Group was represented by Dr. Josef Adelsberger, who leads a research and development team and, as a winner, was on camera during the event.

One of the awards went to Schreiner MediPharm's Autoinjector-Label for TEVA in the "Pharmaceutical" category. This label featuring special abrasion protection was developed by Schreiner Group's business unit for TEVA, a globally active Israeli pharmaceutical corporation, for the purpose of ensuring permanent legibility of all the vital user instructions and product information. In 2019 the label had won the TLMI Award. Another product entry from Schreiner MediPharm, the multifunctional Covert-Hologram Seal, was award first place in the "Security" category. Due to an initially covert holographic effect, this label provides reliable, irreversible tamper evidence for pharmaceutical packaging and additionally features covert counterfeit protection elements.

Another award went to a translucent Color Laser Film from Schrei-



ner ProTech in the "Industrial" category. This product entry is a partially light-permeable marking solution that permits backlighting of customized inscriptions or symbols and, due to its double-sided adhesive coating, additionally functions as a component bonding technique. It combines the positive properties of the classic Color Laser Film (CLF) with the benefits of translucency and the performance characteristics of Schreiner ProTech's bonding solutions.

For President and CEO Roland Schreiner, the prizes once again underscore the innovative prowess of the family-owned and managed company: "I'm delighted about these awards because they show that our products stand out in a wide range of sectors. This is great motivation for all of our employees."

Schreiner Group GmbH & Co. KG D 85764 Oberschleißheim

SIGMA technical talks

New online seminars to start the new year

The web-seminar-series that informs about the potentials and applications of modern injection molding simulation at the beginning of the new year. The exclusive presentations by many partners provide a deep insight into the numerous branches of the injection molding industry.

SIGMA Engineering GmbH („SIGMA“) based in Aachen, Germany, is hosting a web seminar series to kick off the new year. Participants can expect web presentations covering the entire injection molding process, showing the potential and possible applications of modern injection molding. The seminars will take place in themed weeks, starting on February 16th.

The first week, will start with the technical talk Elastomer, February 16th and 18th 2021, and exclusive web presentations from LWB Steinl, Peta Formenbau and Plasmatrete. The partners will inform about the

current state of the art and progress in elastomer injection molding.

The second week the technical talk LSR, February 26th and 28th 2021, will also be filled with fascinating presentations on the development of medical technology products. In addition to presentations by ARBURG and WACKER Chemie, the Rico Group and ELMET will also be represented and will provide a detailed insight into the potential of LSR applications.

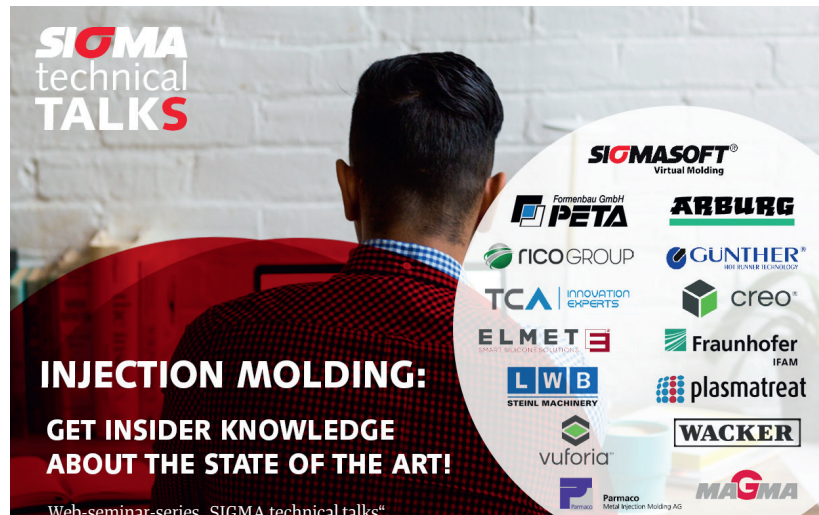
The third week under the topic technical talk Thermoplastics, March 2nd and 4th 2021, offers a detailed insight into the potential

SIGMA technical talks

of thermoplastic application areas from mold design to the simulation of a large flat surface. Experts-led lectures are featured by the companies Creo Software from TCA, Vuforia Software from TCA and GÜNTHER Hotrunner.

The technical talk MIM/CIM, March 9th 2021, shows the latest state of development in metal injection molding and offers current trends straight from the source. ARBURG, Parmaco and Fraunhofer IFAM will inform you about the challenges as well as the advantages of the MIM/CIM process and provide insights into machine and mold options as well as process evaluation and optimization.

SIGMA Engineering GmbH
D 52072 Aachen



The image is a promotional graphic for a SIGMA technical talk. It features a man in a red checkered shirt looking at a screen. The text reads: "SIGMA technical TALKS", "INJECTION MOLDING: GET INSIDER KNOWLEDGE ABOUT THE STATE OF THE ART!", and "Web-seminar-series SIGMA technical talks". A circular collage of logos is on the right, including SIGMASOFT Virtual Molding, PETA, ARBURG, RICO GROUP, GUNTHERR, TCA INNOVATION EXPERTS, creo, ELMET, Fraunhofer IFAM, LWB STEIN MACHINERY, plasmatrete, WACKER, vuforia, and Parmaco Metal Injection Molding AG.

ACHEMA postponed to 2022 - AICHEMA Pulse in June 2021

Seven months before the start the organizers have decided to postpone AICHEMA to April 4-8, 2022 after intensive consultation with exhibitors and partners. With this early decision DEICHEMA wants to give exhibitors planning security in the light of the long-term preparation and investment required by a show of this size. The AICHEMA Committee, representing the exhibitors, had previously also unanimously voted for a postponement to 2022, expressing at the same time their strong commitment to AICHEMA.

„Our claim is to be the global meeting place for the process industry and to make it possible to experience it with all senses“, explains Dr.-Ing. Thomas Scheuring, CEO of DEICHEMA Ausstellungs-GmbH. „As things stand at present, we will not be able to live up to this claim in June 2021, because we have to assume that travel will not yet be unrestricted at that time“. The organizers see the postponement by about nine months as an opportunity to create a diverse, lively and multi-sensorial AICHEMA. „We want to meet the expectations of exhibitors and visitors for an AICHEMA“, explains Dr. Björn Mathes, Member of the Executive Board of DEICHEMA Ausstellungs-GmbH. This requires a comprehensive exhibition program and the opportunity for personal contact.

ACHEMA Pulse in June 2021

However, exhibitors and visitors do not have to do without the global exchange on the latest trends in the chemical, pharmaceutical and food industries in June 2021: From June 15-16, 2021 AICHEMA Pulse will provide inspiration for new solutions that the industries urgently need right now. Presentations by top-class and visionary speakers will shed light on the latest topics in the process industry, linked to interactive discussion formats and lectures that address key global issues of relevance to the AICHEMA community. In addition to the focus topics Digital Lab, Modular and Connected Production and Product and Process Security, these include the launch of the Digital Hub with its many aspects. Sustainability is also on the agenda of AICHEMA Pulse. In virtual PRAXISforums participants can find out about concrete

technology developments. In addition, the winning teams of the first AICHEMA Innovation Challenge will present their solutions to the global community. In this interactive competition teams of students, companies or start-ups develop solutions to questions that currently concern many companies. The Challenge starts in January 2021, pre-registration will open shortly.

Interactive platform

Via the AICHEMA Pulse Platform, exhibitors and participants can also expand their business networks, make contacts and start conversations. The platform deliberately dispenses with a graphically animated exhibition. Instead, it offers fully integrated digital company and product/service profiles in which exhibitors can individually present the diversity of their offerings. Participants can contact each other at any time via chat, audio or video call. In addition, sophisticated matchmaking options allow contact to be established on the basis of offers or requests or even speed dating based on common areas of interest. The intelligent individual calendar ensures that time at AICHEMA Pulse can be used optimally.

This makes AICHEMA Pulse an interactive and flexible business platform for the process industry, which further brings the AICHEMA motto „Inspiring Sustainable Connections“ to life. „When developing the platform it was important to us that the AICHEMA community has numerous opportunities to take advantage of this business platform and initiate discussions or topics themselves. More digital interaction is part of the strategic concept of future AICHEMAs, and we are glad that we started developing a corresponding offering at a very early stage,“ says Björn Mathes. „This is not a substitute for a physical exhibition, but rather a valuable addition, which however already now offers us the opportunity to set impulses and initiate contacts that can be developed further until April 2022“.

DEICHEMA Ausstellungs-GmbH
D 60486 Frankfurt am Main

MEDICA Start-up COMPETITION and Healthcare Innovation World Cup also offered pure excitement in virtual format

Fireworks of creative developments: When the algorithm detects arthritis during X-ray

From the early diagnosis of arthritis to a sustainable energy source and the Wearable, which non-invasively determines the level of urine in the bladder: The great variety of digital health innovations was again reflected this year at the world's leading medical trade fair MEDICA, which, due to a pandemic, took place completely in virtual format as virtual.MEDICA from 16 - 19 November 2020. The creative start-up scene was able to compete in two competitions at the same time, offering a firework of ideas: the 9th MEDICA Start-up COMPETITION (17.11.) and the 12th HEALTHCARE INNOVATION WORLD CUP (16.11.).

The winner of the MEDICA Start-up COMPETITION 2020 was Radiobotics from Denmark. Stine Mølgaard Sørensen, co-founder of Radiobotics, presented 'RBknee' in the pitch session. This is the young company's first CE-certified product. It automatically generates findings relevant for the radiological diagnosis of osteoarthritis of the knee and presents them in a text report including conclusions. In addition, it visually displays what the algorithm has detected. In an

interview with MEDICA.de, Sørensen emphasises that the company develops robust and clinically validated algorithms for the radiology of the musculoskeletal system. Radiology - and X-rays in particular - are, in her opinion, particularly suitable for evaluation by algorithms, as images are two-dimensional and can be evaluated relatively easily. The software should free the doctor from routine examinations and increase throughput by automating the analysis and reporting of routine X-ray images and optimising the workflow. Radiobotics is primarily aimed at use in diseases with relatively low risk but high rates of use. „We want to develop something that we can use right now,” says Sørensen. To do this, the software works with the widely used picture archiving system PACS. Sørensen reports that Radiobotics is cooperating with Berlin's Charité hospital and is thus gaining experience in working with German hospitals. The start-up is headquartered in Copenhagen and sees great potential in the European market. The attention that winning the MEDICA Start-up COMPETITION 2020 will bring gives further impetus to the further development of the company. In the next six months, the company plans to move into the USA and Great Britain. In order to be prepared for internationalisation, a further round of investments is planned.

ETH Zurich was also able to climb the virtual winners' podium of MEDICA start-up COMPETITION 2020 with the development of 'MY-LEG'. The aim is to give leg amputees back the feeling of walking. This is because a lack of feeling and thus the lack of feedback from the feet can often lead to falls. A new type of additional device, which is used in addition to the commercially available prosthesis, prevents this. It provides feedback via an insole with sensors in combination with a portable stimulator embedded in a belt. The ETH Zurich team was thus able to take third place.

Bio fuel cell for disposable medical devices

With BeFC, a French start-up took second place at the 9th MEDICA Start-up COMPETITION. It was also one of the three equal 1st place winners at the HEALTHCARE INNOVATION WORLD CUP 2020, although what the start-up offers is not, at first glance, in the health sector. „At BeFC, we primarily design and produce our innovative paper-based biofuel cell, which is intended to serve as a sustainable and environmentally friendly energy solution for Internet-of-things devices and connected applications with low power consumption,” report Jules Hammond, BeFC Managing Director, and Dr. Marie Berthuel, Senior Scientist & Communication Manager. A closer look reveals the sense of the use of this product in the healthcare market, where disposable medical devices are often used, for example to reduce the risk of contamination. However, these devices are usually powered by button or button cell batteries. Such miniature batteries are usually sealed in



MEDICA Start-up COMPETITION and Healthcare Innovation World Cup

the product. Therefore, according to BeFC, recycling can be complex, time consuming and expensive. „BeFC solves this ecological dilemma by offering a sustainable alternative to conventional miniature batteries,” Hammond and Berthuel describe after winning the prizes at virtual.MEDICA 2020. Now BeFC wants to focus on industrial testing of paper fuel cells and changing the production process, the two explained after the announcement of the winner and added to MEDICA.de: „We also want to expand our team with talented and experienced people to support our growth. We also hope to continue to work with innovative companies to develop the next generation of environmentally friendly IoT devices - as our slogan summarises: „Driving the future together with nature“.

No less interesting are the two other winners of the Innovation World Cup 2020. inContAlert from Germany presented an application of the same name, „inContAlert’ being a system for non-invasive measurement of the bladder filling level. And a huge market potential could be opened up for PKvitality with the, K’Watch’ application. This is the first system to measure blood sugar via a Smartwatch.

The 9th MEDICA Start-up COMPETITION and the 12th Healthcare Innovation World Cup were part of the MEDICA CONNECTED HEALTHCARE FORUM, which, as the English language programme component of virtual.MEDICA, offered a variety of 36 sessions (with 56 speakers) on current digital health trends and innovations over the four days of the event. A compact review of the highlights of the forum and the start-up competitions is available online at: <https://www.medica.de/mchf1>.



virtual.MEDICA 2020 and the parallel supplier trade fair virtual.COMPAMED 2020 attracted a total of 45,000 unique users from 169 countries, who used the virtual event offerings to generate 405,000 page impressions.

MEDICA 2021 and COMPAMED 2021 will be held from 15 to 18 November 2021 in a hybrid concept consisting of a combination of live platforms for trade visitors at the Düsseldorf Exhibition Centre plus virtual offers.

Messe Düsseldorf GmbH
D 40001 Düsseldorf

Leipziger Messe Takes Over PaintExpo, the World’s Leading Trade Fair for Industrial Coating Technologies

On 1 December 2020, Leipziger Messe took over PaintExpo from FairFair GmbH. Since the trade fair was first established in 2006, PaintExpo has taken place every two years in April at Messe Karlsruhe. PaintExpo has become the world’s leading trade fair for industrial coating technologies with 537 exhibitors from 29 countries and 11,790 expert visitors from 88 countries attending the last event. The next PaintExpo will take place from 26 to 29 April 2022 in Karlsruhe.

„PaintExpo is a perfect fit for us. I look forward to working with PaintExpo’s strong partners, the international exhibitors and visitors and the current exhibition team. With our extensive expertise in industrial fairs, together we will continue to expand PaintExpo as the world’s leading platform,” says Markus Geisenberger, Chief Executive Officer of Leipziger Messe. „PaintExpo is now part of the Leipziger Messe portfolio – this sends a strong signal. We want to take this opportunity to further strengthen our portfolio and market position, particularly at such a challenging time.“

Jürgen Haußmann, Managing Director of FairFair GmbH explains: „I am pleased that PaintExpo has now become part of Leipziger Messe and that this will ensure the necessary continuity for customers. Leipziger Messe’s proven expertise in organising successful international trade fairs and its strong service orientation will help lead the way for PaintExpo’s future development. I am sure the event’s success story will continue.“

Haußmann, who founded PaintExpo in 2006 and expanded it to the world’s leading trade fair for industrial coating technologies, will continue to play an advisory role. In addition, Leipziger Messe is taking

over the PaintExpo exhibition team and site in Oberboihingen, Baden-Württemberg. Leipziger Messe will continue the event’s highly successful cooperation with its existing partners, JOT – Journal für Oberflächentechnik (Springer Fachmedien Wiesbaden GmbH) and Messe Karlsruhe – the PaintExpo venue.

Gerhard Ohmacht, Executive Director of the Trade and Industrial Fairs Division at Leipziger Messe, is responsible for PaintExpo’s future development. Ohmacht, an industrial engineer specialised in technical sales and sales communication, has many years of management experience in industry and B2B environments. Since March 2020, he has been responsible for the industrial and trade fair portfolio at the Leipziger Messe Group of Companies.

The PaintExpo acquisition process was supported by the broker Fair Relations GmbH.

The next PaintExpo will take place from 26 to 29 April 2022 in Karlsruhe.

FairFair GmbH
D 72644 Oberboihingen

Teknova completes FDA notification for room temperature-stable viral transport medium

Eliminating the need for refrigeration of samples will boost coronavirus testing worldwide

Teknova, a leading manufacturer of cell culture media and supplements, purification buffers, and molecular biology reagents, has completed the process of FDA notification for its Active Viral Transport Medium (ATM). ATM is a room temperature-stable version of Teknova's CDC formulation Viral Transport Medium (VTM) and is manufactured under

GMP conditions in compliance with ISO 13485 standards.

The requirement for refrigerated storage and transport of nasopharyngeal samples for viral testing poses significant logistical and financial challenges that have increased dramatically with mass COVID-19 testing. Teknova's proven track record of rapid product development and expertise in media formulation make the company ideally placed to face these challenges head-on.

On the subject, Teknova CEO Stephen Gunstream said, "After the successful rollout of our VTM, we were looking for new ways in which Teknova could help in the fight against COVID-19. We realized that developing a transport medium that eliminates the need for refrigeration of samples during storage and transport would allow healthcare systems worldwide greater access to COVID-19

testing."

After sample collection, ATM maintains viral stability at room temperature for up to 72 hours and can also be stored at room temperature prior to use. ATM is tested for pH (USP <791>), conductivity (USP <644>) and sterility, and additional quality control is applied in the form of bioburden testing (USP <61>). Using bovine serum albumin for ATM instead of fetal bovine serum (FBS) provides better lot-to-lot consistency and eliminates the risk of RNA degradation by RNases present in FBS, giving users and clinicians greater confidence in their test results.



Teknova
CA 95023 Hollister
Vereinigte Staaten

Save the Date: POWTECH 2022 starts in late summer

The next POWTECH will be held from August 30 to September 1, 2022 in the Exhibition Center Nuremberg. The organizer Nürnberg-Messe, together with the honorary sponsors Arbeitsgemeinschaft für Pharmazeutische Verfahrenstechnik (APV) and VDI-Gesellschaft Verfahrenstechnik und Chemieingenieurwesen (VDI-GvC), has defined this date in close consultation with the Advisory Board and the exhibitors. The new date in late summer ensures planning reliability for exhibitors and visitors alike and embeds POWTECH ideally in the event schedule of the process industries.

POWTECH is the leading trade fair for powder and bulk solids processing and analytics and is usually held every one and a half years in the Exhibition Center Nuremberg. After a Corona-related break in 2020, the organizers and honorary sponsors initially planned a date in April 2022. An increasingly busy schedule for the industry in the spring of 2022 has now tipped the scales in favor of moving POWTECH to August 30 to September 1, 2022. The late summer date will make it significantly easier for visitors to attend POWTECH. In a survey, a majority of POWTECH exhibitors were also in favor of adjusting the date. In the following year, POWTECH will take place in autumn as scheduled, from September 26 to 28, 2023, then as a double event with the international PARTEC Congress on Particle Technology.

„Our exhibitors and visitors urgently long for POWTECH. At the same time, it is important to them that optimum conditions prevail for the leading exhibition," explains Beate Fischer, Director POWTECH at NürnbergMesse. „The date at the beginning of September 2022 offers the ideal perspective for this: it gives hope for largely restored travel

conditions and avoids overlaps with other international events of the POWTECH industries. With its new September date, POWTECH 2022 will become the driver for exhibitors' successful year-end business and bring valuable impulses for all visitors."

Digital offerings build bridges

Until the on-site show starts, POWTECH will continue to offer digital formats and platforms to keep the global dialogue and knowledge exchange of powder and bulk solids experts going. The POWTECH virtualtalks webinar series regularly offers top-class presentations from the POWTECH topic area. The POWTECH WORLD MAGAZINE presents solutions and news from exhibitors at all events in the POWTECH WORLD family.

NürnbergMesse GmbH
D 90471 Nürnberg

Arburg Summit: Medical 2020 – summit meeting with more than 400 industry experts

- A successful event: More than 400 participants from more than 40 countries attend the virtual Arburg Summit: Medical
- Prestigious speakers: Twelve specialist lectures on Solutions, Innovations and Visions
- Medical technology trends: From pre-filled syringes to Lab-on-a-Chip and additive implants

Anyone seeking to get one step ahead and sniff out trends in medical technology, made a point of attending the Arburg Summit: Medical 2020 on 19 November. Thanks to the digital format of this summit meeting, twice as many guests were able to attend as were at the comparable, physical event in the previous year. More than 400 participants from more than 40 countries were there to inform themselves about current developments, innovative applications and visions, and to exchange views at the highest level with many medical technology experts. The interactive response was intense and vibrant. The twelve lectures focusing on „Solutions“, „Innovations“ and „Visions“ were accompanied by a high-calibre panel discussion. This special event was enhanced yet further by interactive breakout sessions with expert discussions and live presentations of exhibits in the Customer Center in Lossburg. The summit was chaired by Guido Marschall from plastics channel Plas.TV.

„Even before the start of our virtual summit, we received very positive feedback from our invited guests and were able to register many more participants than would have been possible at a present event, based purely on capacity,“ pointed out Gerhard Böhm, Arburg Managing Director Sales. „With this digital format, exceptionally challenging in terms of content as well as technology, has taken us down new paths. And feedback confirmed this: Our Arburg Summit: Medical 2020 was ‘the place to be’ in the field of medical technology.“

Keynote speech focused on the future of medical technology

A particular high point of the event came with the keynote speech delivered by Prof. Dr-Ing. Marc Kraft, Head of Department Medical Technology at the Technical University Berlin and Chair of VDI's „Technologies of Life Sciences“ association. On the basis of a few examples, he highlighted current trends in medical technology that are set to continue in the coming decades, laying the bedrock for the ensuing panel discussion. In this context, Prof. Ute Schäfer (University of Graz), Dr Andreas Herold (B. Braun), Niklas Kuczaty (VDMA Working Group Medical Technology) and Gerhard Böhm (Arburg) discussed the topic of „Medical technology – challenges and prospects for 2050“. Everyone agreed that, by 2050, technology-driven companies would have a clear advantage. By then of course, many products would no longer come from factories but would instead be manufactured individually and close to the patient, e.g. directly in the hospital or even in the operating theatre. Nonetheless, quality would remain Job One. „We perceive a megatrend in the field of Additive Manufacturing and also a rise in the significance of digitalisation and sustainability“, acknowledged Gerhard Böhm. „These are all topics that we are also intensively preoccupied with. Arburg is therefore very well prepared for a future in which plastic will remain a valuable material that is important to life.“

Twelve informative lectures – something for everyone

Earlier in the summit, four concurrent panel sessions were held, each containing three lectures on „Solutions“, „Innovations“ and „Visions“ – there really was something for everyone. The topics ranged from concepts for the production of LSR injection moulded parts and mi-



Expert discussions in the live stream: At the Arburg Summit: Medical 2020, each of the connected speakers answered questions from the participants after their lectures. Interactive elements like this made the event into a ‘tangible’ experience. (Photo: Arburg)

crofluidic systems to the challenges faced by the healthcare industry, details of the Medical Device Regulation (MDR) and digital methods for integrated parts documentation, as well as application examples of innovative high-performance tools and the additive manufacturing of customised implants. Many participants used this opportunity to ask their questions during the event using the chat feature.

Three interactive live discussions and presentations

The Arburg Summit: Medical 2020 was rounded off with three „Live Breakout Boxes“. Here, topics such as cleanroom, LSR processing and additive production could be discussed, with two Arburg experts in attendance for each topic. In addition, they were accompanied to the exhibits by camera teams to present the applications live. Things to see included the production of LSR masks on an electric Allrounder 570 A. At the beginning of the coronavirus pandemic, Arburg and its partners got this project off the ground in record time and developed the face coverings themselves. A stainless steel version of the electric Allrounder 370 A was used to show how clean-room technology can manufacture mass products such as needle holders for insulin pens.

Arburg Summit: Medical 2020 – summit meeting with more than 400 industry experts

And lastly, a Freeformer 300-3X was used to demonstrate the additive manufacturing of resorbable implants. Anyone wishing to know more was also able to make an appointment over the following days with one of the experts in the Online Meeting Lounge.

Positive feedback all round

„Prestigious speakers from science and industry, as well as our own medical technology field and application experts didn't just present trends and innovations," said Gerhard Böhm, reviewing the virtual event. „They also answered exciting questions in live-stream sessions and, by ensuring that the Arburg Summit: Medical 2020 was a highly topical event, very successfully created an ‚tangible' experience."

Juliane Hehl, Managing Partner and responsible for Marketing, was also extremely impressed by the Arburg Summit: Medical. „We successfully ventured into new territory here. We weren't interested in putting on a fairly well-organised alternative for a cancelled trade fair – people are already finding that increasingly boring," said the Managing Partner. „And this boredom factor will grow rapidly in future. But in contrast to that, we will be focusing consistently on added value for our customers. And we shall certainly continue down this path with some interesting formats."

ARBURG GmbH + Co KG
D 72290 Loßburg

Covid-19: interpack and components 2021 cancelled

Uncertainty among companies due to high infection numbers proved too great

In agreement with its partners in associations and the industry, and with the trade fair advisory committee, Messe Düsseldorf has decided to cancel both interpack and components 2021, scheduled to take place from 25 February to 3 March, due to the restrictions related to the Covid-19 pandemic.

"We have done everything we can to do justice to interpack's tremendous importance for the processing and packaging industry, even during this pandemic – above all because we have received encouragement from the industry in support of a face-to-face event and have a hygiene concept that has been tried and tested in practice in place to protect everyone involved. Ultimately, however, feedback from our exhibitors has shown that the uncertainty is too great, and we are thus unable to host an interpack event that would meet the standards of a leading international trade fair," explains Wolfram N. Diener, CEO of Messe Düsseldorf. "On 25 November, the Federal Government and the German states decided to implement stricter measures in Germany, and to possibly even extend these measures into the new year. This, unfortunately, does not give cause for hope that the situation will improve significantly over the course of the coming months. This will affect all Messe Düsseldorf events in the first quarter. We are now focussing on the next edition of interpack, which will take place in May 2023 according to plan, and which we will supplement with extended online offers," Diener goes on to explain.

Messe Düsseldorf had offered registered exhibitors special conditions for their participation and at the same time granted them an extraordinary right of termination for those companies that were unable or unwilling to take part.

"Besides the unique market coverage, it provides, interpack is pri-

marily characterised by the direct exchange of information between market-leading companies and top decision-makers for brand names around the world. This is exactly what is now largely prevented by continuously high infection numbers in core Europe and the associated and continuing travel restrictions and quarantine regulations. We therefore welcome Messe Düsseldorf's decision to cancel interpack 2021 and are focussing on interpack 2023," says Christian Traumann, President of interpack 2021 and Managing Director & Group President at Multivac Sepp Haggenmüller SE & Co. KG.

"For the industry, in-person meetings and live experiences are still extremely important, especially when it comes to complex technology. Both enable a direct market comparison to be drawn and foster new ideas as well as new leads and networks – this is something online formats only offer in part. We are now looking forward to a successful interpack 2023, where the industry can once again come together at its leading global trade fair in Düsseldorf," analyses Richard Clemens, Managing Director of the VDMA Food Processing and Packaging Machinery Association.

Until the next edition of the leading trade fair, the industry can access continuous updates on industry trends, developments and innovations at www.interpack.de. The online offer for components is available at www.packaging-components.de. Additional online options will be made available for exhibitors and visitors of the upcoming interpack and components 2023.

Messe Düsseldorf GmbH
D 40001 Düsseldorf



Arburg will launch its new digital format arburgXvision on 28 January 2021, after which it will continue on a monthly basis.
(Photo: Arburg)

arburgXvision: Arburg goes live on air in 2021

- Live: ten webTV programmes with top experts
- Customer-focused: exciting practical topics as infotainment
- Interactive: digital event brings experts and participants together

The world of plastics can already look forward to the New Year: on 28 January 2021, Arburg will be launching another new digital format. arburgXvision will go on air monthly from then on. The interactive live broadcasts covering all aspects of plastics processing will shed light on important topics closely related to customers. Presentations and clips will explore the topics from different angles. And presenter Guido Marschall from plastics broadcaster Plas.TV will discuss the highlights with top experts who will also answer participants' questions live. Kicking off the series is the topic „o ppm production of plastic parts“.



Juliane Hehl, Managing Partner of Arburg, is looking forward to arburgXvision, the new digital format that combines knowledge transfer with entertainment. (Photo: Arburg)

Digital events have come a long way during this period of coronavirus, as they offer people the opportunity to stay in touch in times of limited face-to-face meetings and also hold great potential for reaching a large number of people quickly, around the globe. „However, there is a serious risk that a flood of more or less well-designed digital events will quickly reduce interest,“ confidently Juliane Hehl, who as Managing Partner of Arburg is responsible for the marketing department. If quality and information content leave something to be desired, the interest of recipients will quickly wane.

First-class digital live event

„But this will certainly not be the case with arburgXvision,“ promises Juliane Hehl. „We will make sure that our format of a digital themed day will offer participants clear added value in terms of knowledge transfer, which they will not get anywhere else. There will also be a reasonable amount of entertainment, so people can really have fun learning with this infotainment.“

Based on these requirements, Arburg has launched its new digital format, as described by Juliane Hehl: „With arburgXvision, we want to fully exploit the digital potential to present exciting topics in a practical, concise and above all entertaining way once a month.“ The company

is setting up its own Arburg studio offering the full range of technical, equipment and infrastructure options especially for this purpose.

Expert knowledge in a nutshell

The company has already gained initial experience of complex digital formats during its successful Arburg Summit: Medical in November 2020. However, the new arburgXvision series will not be focusing on industries or processes, but on specific subjects relating to the everyday life of plastics processors. The first three programmes, for example, look at quality, availability and sustainability. The respective topics will be presented by Arburg experts in a varied mix of expert presentations and clips, and then discussed interactively by allowing participants to ask their questions live. The events hosted by Guido Marschall will last about two hours.

And there's one new feature free of charge: the broadcast language will be German, but a second channel will offer simultaneous translation into English. You can find all information at www.arburg.com/info/arburgxvision, where you can also register for the event.

Pfeiffer Vacuum presents new turbopumps HiPace 350 and HiPace 450

Vacuum presents a turbopump especially dedicated for applications like mass spectrometry, electron-microscopy, metrology tools, particle accelerators and plasma physics. In addition to analytical, vacuum-process and semiconductor technology, their broad range of applications also includes coating, research & development and industrial applications.

HiPace 350 and 450 provide high performance combined with low weight and a small footprint. Based on a hybrid bearing, a combination of ceramic ball bearings on the fore-vacuum side and permanently magnetic radial bearings on the high vacuum side, these HiPace turbopumps have a particularly robust bearing design and guarantee reliability.

The sophisticated rotor design of the turbopumps results in a high pumping speed

for light gases. High backing pump compatibility and high gas throughput as well as excellent compression for light gases are made possible by the innovative rotor design. The rotor design provides high cost-efficiency and flexibility, which allows the pumps to be installed in any orientation.

"These turbopumps are the best combination of size and performance. HiPace 350 and 450 stands for compact and powerful turbopumps in the pumping speed range of 300 to 700 l/s and an extraordinary pumping speed for light gases", says Florian Hens, Head of Product Management Turbopumps.

The integrated HiPace drive electronics offers a variety of communication interfaces, including ProfiNet and EtherCat without any increase in physical size. Remote and sensor functionalities allow the analysis of pump data, such as temperatures. Their quiet operation



Pfeiffer Vacuum HiPace 450

and improved gas loads are setting new standards in the vacuum industry. The pumps are certified to Semi S2, UL, CSA and Nema 12.

Bearing maintenance on-site is possible. Bearing exchange can be done on customer site. The pumps can run up to 5 years without service.

Pfeiffer Vacuum GmbH D 35614 Aslar

New stainless-steel locking screws for easy cleaning and improved safety

Systec & Solutions GmbH has further optimized their HMI systems. An in-house development of the stainless-steel locking screw in the form of a pentagon replaces the previous version with a slit. The locking screw is made of stainless steel and can be used for M20- and M32 openings in their HMI systems, where, e.g. the service USB port is located. The new shape makes cleaning significantly easier for customers. They also benefit from additional safety in cleanrooms. To open the screw, a special tool is needed that is delivered with the HMI system so that not just anybody in the operating environment can open the screw. The new locking screws will

now be gradually introduced as standard in HMI systems of Systec & Solutions.



Systec & Solutions GmbH
Wilhelm-Schickard-Str. 9
D 76131 Karlsruhe
Telefon: +49 (0)721 66 351 0
Telefax: +49 721 6634 444
E-Mail: talk@systec-solutions.com
Internet: <http://www.systec-solutions.com>



Image 1: Stainless-steel locking screws in the form of a pentagon (Image Rights: Systec & Solutions GmbH)

Impressum:

cleanroom online / W.A. Schuster GmbH · Mozartstrasse 45 · D 70180 Stuttgart · Tel. +49 711 9 64 03 50 · Fax +49 711 9 64 03 66
info@reinraum.de · www.cleanroom-online.de · GF Dipl.-Designer Reinhold Schuster · Stgt, HRB 14111 · VAT DE 147811997

Original texts and images

The contributions mentioned by name are the responsibility of the particular author. Reprinting, also of extracts, are permitted only with the approval of the editor and with reference to the source. The publisher does not accept any responsibility for unsolicited manuscripts and illustrations. The publisher is granted the exclusive, spatial, temporal and content limited right to freely use the article in unchanged or edited form for all purposes as often as desired or to transfer it to third parties for use. This right of use relates to print and electric media (Internet, databases, data carriers of all kinds).