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DRRI Expert Sessions cover selected themes in cleanroom technology



Cleanzone 2017: Iran expert Adnan Tabatabai addresses the economic situation in Iran with regard to the cleanroom industry

**17th - 18th October 2017:
CLEANZONE, Frankfurt am Main (D)**

VDI seminar on the VDI 2083 cleanroom guideline series

This year's Cleanzone features a varied supporting programme whose themes include future international markets for cleanroom technology, changes resulting from new technologies, and new cleanroom standards that represent the industry's response to the latest requirements. In addition to exhibitor presentations at the Cleanzone Congress, there will be a series of additional events that offer the opportunity to talk with experts and share ideas.

The Middle East, and Iran in particular, are coming to be seen as particularly attractive markets for many companies in the cleanroom industry, as well as companies in the industries that use cleanrooms – especially the pharmaceuticals industry. What opportunities do these countries offer, and what challenges must be overcome? Participants will be able to obtain answers to these questions in the presentation series “Entering markets in Iran and throughout the Middle East” at the Cleanzone Plaza on Tuesday, 17 October from 2:30 to 3:30 p.m.

Adnan Tabatabai, Managing Director of the Center for Applied Research in Partnership with the Orient (CARPO), is an expert on Iran, and he will be sharing insights into the economic and cultural situation there. He explains: “The process of reintegrating Iran into global markets is well under way, but entails considerable difficulties in the country at political and business levels, as years of sanctions and isolation have left their mark. In addition to the modernisation of industry and infrastructure, Iran is striving to improve living conditions for its people. Progress can be seen most clearly in the healthcare sector, as it is very results-oriented, and allows the international pharmaceuticals and cleanroom industries direct access to good partners, something that makes market entry easier.” Another speaker will be Ciro Del Core, Business Development Manager for Messe Frankfurt Middle East, who will be talking about the market outlook for the cleanroom industry within the region. He will be giving a short presentation on business opportunities for cleanroom companies in Iran.

The German Cleanroom Institute (DRRI) is organi-

Cleanzone 2017: Iran expert Adnan Tabatabai addresses the economic situation in Iran ...

sing Expert Sessions at Cleanzone 2017 for the first time. Gernod Dietel, Chairman of the Board of the DRRI, explains the concept: "With Expert Sessions, we have created a format that offers users from industry the opportunity to discuss current issues and problems in their own production with experts as part of a wider group. As a result, the DRRI is enriching Cleanzone with an event that has a strong practical focus and provides users with real added value."

The DRRI Expert Sessions cover the most important aspects of cleanroom production. Twice each day, there will be round-table discussions addressing the topics of 'Design + Engineering / Standards + Guidelines', 'Measurement Technology / Sensors + Monitoring', 'Process Equipment + Products' and 'Trends of the Future'. The DRRI will be making its experts in these fields available for the event. Anyone who would like to take part in these round-table discussions can submit their current questions and issues in advance by sending an email to cleanzone@messefrankfurt.com. This has two advantages: It gives the experts some time to prepare their response to your requirements, and it allows users to submit their questions anonymously. There will also be an opportunity to submit topics at Cleanzone itself.

VDI 2083 is one of the most important series of standards for cleanroom technology. Now, three new guidelines have been issued

- these cover nano-contamination, tightness of containments and determining the desorption kinetics of materials after exposure to gas. What does this entail for cleanroom production? To answer this question, on 18 October from 9:15 to 11:15 a.m., VDI is holding a free seminar at Cleanzone 2017 in which Michael Kuhn from Steinbeis Transfer Center: Energy, Environment and Clean Room Technology, Dr. Udo Gommel and Dr. Markus Keller from Fraunhofer IPA will address this issue. Participation in the VDI seminar is free of charge. As the number of participants is limited, we ask that you register in advance (www.cleanzone.messefrankfurt.com/vdi-seminar).

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Remarkable glass innovation enables enhanced quality parenteral packaging

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Corning and Gerresheimer have been working together since 2015 to accelerate Corning innovations for the pharmaceutical glass packaging market.

"We are thrilled to be working with Corning on innovations to

enhance quality across the industry. Valor Glass is a remarkable Type I glass with outstanding performance on every attribute," said Uwe Röhrhoff, Chief Executive Officer of Gerresheimer AG.

"Gerresheimer is a long-standing leader in the industry. They've been a terrific collaboration partner, and we're excited to be working with them to bring Valor Glass to the pharmaceutical industry," said Ron Verkleeren, Vice President and General Manager, Corning Pharmaceutical Technologies.

Gerresheimer AG
D 40468 Düsseldorf



Dear subscribers,

while the weather outside is getting cooler, we're already getting ready for a "hot" period of fairs and exhibitions in the next weeks: CLEANZONE, LOUNGES ON TOUR, ILMAC, SWISS MEDTECH EXPO, POWTECH and a few more events are coming up so we won't get bored. There's probably just one thing left to do for you: get registered and make your hotel booking.

Topics in this issue are again broad and fascinating. You can inform yourself about "Technical cleanliness in assembly processes" or about "Off-site Construction - The future of Cleanrooms" or even read on "Digital, modular, automatic maintenance - the chemical plant of the future". And there is even more to find...

Yours sincerely,

Reinhold Schuster

CleanFeed – the universal concept for technical cleanliness in assembly - Prevent particle contamination of sensitive screw assembly components

Technical cleanliness in assembly processes

Just as an aggressive virus can cause illness in humans, the smallest particles can damage components and lead to malfunctions or, if used as system components, could even lead to a complete system failure. There are many reasons that such hazardous particles may be generated during production processes. In the automotive industry particles are predominantly created by abrasion during assembly. DEPRAG Schulz GmbH has therefore developed their "CleanFeed" concept to prevent particle contamination of sensitive components which require a high standard of cleanliness during screw assembly.

Technical cleanliness is increasingly being introduced in a wide range of sectors and is becoming an important quality requirement for the whole process chain: from production to logistics to assembly. The trend toward miniaturisation, as well as increased electronics and the greater use of new lightweight materials is primarily responsible for this. On the one hand, components are more powerful and efficient but on the other hand, they are also sensitive to even the slightest impurities.

An example of the consequences of miniaturisation can be seen in injection systems: These must withstand increasing pressures and already small, they are becoming smaller and smaller in size, in places only a few micrometres. Micrometre sized, hard, metallic particles can block gaps causing continuous injection. This can affect the function of a motor enormously and lead to motor damage. In electronic components, even the smallest conductive particles can cause a short circuit. These problems are amplified by the use of new materials such as carbon-fibre reinforced plastics (CFRP) whose particles are conductive.

There is a wide range of techniques and methods which can be employed to fulfil the increasing requirements for technical cleanliness in production processes. For example, processing steps involving components which are sensitive to cleanliness are relocated to cleanrooms and entry is only permitted to trained personnel wearing appropriate protective clothing. This should avoid any infiltration of particles from the outside. In addition, components undergo extensive cleaning procedures and creation of particles from abrasion during transportation is prevented by using fixed position and anti-static packaging.

The effort involved in the prevention of



Particle Killer



Pick-and-Place



Unterflurschraubeinheit



Hubschienenförderer

particle contamination should be rigorously and continuously maintained throughout assembly because it is here, in direct contact with components, that hazardous particles can be generated through abrasion. The risk is high that sensitive components may become contaminated by dangerous particles. The percentage of such components is high within the automotive and supplier industries where there is an increasingly tight focus on technical cleanliness during the assembly process.

The assembly working area may need to be designed as a cleanroom depending on the component and its cleanliness requirements. An essential role is played by the components of the assembly system as hazardous dirt particles may first be generated during part feeding and the actual screwdriving process. Action must be taken to avoid, combat or reduce particle contamination to sensitive components and modules during these assembly steps.

The specialists in screwdriving technology and automation, DEPRAG Schulz GmbH, based in Amberg, Germany have developed a universal concept to meet these challenges: the CleanFeed concept. It is based on their

specifically designed CleanFeed components, all of which are developed and manufactured on site at DEPRAG. The spectrum includes suitable feeding technology and appropriate screwdriving function modules through to equipment for the suction and extraction of dirt particles generated during assembly. The concept fulfils the requirements of technical cleanliness, avoiding, eliminating and reducing particles throughout the complete screwdriving assembly process.

Undesirable particles may also arise during screw separation. When using a vibratory spiral bowl feeder, for example, the connection elements are moved up the spiral path by pulsing vibrations. This constant vibration can cause parts to rub against each other and create abrasive contaminants, which are then transported into the feed system by the feed parts. Therefore, if there are high cleanliness requirements, a component friendly low abrasion feeding technology is an important prerequisite for technical cleanliness in assembly. The DEPRAG CleanFeed concept sword feeder's segment shaped sword arm lifts screws out of their supply hopper using a stroke movement generating hardly any friction. A sensor in the supply rail regulates

Technical cleanliness in assembly processes

the number of stroke movements required. If fewer parts are being used by the operator, then the feeder will supply fewer parts. The screws slide along the mechanical rails using gravity and are already sorted by the time they reach the screw separator. A feed hose is then used to transport the connection elements to the screwdriving module. Incorrectly positioned elements are returned to the hopper.

Abrasion can however also be generated in the feed hose, primarily at the bends but also when tumbling through straight parts of the hose. DEPRAG has a solution for this as well, their particle killer, a low-cost efficient vacuum source which captures and extracts residual dirt particles. As well as the inline version, which shoots the cleaned connection elements directly into the mouthpiece of the screw tool, they also have a Pick&Place version available which carries out suction cleaning at the pick-up position.

Now the actual screwdriving process begins. The handheld and stationary DE-

PRAG screwdrivers of the MINIMAT-EC-Servo series are specially designed to meet requirements for technical cleanliness in screwdriving assembly. Firstly, the screwdrivers are ESD capable (electrostatic discharge), which prevents deposits of airborne dirt particles caused by static electricity during assembly. Secondly, abrasion is reduced when the bit makes contact with the screw head. "When contact is made, the speed is reduced and then only increased once the correct bit position for screw assembly is established", explains Dipl.-Ing. Robert Bachmeier, Sales Manager for Germany at DEPRAG. The stationary screwdrivers can also be equipped with vacuum connections to extract residual dirt at the screw position. Spindle screwdrivers can be designed for use with under-floor screw assembly to avoid dirt particles falling onto the screw position and contaminating components. "Therefore gravity can be used to meet technical cleanliness standards when assembling parts. Dirt deflectors or special suction equipment can also be used

if required, for simple removal of fallen particles", says Bachmeier. All CleanFeed components, with the exception of the under-floor unit, are available in handheld or stationary design and satisfy cleanroom specifications in assembly (Avoidance of particles sized between 0.1 µm to 5 µm or 1 µm to 1000 µm).

With CleanFeed, DEPRAG offers a universal concept based on decades of experience and know-how in the sector of technical cleanliness. The company even supplied a renowned US manufacturer with screwdriving systems for the assembly of floppy disc drives in the 80s. The assembly specifications for that screw procedure complied with cleanroom requirements. The one-stop-shop: DEPRAG's CleanFeed concept is a solution which guarantees optimal coordination between individual components and processes.

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Plateforme pour la chimie,
la pharmacie et la biotechnologie

ILMAC
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Off-site Construction – The future of Cleanrooms



The introduction of off-site cleanroom construction is just one of the latest innovations to be introduced to the cleanroom industry by leading cleanroom manufacturer, Connect 2 Cleanrooms in-line with other industries / sectors, who are adopting this modern method of construction, seen by key players and the government as crucial to improving efficiency, cost, quality and sustainability.

The Growth of Off-site Construction

The use of off-site construction methods is growing internationally due to improved customer perceptions and its value in the UK is £1.5bn, which is projected to grow to £6bn (UKCES, 2013). This equates to 7% share of the construction industries £90bn annual contribution to the UK economy (HM Government 2013).

Internationally there is momentum to build more off-site and it has been identified by the UK government as a vehicle for the delivery of a more sustainable built environment. Building offsite is a change in construction culture towards a process of continuous improvement with enhanced productivity and as a result it requires being underpinned with research, innovation and training.

Also known as off-site prefabrication (OSP), off-site manufacture (OSM) and as a modern method of construction (MMC), off-site construction has been used in mass production of housing since the early twentieth century.

Pioneering off-site construction methods in the Cleanroom Industry

As the leading manufacturer in modular cleanrooms, Connect 2 Cleanrooms remain forward thinking, focussing on new solutions to ensure product quality and customer choice. With over 15 years' experience they are pioneering new technologies in off-site construction, in-line with other industries. A first in the modular cleanroom manufacturing sector!

Improved safety | Low cost | Low risk | Improved timescales

The off-site construction method can be used for a variety of cleanroom purposes including large open spaces with no internal supports. Using pre-fabricated panels in preference to the frame system, the apertures and fixtures will be prepared off-site to minimise time, reduce safety risks and minimise the need for the specialist trades on site, e.g. electricians.

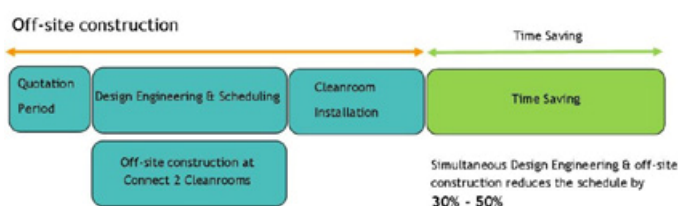
As a more cost effective solution for clients the off-site method allows you to stay within your allocated budget and control lead times, as decisions are made well before the installation date. More time is allocated to the complex and critical design stage, which ensures accuracy and reduces the installation time on site, minimising business disruption, as well as offering a cleaner, safer and less congested site.

Sources:

- Building Offsite. An Introduction by Dr Robert Hairstans, Edinburgh Napier University
- Offsite Production in the UK Construction Industry - HSE
- Offsite is key to construction 2025 - Building4Change

Visual representation

Typical Cleanroom construction methods can be split as follows:



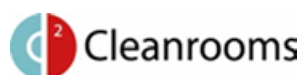
More suited to major construction where areas are clear of equipment, the off-site construction method can be offered where a strong preference to GMP sectors is required, as the structure allows for a fully flush finish. This is achieved due to there being no ledges, using floor to wall, wall to wall and ceiling to wall coving and a fully bonded floor.

Why choose off-site construction for your cleanroom?

The biggest advantage to off-site construction is thought to be the decreased construction time on site, together with increased quality, a more consistent product and reduced snagging and defects. Combined, this construction method can offer you significant financial benefits through increased value, efficiency and sustainability.

The reduction in installation time means less business disruption reducing or eliminating business process downtime. Along with increased quality, less snagging and defects, and reduced waste, this sustainable approach to offsite construction of cleanrooms is the future. Offsite systems correspond to a reduction in waste of between 20% and 40% (WRAP, 2008)

- Simultaneous design engineering & off-site construction reduces timescales from 30%-50%
- Prevents project creep
- Protects your budget



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Providing a quick guide on validation standards and regulations

Cherwell Publishes Cleanroom Decontamination Guide

Cherwell Laboratories, specialist suppliers of products for environmental monitoring, cleanroom bio-decontamination and process validation, has published a booklet titled, "The Pharmaceutical Lab's Pocket Guide to Cleanroom Decontamination."

The guide, which is available to download from Cherwell's website, provides cleanroom operators and laboratory personnel with an

overview of cleanroom decontamination technologies. The aim of the guide is to help the operator understand the complex protocols and heavily regulated procedures associated with pharmaceutical cleanrooms. The guide includes an overview of cleanroom disinfectants; decontamination techniques; decontamination devices and systems that deliver quicker, safer cleanroom decontamination.

The eBook starts with the background to cleanroom standards and regulations, including reference to ISO-14644 parts 1 and 2, as well as the EU Biocidal Products Regulations which are of great importance when choosing a biocide. Also covered is a summary of the different biocidal agents available, the different techniques you can employ to disinfect a cleanroom and points to consider when choosing the appropriate decontamination solution for your cleanroom.

Andrew Ramage, Cherwell Laboratories' Microbiology Product Specialist comments: "This booklet will arm the user with clear and concise information to better understand why and how best to decontaminate a cleanroom. It will be especially useful for inexperienced and trainee operators trying to get to grips with working in that type of environment, and also act as a handy reminder to the basics for more experienced operators."



The Pharmaceutical Lab's Pocket Guide to Cleanroom Decontamination

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OX26 4XB BICESTER Vereinigtes Königreich

There is an increasing trend towards centralization in IT landscapes. This involves creating a client-server architecture that permits the implementation of a remote control solution for the server. Thin Client technology from IGEL provides an ideal means of achieving this conveniently, simply and efficiently.

Low-maintenance, cost-efficient IT systems in clean rooms/ The IGEL UDC 3



The IGEL Thin Client software UDC3 can be installed on all PC-based HMI systems from Systec & Solutions, enabling the HMI to be used as a fully functional IGEL Thin Client. This also makes it easy to incorporate GMP IT hardware into an IGEL infrastructure. Convenient central management and administration of every HMI system is then possible with the free Universal Manage-

ment Suite.

Profiles can be used to pre-define authorization levels and roles for the individual HMIs. The previously specified authorization levels can be instantly assigned to the individual clients using drag and drop or group definitions. The systems can thus be immediately and conveniently integrated into the infrastructure and are soon available for use by the IT personnel. Just a few clicks are required to make individual adaptations or to update profiles for the selected client.

- to the IGEL Thin Client
- Serial interface for scales
- Touchscreen operation, also with PCT multi-touch
- Connection of USB devices
- All standard remote protocols such as RDP, Citrix, Vmware or VNC are supported
- Central profile-based remote administration of all IGEL Thin Clients by Universal Management Suite
- Less expensive than conventional KVM solutions or PCs
- Low maintenance costs



Image Rights: Systec & Solutions GmbH

Further advantages of an IGEL Thin Client in a GMP environment:

- Incorporation of HMI systems into an existing IGEL infrastructure through Ethernet or WLAN
- High-speed 64-bit system
- No need for local virus scanners
- Wireless operation of the IGEL Thin Client with TROLLEY platform by way of WLAN
- Bluetooth is supported – direct Bluetooth wireless connection of barcode scanners



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Spang & Brands Expands its Management Team

Effective July 10th, 2017, Jürgen Mader and Alexander März have been appointed managing directors of Spang & Brands GmbH – kunststofftechnik für die medizin – Friedrichsdorf, Germany. Jürgen Mader, who joined the company in 1980, was previously in charge of development and production. Alexander März joined Spang & Brands in 2014 and managed the mould construction department. From now on, both managing directors will be responsible for technology at Spang & Brands.

During its 30 years of company history as a medical device provider, Spang & Brands has experienced continuous growth. Today, the company employs some 145 experts, including 20 temporary workers, in three shifts. “Due to the permanently expanding business volume over the last years, it was a diligent step to re-structure the company with a view to its future development. The future planning of our company – pushing

new product developments, introducing new technical procedures, optimizing production processes continuously, and creating the basis for new business – is now distributed across the shoulders of the wider management team. Consequently, we assign high priority to the significance and function of our new technology center, which we inaugurated less than two years ago”, says Friedrich Echterdiek, Spang & Brand’s CEO.

Along the complete value-added chain of a medical device specialist, Spang & Brands is able to offer the entire diversity of products optimized in plastics – thanks to its new technology center, state-of-the-art R&D equipment, modern mould construction, as well as cleanrooms of various classes. The machine park includes some 65 injection moulding machines, over 30 of which are all-electric including several electric multi-component units. Special plastics compounds, such as TPU, TPE, and TPV, resomere materi-



In front of the new technology center: l.t.r.: Alexander März, Friedrich Echterdiek, Jürgen Mader (Photo: Thomas Behne)

als or polylactides are being processed. Fully automated and/or manual assembly and packaging of parts and components take place in cleanrooms of various classifications – from pre-production to just-in-time batch sizes, from small series to batches of several million units.

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Grand Prize Award at POWDERMET 2017

Phillips-Medisize produces award winning metal injection molding

Phillips-Medisize Corporation receives the 2017 Metal Powder Industries Federation (MPIF) grand prize award in the automotive engine category at this year’s POWDERMET show.

Phillips-Medisize, along with its customer Delphi, received the award for its metal injection molded (MIM) four-slot fuel valve seat part, which goes into the Multec3.5 compressed natural gas (CNG) fuel injector. The part is currently used for several small-engine and automotive applications, including aftermarket CNG conversions for trucks and cars, helping contribute to a reduction in greenhouse-gas emissions.

“We are honored to accept this award with Delphi. The customer was responding to the market’s need for a low cost, low pressure, port fuel injection (PFI) injector and our MIM technology made it possible,” commented Matt Jennings, Chairman and CEO. “Awards like this, along with our continued growth, support our commitment to expanding our Menomonie, WI facility last year.”

“Phillips-Medisize was a key supplier development partner for the Delphi CNG injector, and we were pleased with their technical expertise and manufacturing capability. This enabled us to produce a key injector component that met our design vision and performance expectations,” stated Geoffrey Scott, Engineering Manager, Delphi.

Bill Welch, Chief Technology Officer shares, “Our MIM technology allowed for a complex seat design that could be net-shape fabricated, while eliminating the need for expensive secondary machining. It also provided additional benefits, such as molding intricate lip edge features, stainless steel material and seat sealing features that are

uniform and consistent. Without MIM, the part would have had to be completely redesigned. There is no other way to achieve the lip seal surface and the cost of a multiple piece assembly/entire fuel injector would have been exponentially higher.”

Phillips-Medisize’s 50,000 square foot MIM facility, houses four continuous debind and sintering furnaces, multiple batch furnaces, dedicated metal injection molding equipment, as well as a fully staffed and equipped metallurgical lab. It is common for MIM to produce parts for 50 percent less than the cost of CNC machining or investment casting. At the same time, the true value of MIM comes from its ability to produce parts with complex shapes, superior strength, and excellent surface finish in combination with low- to high-volume manufacturing capability. With 20+ years of experience in the MIM technology, Phillips-Medisize produces complex, precision-shaped parts from a variety of materials (without machining), for nearly every market.

Since 1965, Metal Powder Industries Foundation (MPIF) has sponsored an awards competition in which parts fabricators, among their member companies, are invited to submit components that epitomize the possibilities inherent in this metal-forming technology. This year’s competition covered a selection of powder metallurgy components from seven categories.

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Aseptic compounding at the GOSH Pharmacy Unit

Joint white paper and scientific poster published and presented at Clinical Pharmacy Congress

GOSH selects Cherwell for support in excluding bacterial spores from aseptic compounding

Cherwell Laboratories, specialists in products for environmental monitoring and process validation, has recently supported the Great Ormond Street Hospital (GOSH) Pharmacy Unit in developing a new triple-wrapped prepared media product required to ensure the exclusion of bacterial spores during aseptic compounding validation. This has, in turn, increased workflow efficiency within the unit by reducing false compounder system failures, as well as disinfection steps and use of toxic sporicidal sprays.

Validation of compounding in the hospital pharmacy is essential for demonstrating that appropriate controls are in place to ensure asepsis of the process and the sterility of filled products (e.g. parenteral nutrition), and ultimately, to ensure patient safety. In order to monitor the aseptic liquid transfer technique of compounder operators, GOSH routinely undertakes aseptic process simulation validation (media fill simulations) using tryptic soy broth (TSB). Following a series of media fill simulation failures by multiple operators, due to the contamination of filled TSB units with *Bacillus* species, an investi-

gation to identify the cause was conducted by GOSH.

This investigation found that the contamination was not attributable to operator competency, as they had strictly adhered to NHS aseptic transfer process guidance [1].

The contamination source was ultimately identified to originate from the TSB medium bottle surfaces following storage in an uncontrolled environment. No bacteria were recovered from the surface of large volume licensed medicinal products, confirming that risk of spore contamination was during media fill validation and not actual medicine compounding.

GOSH sought an alternative microbiological media supplier to develop a way of ensuring the TSB units for aseptic process simulation validation were sterile, and Cherwell Laboratories were invited to collaborate with GOSH on this project. To remedy the situation, Cherwell developed a sterile, triple packaged TSB product in line with Royal Pharmaceutical Society recommendations [2]. GOSH Pharmacists found this prototype was easy to use and removed the risk of spo-

re contamination of the medium prior to compounder validation, thereby eliminating false results and ultimately increasing workflow efficiency in the Pharmacy Unit.

Following the collaboration, GOSH and Cherwell have jointly published a white paper and scientific poster detailing the investigation and development of the new multilayer packaging of bacteriological medium to prevent spore contamination prior to compounder validation. Both were presented at the recent Clinical Pharmacy Congress and are now available to download from Cherwell's website.

References:

- 1 NHS Pharmaceutical Micro Protocols Group. 2015. Guidance for Aseptic Transfer Processes in the NHS: Addressing Sporicidal Issues.
- 2 Royal Pharmaceutical Society and the NHS Pharmaceutical Quality Assurance Committee. 2015. Quality assurance of aseptic preparation services (QAAPS).

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New highlights in the MEDICA programme

World's largest medical trade fair with its finger on the pulse, devoted to trending subjects and innovations with over 5,000 exhibitors



The number of people in Germany who work in the health sector increased to more than seven million for the first time in 2016. The industrial side of the healthcare sector alone now employs a good 900,000 people and consequently more than 100,000 more people than the automotive industry does (according to BMWi / GGR, VDA). Just like the automotive industry, however, the healthcare sector is also experiencing rapid change. MEDICA, the world's leading medical trade fair – to take place from 13 to 16 November 2017 in Düsseldorf – will be embracing this dynamic with the presentation of new products by more than 5,000 exhibitors from 68 countries and by devoting the accompanying conferences and expert conferences to it.

Digitalisation has fed into all aspects of supply and buzzwords such as 'networking' and 'artificial intelligence' are characterising the technical discussions and already influencing product development concretely. Expert professionals will be able to gain insights into all the developments – be it during the presentations and talks at the MEDICA CONNECTED HEALTHCARE FORUM, during the MEDICA HEALTH IT FORUM, with the help of the exhibitors' new products and even through the exciting MEDICA APP COMPETITION.

More and more health applications for smartphones, tablet PCs and 'wearables' – applications that are already enjoying increasing acceptance in the practical world – are going to be presented, for instance, within the appropriately relevant contexts. 45% of German smartphone owners are already using health apps and another 45% can see themselves using them. A further 60% of people in Germany approve of the concept of an electronic patient file that could be used to store their medical data centrally (Source: Bitkom / Bayerische TelemedAllianz BTA).

That is why one of the leading German health insurance providers has taken the initiative and commissioned the development of an electronic patient file for its more than 10 million clients. The plan is for customers to be able to access their health and treatment data on a central server with the help of a security code and an app or Internet browser. Standardised interfaces are to be implemented to enable the data to be exchanged between IT systems in doctors' practices and clinics.

The project will certainly constitute a topic for controversial discussion at the MEDICA ECON FORUM (platform for political dialo-



gue on health issues / Hall 15), which is being organised at MEDICA 2017 by the Techniker Krankenkasse. The opportunities and consequences resulting from the digitalisation of the health sector will constitute a major focus here.

Artificial intelligence (AI) is another topic that the healthcare sector is becoming increasingly preoccupied with. It will consequently also be on the agenda at this year's MEDICA HEALTH IT FORUM (Hall 15). A robot that is able to automatically set up needles for infusions and biopsies was already presented to an amazed expert audience at MEDICA 2016. This example shows: What previously seemed pure science fiction is currently on the threshold of becoming reality in concrete and plausible applications. This is also the case in the field of medical imaging. The first applications to use artificial intelligence for the automated detection of possible tumours on the basis of digitally generated image data from CRT or MRT systems are about to be launched on the market.

The new and the tried-and-tested – conferences and forums

With the aim of meeting the needs of the international professional public even into the future, the programme for the accompanying conferences and the forums integrated into the trade fair have, over recent years, been radically restructured and aligned at a more international level with many highlights also being presented in English and rounded off by ever-new formats that focus on topical subjects.

The dynamic that characterises eHealth applications and the digital networking of those involved in the health sector are producing interesting business options, for example, particularly for creative start-ups – be it in innovative services, smart products or software applications. That is why the new MEDICA START-UP PARK has been created in Hall 15 with the intention of matching founders of innovative businesses with potential business partners, investors and distribution partners. With the aim of complementing the contents that are going to be presented at MEDICA CONNECTED HEALTHCARE FORUM and the MEDICA HEALTH IT FORUM (both also in Hall 15), up to 40 start-ups will be presenting themselves and their ideas to an audience of experts on a total area of 500 square metres in direct proximity to these events.

The MEDICA LABMED FORUM is also new this year. Under the key heading of "The Interdisciplinary Fascination", laboratory medicine, molecular pathology, microbiology, medical technology and life



World's largest medical trade fair with its finger on the pulse

sciences will be presenting themselves as drivers of innovation and generating new impulses for the entire medical sector. Four themed days will be offering a range of exciting presentations and panel discussions that will be focusing on the following highlights: Preventive screening tests for cancer, cardiac and circulatory conditions, innovative diabetes diagnostic tools, infection and migration. The events will all be taking place between 11.00 a.m. and 4.00 p.m. and are free for trade fair visitors with MEDICA tickets. The cooperation partner for the content for the MEDICA LABMED FORUM in Hall 18 is the medical publisher Trillium.

The exhibition centre is 'smartening' itself up – new South Entrance, new Hall 1

Hall 18 is a modern structure that has been built with lightweight materials and that is located centrally between Halls 10 and 16. This temporary structure was specifically constructed for exhibitors who are presenting products within the MEDICA's laboratory-technology and diagnostics sections, which were previously located in Halls 1 and 2. These exhibitors will also be able to use another temporary hall built from lightweight materials, i.e. Hall 3a, which neighbours Halls 3 and 4. Background information: The South Entrance to the Messe Düsseldorf trade fair centre is being completely renovated, due for completion in summer 2019. The old Halls 1 and 2 are at the same time going to be replaced with a newly built hall.

Première for the MEDICA ACADEMY

One highlight at the conference programme – the MEDICA ACADEMY – will be celebrating its launch at this year's MEDICA. It will be the venue for two workshops that are going to be devoted to 'blockbuster' subjects related to medical practice and that are going to be held on each of the four days of the fair. These will include, for example, 'updates' about imaging procedures, modern surgery procedures and even an ultrasound 'refresher' course. The MEDICA ACADEMY will also be discussing the 'hand over of practices' as a highly topical subject in a seminar aimed at both young physicians looking for practices and physicians wishing to pass on their practices.

In addition to the MEDICA ACADEMY, additional items on the MEDICA's conference programme will bridge the gap to the new products being presented at the trade fair through presentations with relevance to highly topical subjects and by focusing on the interests of the MEDICA's important target groups. For example, the 40th German Hospital Conference as a leading event for the management of German hospitals deserves to be mentioned here. The bandwidth in

this regard ranges from political health questions through aspects of financing and controlling for hospital services to the presentation of best-practice projects for hospital IT. These will additionally be presented at the same time by the ENTSCHEIDERFABRIK IT (IT DECISION-MAKERS) initiative at a large joint stand in Hall 15. This year, the German Hospital Conference is to be complemented by the European Hospital Conference, which takes place every two years as a gathering that allows top decision-makers from European hospitals to swap notes.

Other highlights will include the DiMiMED conference for disaster and military medicine and the MEDICA MEDICINE + SPORTS CONFERENCE (respectively on 14 and 15 November 2017 / Congress Center Düsseldorf South) that will be focusing on prevention and sports medical treatment concepts. The conferences will be held in English and are geared towards an international audience.

Its great reception from participants has meant that the MEDICA PHYSIO CONFERENCE, which was launched in 2014 and organised by the Thieme publishing house, has established itself firmly within the conference programme. With its treatment oriented presentations, it is directed toward the professional scene of physiotherapists, sports medicine specialists and orthopaedists and is taking place this year on 15 + 16 November (Congress Center Düsseldorf South).

Globally unique – varied presentations

Now, and in the future, a central strength of the MEDICA continues to be that it does not just deal with solutions for one individual medical specialist discipline, but that it offers solutions for the complete workflow of patient treatment in one place at one time. No other event worldwide comes even close to this wealth of innovations.

Being clearly structured by halls, the MEDICA trade fair will be focusing on the following subjects: Electromedicine / medical technology (approx. 2,500 exhibitors), laboratory technology / diagnostics, physiotherapy / orthopaedic technology, commodities and consumables, information and communication technology, medical furniture and specialist furnishings for hospitals and practices.

COMPAMED – the No. 1 for suppliers

COMPAMED 2017 will be taking place in Halls 8a and 8b alongside the MEDICA trade fair on all four days (13 to 16 November). With more than 750 exhibitors, it is the driving force and internationally leading market platform for suppliers to the medical technology industry. The high levels of creativity and development know-how that characterises the supplier sector means that, over its 25 years of its existence, COMPAMED has become the place to see what the future of medical progress looks like. This is where exhibitors will be presenting the technology solutions and services they provide to meet the wide variety of requirement profiles and remits that medical equipment suppliers must satisfy – from microtechnology and nanotechnology solutions, new materials and coatings, components, preliminary products, packaging and services up to comprehensive contract manufacturing.

Last year, there were 127,800 trade visitors from 135 countries at MEDICA and the supplier trade fair COMPAMED, which was held simultaneously.

13th - 16th Nov. 2017: MEDICA 2017, Duesseldorf (D)

Messe Düsseldorf GmbH
D 40001 Düsseldorf



11th COMPAMED Spring Convention shines a spotlight on microfluidics – a key topic for modern laboratory medicine



Author: Klaus Jopp

The COMPAMED Spring Convention has established itself as a meeting point for experts: developers, producers and service partners in the medical technology industry. This annual event offers a snapshot of COMPAMED, the worldwide leading market platform for suppliers in medical manufacturing, which takes place every year in Düsseldorf from 13 to 16 November 2017. The 11th Spring Convention, which took place on 3 May 2017 in Frankfurt, was dedicated to microfluidics within medical technology - and does so in three sessions on the topics “General Aspects and Concepts”, „Manufacturing of Microfluidic Devices” and „BioMEMS and Cell Handling”. Background information: Increasingly, medical technology is heading towards a decentralized approach for patient care. Therefore, all diagnostic and therapeutic activity and devices also have to be able to work at the Point of Care (PoC). This offers huge advantages compared to previous practice, which sent patients to doctors and had tests dispatched to laboratories for analysis. Decentralized care enables in-patient stays to be avoided, quicker obtention of results on specific diagnoses and personalized treatment as well as reducing costs in the healthcare system.

Equipment used in diagnostics and treatment must be automated and operate reliably so that these advantages can be applied and utilised. Samples need to be sent for analysis in precisely defined quantities and then processed and tested. Drugs must be adapted and dosed according to the individual disease patterns presented by the patients. Microfluidic systems play an important role in all of these sectors. Therefore, the 11th COMPAMED Spring Convention showed how these components and systems are manufactured and which materials are used for this, as well as how BioMEMS products are used in diagnostics and dosage of medication. The Spring Convention is organised by IVAM, the International Association of Microtechnology, in cooperation with Messe Düsseldorf.

Henne van Heeren, from the company enablingMNT, demonstrated the importance that microfluidics has already taken on perfectly.



EnablingMNT (Dordrecht, Netherlands) focuses on marketing and strategic support in the micro and nanotechnology (MNT) industries with offices in the UK, the Netherlands and Germany. “We are also seeing huge growth. Currently, 750 companies worldwide are active in the field of microfluidics”, stated van Heeren. He continued to say that around 45 new start ups are added to this each year. However, every year 20 companies also leave this sector, are sold or fold. The top locations for the commercialisation of microfluidics are the University of California, Berkeley, Harvard and the Massachusetts Institute of Technology. In Europe, the University of Twente, ETH Zürich and the University of Cambridge are the leading groups. The number of patents with the phrase “microfluidic” in their title or abstract has gone from zero in 1998 to over 1,300 per year, developing at breakneck speed. In terms of materials, polydimethylsiloxane, a silicone-based polymer, is very popular in university research whereas the industrial world prefers Cyclo-Olefin-Polymer (COP) and Cyclo-Olefin-Copolymer (COC), glass, a combination of glass and silicone or Poly(methyl methacrylate) (PMMA). COC or COP are mainly used for single-use items in the Point of Care sector, and glass is particularly popular for demanding applications, i.e. for devices which are used repeatedly, frequently and for long periods of time, and also in cases where high pressures and temperatures are required.

Saliva, urine or sweat could replace invasive blood tests

Today, most health examinations are based around the analysis of blood which is obtained via invasive techniques. Throughout this century, big steps have been made to utilize bodily fluids that can be obtained easily and painlessly, such as saliva, urine and sweat. However, the technology that is utilised to obtain, prepare and analyse the samples is not precise, robust or easy to use. Furthermore, results obtained from these fluids are not particularly reliable. With this in mind, the development of various sensors for non-invasive moni-



11th COMPAMED Spring Convention shines a spotlight on microfluidics

ring of patients that can also be used in point of care diagnostics and in devices for therapy monitoring is being researched at CSEM SA (the Swiss Centre for Electronics and Microtechnology) in Landquart, Switzerland. "A big part of our work is focusing on the various capabilities of a new device: untrained staff should be able to use it, it should be able to be used in clinically demanding situations even where it is difficult to obtain blood samples from certain individuals, and it must also be able to be used in remote areas", explained Samantha Paoletti from CSEM.

CSEM is developing a variety of technological products that are based around a modular approach for diagnostics. This includes sample preparation, i.e. collection and processing of bodily fluids with different microfluidic designs, and detection of specific target molecules such as electrolytes, proteins, peptides, immunoglobulins or small organic components (sugars, amino acids etc.). Optical, fluorescence-based or electrochemical sensors can be utilized for this. CSEM develops, produces and functionalises these and integrates them into various cost-effective solutions. Furthermore, the Centre is working on detection units, and on the power supply, data transfer and electronics which are required for this. "Our current portfolio consists of several sensors which detect potassium and sodium ions, glucose, lactate, pH and impedance values, for example", said Paoletti. CSEM has proved that the sensors can be integrated into clothing (wearables for sweat analysis) or used for saliva and urine analyses.

Combining microfluidics and 3D printing for applications in diabetes

Diabetes is a common condition throughout the world. In Germany alone in the population aged between 20 and 79, over 6.5 million people are living with diabetes. Continuous measurement of glucose concentration can be taken from blood or the intercellular fluid (interstitial fluid) in the subcutaneous fat, as its glucose content correlates with that of blood with only a marginal time lag. The CIS Research Institute for Microsensors in Erfurt has produced a new solution for determining blood sugar levels using a combination of microfluidics and 3D printing. "The sensor concept is not meant for routine care of diabetics, but rather for monitoring blood sugar values in intensive care over a 7-day period", said Dr Jan Freitag, a Researcher at CIS. The entire sensor is housed in a calibration chamber which is split into two sections. One section is filled with a liquid with a sugar concentration of 0% and the second contains a liquid with a defined sugar concentration value. Firstly, this enables a measurement at 0% to be saved so that a second measurement can be recorded after the wall between the chambers is opened and calibration between the two points can be carried out. The entire system is a miniaturized tubular measurement chamber with mesh side walls (dimensions: 25 mm long and 1.2 mm in diameter) which contains the light source at the tip and the interface for the optical components at the end of the needle. A cobalt-chromium-steel alloy is used as material for this. The measurement chamber's skeletal structure means that a complex manufacturing process is required, and this is achieved with 3D printing. Using this method, it was possible to construct skeleton structures from a metal alloy with physical dimensions which enable it to be used within the human body. "We can produce 250 cannulas at once in one load, which creates savings in terms of cost and time", said Freitag.

Handling of fluids right down to nanolitre range

Future laboratory and diagnostic applications will require the provision of fluids in micro and even nanolitre quantities. Previous systems for handling these minute volumes are often not precise enough to fulfill these requirements. Therefore the Fraunhofer Institute for Manufacturing Engineering and Automation (IPA) has developed

a new fluid handling technology, called I-DOT (Immediate Drop on Demand Technology), via which drops of 2 to 12 nanolitres can be produced by a pressure pulse. Larger quantities can be produced by using a rate of up to 400 pulses per second. The microwell plates required for distributing these are produced by micro injection moulding. Using this technology, very precise microwells can be reproduced at a high standard of quality. MDX Devices GmbH is a specialist in micro injection moulding which has focused on the commercial production of small quantities of high precision components in micro or precision injection moulding with certified quality standards. "We produce prototypes, micro-components and devices from high-performance plastics using micro and precision injection moulding and also execute add-on processes, such as pressing or assembly which follows it, particularly in small quantities for medical technology, diagnostics, the pharma and biotechnology industries as well as for microsystem technology", said Harald Grün, CEO of MDX. The company makes a variety of microwell source plates for I-DOT technology. Micro injection moulding technology offers a wide array of advantages in the production of high precision components compared to the traditional injection moulding process. These include low gate volumes, very short cycle times, good filling behaviour as well as a high level of process capability, reproducibility and it is economic as the process is very energy efficient.

Fully automated isolation of tumour cells in blood samples

The CTSelect project focuses on the handling of very specific cells. The project is funded by the German Federal Ministry of Education and Research (BMBF). Tumour cells which circulate in the blood (CTCs, circulating tumour cells) are an important source of information for disease staging and potential therapeutic approaches in cancer research. However, they appear in extremely low concentrations in blood. Within the scope of the Cluster for Individualized Immunointervention (Ci3), the Fraunhofer ICT-IMM and a partner have developed a microfluidic flow cytometer with an integrated single cell dispenser that can isolate tumour cells in a blood sample in a fully automated process. This enables conclusions to be drawn on how different types of tumour react to different treatments. In addition, targeted medication can be developed. The project, which began in January 2017, is now focusing on validating and characterising the process, which has been researched, for enrichment and isolation of freely circulating tumour cells in real clinical samples. "We will construct a CTSelect prototype device, including the related assay, and impose the user requirements for clinical users", explained the Project Coordinator, Dr Michael Bassler of ICT-IMM. An evaluation prototype will be created from the laboratory prototype. The clinical user, the Institute for Translational Skin Cancer Research at the University Clinic of Essen, will test the optimized system for robustness, error and user friendliness. "We have demonstrated the basic feasibility, and now we are focusing on getting our laboratory device closer to the market by collecting relevant data for potential clients" said Bassler. Top priorities are finding a buyer who wishes to market the system - COMPAMED is the ideal platform for such a search.

Almost 800 exhibitors from 40 countries are expected to attend COMPAMED 2017 in halls 8a and 8b at Messe Düsseldorf. COMPAMED takes place at the same time as the world's biggest medical trade fair, MEDICA 2017 (around 5,000 exhibitors).

13th - 16th Nov. 2017: COMPAMED, Duesseldorf (D)

Messe Düsseldorf GmbH
D 40001 Düsseldorf

At the Fakuma 2017 from October 17 - October 21 in Friedrichshafen, Germany, ENGEL will be opening up new horizons for the injection moulding industry. The highly integrated manufacturing solutions at the ENGEL exhibition booth in Hall A5 achieve an even higher degree of quality, efficiency and profitability – respectively tailored to the specific requirements of the various application industries. Also there: the all-electric e-mac injection moulding machine in a new clamping force class, the first clearmelt exterior component, the new compact pipe distributor for the cleanroom, and an even higher degree of precision for LSR processing.

Industry Competence in Action



Automotive: Extremely scratch-proof in a single step

At the Fakuma, ENGEL and its clearmelt technology will be opening the door to a new application area. The focus so far has been on decorative elements and electronic functional components for the interior of the vehicle; at this time, automobile manufacturers are also becoming interested in using the technology to produce exterior components. At its exhibition booth, ENGEL will present a first applications in this regard.

High gloss exterior panels will be produced on an ENGEL duo 2460/500 injection moulding machine. In addition to the extremely high quality appearance of the components and the outstanding efficiency of the highly integrated process, extremely scratch-proof surfaces are another advantage that clearmelt technology provides for the exterior area. Testing in a car wash has shown the initial sample parts to be very robust.

In the clearmelt process, at first a thermoplastic base carrier is produced in the injection moulding machine, then coated with polyurethane in a second cavity. The process can be easily combined with IML, allowing for the use of decorative and capacitive foils as well as wood veneers. In a single step, clearmelt technology thus provides pre-finished vehicle components that do not need to be varnished or post-processed in any way. The polyurethane coating provides the high-gloss, scratch-proof surface.

ENGEL developed the clearmelt technology in collaboration with partner companies. The exclusive partner for polyurethane processing is Hennecke in St. Augustin, Germany.

Teletronics: Economic precision for even larger moulds

ENGEL will be going all-electric at the Fakuma in the teletronics exhibition area. Sophisticated connector housings for vehicle doors will be produced on an ENGEL e-mac 940/280. Until now, the e-mac series has been available with clamping forces of up to 1800 kN. In time for the Fakuma, ENGEL has expanded the line with a 2800 kN version.

e-mac machines are distinguished by their speed and precision, extremely energy efficient operation and a high degree of flexibility. They have proven themselves to



New horizons for the automotive industry: At Fakuma, for the first time ENGEL will be producing exterior components on a duo 500 injection moulding machine using the clearmelt process. (Picture: ENGEL)



Celebrating its premier at the Fakuma 2017: The new e-mac 280. (Picture: ENGEL)



With the production of 40-pole connector housings on an all-electric injection moulding machine, during the exhibition ENGEL will demonstrate how efficiency can be combined with the highest demands on precision. The new e-mac 280 injection moulding machine will be used for this application. (Picture: ENGEL)



Compact integration: The pipe distributor fits in the machine's safety guard. (Picture: ENGEL)

be extremely reliable in continuous operation, and guarantee stable production around the clock. They are also less expensive to purchase than all-electric high-performance machines. This spectrum of characteristics predestines the series for the production of technical parts and electronic components. In both application areas, the trend is moving towards larger moulds with higher cavitation. With the expansion of the series, ENGEL has taken this trend into account.

With the production of 40-pole connector housings made of glass-fibre reinforced PBT, during the exhibition ENGEL will demonstrate how highest demands on precision can be combined with economic efficiency. In this market segment, due to the very filigree structure inside the connector housing, the competitiveness of the producer is defined by the precision of the injection moulding process. In several sequential process steps, the connector housings are equipped with stabiliser inserts, gaskets and contacts, then laser inscribed. Imprecisely injected areas or warping will impede the automated assembly and may lead to a halt in production. Since injection errors often are not detected until the end of the process chain, rejects also become more costly. To prevent this, the e-mac machine makes sure that very thin-walled areas are filled, even across long flow paths.

With the intelligent assistance systems from ENGEL's inject 4.0 programme, the already very reliable e-mac machines are also perfectly equipped for process fluctuations through external influences. Three iQ products are installed on the exhibition machine: iQ weight control, which maintains constant melt volume and adjusts fluctuations in the environmental conditions and the raw material, iQ clamp control, which continuously adjusts clamping force based on the mould breathing, and the new iQ flow control for the needs-based regulation of the temperature control units. iQ weight control was the first of the iQ systems, and was introduced to the market five years ago. It has already become very well-established in the production of connectors, because in this segment with its especially filigree component structures, process fluctuations are one of the main causes of rejects. iQ weight control is a reliable aid in preventing production-related rejects.

Industry Competence in Action

Medical: Maximum integration with a minimal footprint

Highly integrated, compact production cells minimise the system footprint and increase area productivity. These aspects really pay off in the cleanroom. For this reason, ENGEL redeveloped the stainless steel pipe distributor for the cavity specific handling of small injection moulding parts, which it introduced two years ago, so that the handling system now fits completely into the expanded safety gate of the injection moulding machine. This new, extremely compact solution will be presented for the first time at the Fakuma.

During the five days of the fair, an ENGEL e-victory170/80 injection moulding machine will be producing needle holders for 1-ml safety syringes in a 16-cavity mould by Fostag Formenbau (Stein am Rhein, Switzerland). An ENGEL viper 12 linear robot will remove the filigree polystyrene parts from the mould and transfer them to the distribution system. In order to ensure batch traceability down to the level of individual cavities, the injection moulded parts will be packed in cavity-specific bags. For this purpose, 16 bags are hung in a cart located directly beneath the pipe distributor. Individual shots can be extracted for quality control purposes.

For unmanned cleanroom operation – during the night-shift, for example – two carts can be alternated in sequence, with a buffering system enabling the fully automated switch. The entire periphery for this is integrated into the CC300 control unit of the injection moulding machine. Thanks to shared data storage, the CC300 can precisely coordinate the movements of the machine and the robot with each other, thus optimising overall efficiency. In addition to this, there are also especially short robot paths due to the tie-bar-less clamping unit of the e-victory machine. In this application, both of these factors contribute to the short cycle times of six seconds.

So that the machine can also be flexibly used for other products, ENGEL designed the pipe distributor and the bag-packing cart as a fixed unit. This can be easily moved back and forth, ensuring full accessibility of the mould area.

With a shot weight of only 0.08 g and varying wall thicknesses, the filigree needle holders require extremely precise process control. Since fluctuations in the melt volume would immediately lead to rejects, ENGEL uses the iQ weight control software.

At the Fakuma, the highly integrated production solution is presented in its cleanroom version. In contrast to many other systems in the market, all components in



At Fakuma, the highly integrated manufacturing solution for the production of needle holders will be presented in a cleanroom version. The 16-cavity mould is running on an e-victory 170/80, with a viper 12 linear robot handling parts. (Picture: ENGEL)



The filigree needle holders are designed with a predetermined breaking point that makes it impossible to use disposable syringes multiple times. (Picture: ENGEL)



On an ENGEL victory 860/160, ENGEL will produce venting valves for beverage bottles during the Fakuma. With a diameter of approx. 50 mm, the venting valves have a geometrically complex structure with varying wall thicknesses. (Picture: ENGEL)



On an ENGEL victory 860/160, ENGEL will produce venting valves for beverage bottles during the Fakuma. With a diameter of approx. 50 mm, the venting valves have a geometrically complex structure with varying wall thicknesses. (Picture: ENGEL)

contact with the product in ENGEL's pipe distributor are made of stainless steel, which helps to maintain low particle load. As a system provider, ENGEL is continually expanding its portfolio of GMP-compliant peripherals. In addition to the pipe distributors, conveyor belts and robot gripper housings from ENGEL's own development and production are offered.

Technical Moulding: Hydraulic precision for sophisticated LSR

The processing of liquid silicone (LSR) in injection moulding fully utilises the efficiency potential of the tie-bar-less ENGEL victory machines. The process consistency resulting from the design plays an important part in this. The patented force divider enables the moving mould mounting platen to follow the mould exactly while clamping force is building up, and ensures that the clamping force is evenly distributed across the platen face. Both the outer and inner cavities are therefore kept closed with exactly the same force, ensuring consistent compression of the mould and a consistently high product quality. This almost burr-free, zero-waste, rework-free, and fully automatic processing is the key element in the economic manufacturing of high-tech products from liquid silicone. At the Fakuma, with the production of venting valves for beverage bottles on an ENGEL victory 860/160 injection moulding machine, ENGEL will demonstrate how this can look in practice. With a diameter of approx. 50 mm, the venting valves have a geometrically complex structure with varying wall thicknesses. The iQ weight control software, which ENGEL is now offering also for injection moulding machines with hydraulic injection units, ensures that cavities are filled reliably even when there are fluctuations in the raw material.

It will be the first time that ENGEL presents a victory machine with a next generation injection unit at a trade fair. Last autumn, based on its long years of experience in the various application areas of its injection moulding machines, ENGEL reorganised the sizes of the hydraulic injection units and further optimised the performance specifications such as injection pressure, injection speed, and plasticising capacity.

ENGEL is presenting the processing of LSR together with its partner Elmet Elastomere Produktions- und Dienstleistungs GmbH (Oftring, Austria). In this application, Elmet is providing the model OP 5000P LSR dosage system, a 16-cavity mould with a cold runner and demoulding unit. Parts are handled by a viper 40 robot from ENGEL's linear robot programme. The conveyor belt

Industry Competence in Action

is integrated into the safety gate of the injection moulding machine, keeping the entire system at a compact size.

Focused 100 percent on the requirements of the industry

From the individual injection moulding machine to the highly integrated production cell, ENGEL delivers tailored solutions for

the injection moulding industry. Developing customer-specific solutions takes more than technological know-how. This is why at ENGEL, business units are completely focused on a single industry. ENGEL employees are therefore on the same level with customers when discussing projects, able to understand and implement individual requests in detail. Many industry specific developments, such as the GMP-capable periphery devices

being presented at Fakuma, are based on the bundled experience of the ENGEL business units.

17th - 21st Oct. 2017: FAKUMA 2017, Friedrichshafen (D)

ENGEL AUSTRIA GmbH
A 4311 Schwertberg

It is all about UV LEDs – the variety of their applications, trends, and novel developments. The international conference ‘UV LED Technologies & Applications’ brings together experts from science and industry as well as developers and users to crosslink and to discuss the related issues. The conference will be held from April 22 to 25, 2018 in Berlin, Germany. Abstracts for lectures and poster presentations can now be submitted online via www.iuva.org/BerlinConference until November 15, 2017.

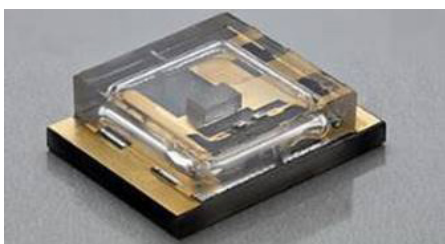
International Conference ‘UV LED Technologies & Applications’ – Call for Abstracts



Commercial relevance of UV LEDs is increasing; since the devices are gaining maturity they become more and more attractive for broad industrial use. Due to their manifold applications, they open up new markets, and innovative products can be developed. At the international conference, the state of the art of UV LED technology, integration of UV LEDs into modules and systems as well as and their application in industry and research are discussed. One focus here is on technically challenging short-wave UVC LEDs, which can be used, for example, in water treatment and disinfection. The conference is organized jointly by the German consortium ‘Advanced UV for Life’ and the ‘International Ultraviolet Association’.

Advanced UV for Life

Advanced UV for Life’ is a consortium of more than 40 German industrial and academic partners working together in the development and application of UV LEDs within the framework of the Twenty20 initiative funded by the German Federal Ministry of Education and Research.



Flip-chip mounted UV LED on an AlN submount with fused silica cap. (©FBH/schurian.com)



Image @visitBerlin, Image: Wolfgang Scholvien

22nd - 25th April 2018: Internationale Konferenz UV LED Technologies & Applications, Berlin (D)

Abstracts for oral and poster presentations can be submitted (deadline: November 15, 2017) online via www.iuva.org/BerlinConference, related to the following topics:

UV LED Technologies

- UV LED materials technologies
- UV LED fabrication technologies, including packaging
- UV LED devices
- UV LED modules and systems

UV LED Applications

- UV LEDs for disinfection and water treatment
- UV LEDs for sensing and life sciences
- UV LEDs in medical applications
- UV LED curing

International Ultraviolet Association

The ‘International Ultraviolet Association’ is an international organization that aims to advance the sciences, engineering and applications of ultraviolet technologies to enhance the quality of life and protect the environment.

Advanced for Life D12489 Berlin

Three BOY Machines support BOY Ltd. at the Interplas in Birmingham/GB



26th - 28th Sept. 2017: interplas, Birmingham (UK)

BOY will strongly support its British representative BOY Ltd. at the Interplas (26th - 28th September 2017). In hall 4 / booth B30, three BOY Injection Moulding Machines present interesting applications. With a BOY XXS, an automated BOY 35 E VV and a BOY 60 E the German specialist for Injection Moulding Machines in the clamping force range up to 1,000 kN shows an interesting excerpt of its product programme.

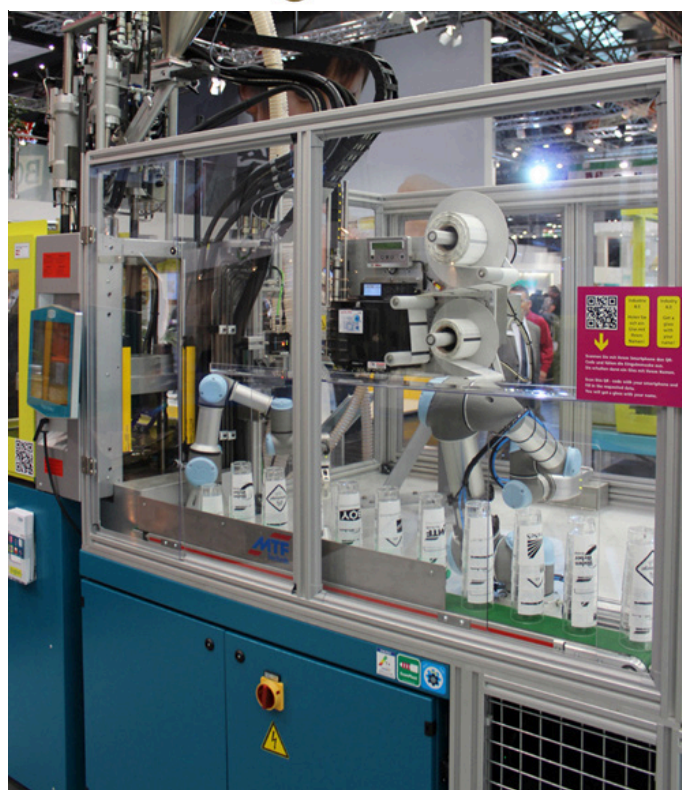
Bob Wilson from the UK's BOY representation puts it in a nutshell: „The Interplas is an ideal platform for us to show new machines, technologies and applications. This year, too, we are expecting a large number of visitors at our booth. The new BOY XXS - a table top machine with a clamping force of 6.3 tons and compact dimensions - will surely be of special interest for our trade visitors. „

The Managing Director of BOY Ltd. adds: „The compact automation of a BOY 35 E VV (350 kN closing force and 1.67 m² installation area) with two collaborating robots will certainly be one of the highlights at this year's Interplas. The production of plastic beer glasses which are individually labeled on demand and presented directly to the visitor from the robotic hand will additionally attract the attention of the visitors at the BOY booth“.

An application of the medical field complements the appearance of BOY. A BOY 60 E shows the production of protective caps for insulin injections under cleanroom conditions. From the 16-fold mould the parts fall directly into a packaging machine, which is space-saving integrated below the two-plate closing unit of the BOY 60 E. Printed with production data for a possible back-tracking, the transparent bags are sealed airtightly. Equipped with a white antistatic coating and higher supporting feet, this Injection Moulding Machine is ideally suited for the cleanroom production class 7.

The BOY representative is still on a good course on the British plastics market. According to common statements of both, BOY and BOY Ltd. as well, a continuous increase of the market presence of BOY is the top priority for both companies.

Dr. Boy GmbH & Co. KG D 53577 Neustadt-Ferenthal



Process Optimization

SIGMA Engineering presents its Autonomous Optimization at Fakuma 2017



As the injection molding business grows in complexity and delivery times become narrower, room for mistakes shrinks. A new tool has been developed to find out the optimum design and production conditions even before the mold is built, to ensure maximum profitability and part quality. The SIGMASOFT® Autonomous Optimization finds automatically the best process set-up to meet a specific demand. At Fakuma 2017, this new technology is introduced to the interested public.

At the upcoming Fakuma 2017, taking place between October 17th and 21st, SIGMA Engineering GmbH takes part in the TecPart stand at Hall A5-5105. There SIGMA introduces its new release SIGMASOFT® v5.2, which includes a virtual, fully autonomous optimization. Together with an also new virtual DoE functionality the Autonomous Optimization is a consistent further development of the SIGMASOFT® Virtual Molding technology to meet the requirements of modern injection molding.

The injection molding business has changed. The conventional trial and error solution method, or the decision making approach guided by the experience of groups of people is no longer enough to satisfy both part quality requirements and development deadlines. The room for mistakes is shrinking. Injection molders need to design their parts, molds and processes in the most efficient way, within the shortest time available. Only then they can uphold their profit margin.

SIGMA Engineering GmbH understood this challenge and, therefore, developed a new technology in their SIGMASOFT® Virtual Molding software: Autonomous Optimization. With this technology the molder can ask for a result in pretty much the same way as he would demand it from a production team. And SIGMASOFT® will automatically find the best production set-up to meet this demand.

Imagine the following scenario: you are confronted with a new molding project; a part must be assembled with other components, so that dimensional consistency must be kept within strict tolerances. The conventional approach would be to design the part and mold based on from previous experiences, build the mold and then start trials on the injection molding machine to meet the desired part di-

mensions. Many things can go wrong along this chain, so usually the time to find the processing window in the machine is short and the pressure high. In the best case scenario, parts are finally produced in the desired quality, but without optimizing resources such as energy consumption or cycle time.

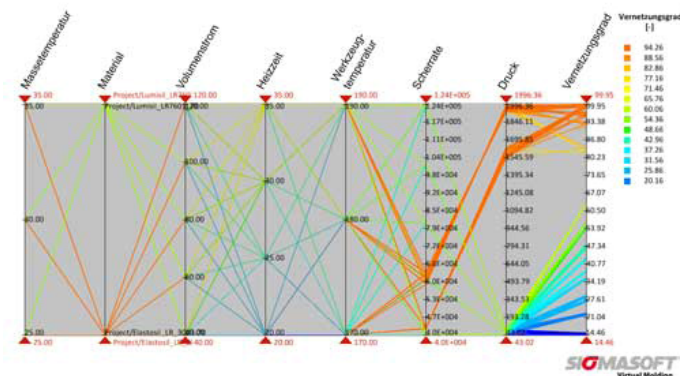
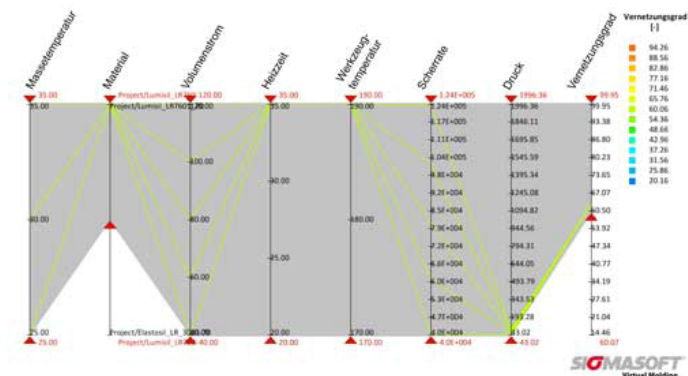
Now the scene has changed: even while designing the part or the mold it is possible to have a virtual injection molding machine to try all modifications. And now, with the Autonomous Optimization, you can actually ask this virtual injection molding machine to solve by itself a desired problem. It is possible to ask it to minimize part deformation, for example, and the machine will “set-up” itself.

Early adopters have described the SIGMASOFT® Autonomous Optimization tool as a real “game changer” in injection molding. “This tool will change the way we produce. It will change the way we set-up new processes and the way we design our molds”, declares one of the molders which tested the potential of the new technology.

With the Autonomous Optimization, SIGMA Engineering is committed to helping its customers to systematically reduce production costs and to fully exploit the potential in the whole development chain, from part design to mold layout to process set-up.

17th - 21st Oct. 2017: FAKUMA 2017, Friedrichshafen (D)

SIGMA Engineering GmbH
D 52072 Aachen



In the assessment, it is easy to make further restrictions to the parameters and goals to find the optimum solution or as in the case of the LSR application the optimum process window for a specific material and a minimum required curing degree.

With the new SIGMASOFT® Autonomous Optimization tool, the effect of process parameters and material selection on part quality can be easily assessed. The image shows all possible combinations of process parameters and material for a LSR application and their effect on the curing degree of the part.

POWTECH 2017 Digital, modular, automatic maintenance – the chemical plant of the future



POWTECH 2017, being held in Nuremberg from 26 to 28 September, will give experts and users from all over the world the opportunity to talk about innovations in the process industries. About 900 exhibitors will display their latest developments for mechanical processes and accompanying technologies such as measurement, analysis, control and automation. Manufacturers and plant operators in the chemical industry will discover specific technical solutions for the burning questions affecting the industry. That includes how digitalisation can further increase production quality, flexibility and resource efficiency in chemical manufacture. The accompanying programme of talks in the POWTECH Expert Forum will also offer new stimuli for further thinking on this and other topics.

26th - 28th September 2017: POWTECH, Nuernberg (D)

The chemical industry is undergoing a transition on many levels. Process digitalisation helps in achieving the goal of ensuring consistently high product quality, 24/7. The focus is also on curbing production costs and increasing energy and resource efficiency. What's needed is maximum safety in the manufacturing process while maintaining a high level of flexibility – at multiple locations around the world. Sylvia Bräunlein, Operations Director Chemicals Division at Hosokawa Alpine AG in Augsburg, finds there are many different demands facing mechanical engineers and plant manufacturers: “Single machines that in-house engineering departments incorporate into an overall system are a thing of the past. What's needed instead is the supply of complete systems with guaranteed process values, which comply with current safety standards and norms. To make this happen, you need a high level of system automation: only once that's in place can you optimise your productivity, ensure stable process operation and put remote maintenance and predictive maintenance in place in order to minimise downtimes.”

Regulations demand more containment

She also perceives all of this in “a regulatory environment that calls for closed processes with the appropriate containment solutions, the result of new product classification. This is

a challenge, for the modernisation of older plant in particular. The focus is also on ergonomics, which is growing in importance for operation, maintenance and cleaning, as well as the automation of cleaning processes.”

The Hosokawa Micron Group is exhibiting at POWTECH 2017 as a provider of integrated solutions for all kinds of applications. Bräunlein outlines an example for the chemical industry: “At stand 233 in exhibition hall 4A, we will display a virtual production system for pesticides, comprising all stages of the process from drying to granulation. Solutions will also be presented on the subject of containment, condition base maintenance (CBM), and the PIN software designed for plant optimisation and monitoring.”

Supporting programme: explosion protection and maintaining air quality

Besides Hosokawa Alpine, more than 400 other companies out of a total of 900 exhibitors will display products and solutions designed specifically for use in the chemical industry. A comprehensive supporting programme will also be on offer for trade visitors at POWTECH. The Expert Forum at the exhibition will feature non-stop talks and presentations on current topics relating to process engineering.

The daily live displays of explosion protection equipment in the outdoor areas at the trade fair will also offer a number of “aha!” moments. A special show by VDMA will deal with the industry topic of maintaining air quality and drying, and will present efficient solutions for dust-free, clean-air and therefore safe production environments.



More than 400 companies with product ranges specifically for the chemical industry are expected at POWTECH 2017.

NürnbergMesse GmbH
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A+A 2017 Integrated ergonomic concepts for industrial workplaces



At the A+A 2017 in Düsseldorf, the Dauphin HumanDesign Group will focus on health-promoting industrial workplaces. The company has been exhibiting at the international trade fair for personal protection and occupational health and safety for many years. At this year's event which will take place from 17 - 20 October, Dauphin will present integrated furnishing solutions for a wide range of industrial applications at Stand A38 in Hall 10. In addition to its product solutions, the Dauphin Group will present the new "Industry Trainer", a five-minute exercise and stretching programme as a way of preventing health problems in industrial workplaces.

By presenting application-oriented, integrated solutions for ergonomic, more efficient work in industry, this year's Dauphin HumanDesign Group stand in Düsseldorf will focus on a key aspect of the trade fair for occupational health and safety.

"human space Cubes"

– room-in-room systems for industrial use

Given the need for ever greater productivity, self-contained rooms and areas for breaks are important in industry. Up until now, however, private areas where people can make telephone calls for example were usually reserved for office staff. With the "Bosse human space Cube", the Dauphin Group is now presenting its proven room-in-a-room system for industrial areas too. The cube can be used in a variety of ways: with optimum sound insulation and absorption, stable temperatures and a supply of fresh air, they are suitable not only as managerial or factory offices but also as attractive zones for privacy or breaks. The cubes help people to concentrate on their work while remaining close to production and production processes. For maximum flexibility, a cube can be positioned anywhere in a room – independently of the building – and can be set up in just a few hours. With the "Bosse Telephone Cube", visitors to the stand at the A+A can see for themselves the benefits of the room-in-a-room system.

Tec profile – the all-rounder for any area of use

The ergonomics experts from Offenhausen will also present the AGR-certified Tec profile range of industrial chairs. Thanks to various special models, it is suitable for use in a wide variety of areas – from production and assembly areas to ESD protection zones and even 24-hour workstations. For the first time ever, the Tec profile is also available in a "MicroSilver" version which, thanks to an antibacterial coating, is the ideal seating solution for areas where hygiene is a priority. By constantly releasing MicroSilver BG™ silver ions, it is proven to permanently reduce levels of bacteria, for example in laboratories



With the "Bosse Telephone Cube", visitors to the stand at the A+A can see for themselves the benefits of the room-in-a-room system: optimum sound insulation and absorption, stable temperatures and a supply of fresh air. (Image: Dauphin HumanDesign Group)

or the foodstuffs industry. What is more, the coating remains effective throughout the chair's operating life and is not affected by mechanical wear or cleaning.

Dauphin Stilo – stylish, ergonomic seating

Whether it be in a managerial office or in production planning, not only assembly and production workstations but also ergonomic solutions for classic desk work are needed in all industrial companies. Dauphin's new Stilo office swivel chair meets all the requirements as regards ergonomics, design and ease of use, making it ideal for use in these areas. At the A+A, visitors will be able to experience the numerous different models in the range.

New "Industry Trainer" – an effective training programme to encourage exercise in industrial workplaces

Simply purchasing ergonomic furniture and work equipment is not enough. Employees can only get the full benefit of health-promoting work equipment if their working habits are geared to protecting their health and preventing illnesses. With the new "Industry Trainer", the Dauphin Group will present a brief but effective training programme as a way of preventing illnesses in industrial workplaces. It is designed to encourage employees to include regular phases of exercise



Thanks to various special models, the Tec profile is suitable for use in a wide variety of areas. (Image: Dauphin HumanDesign Group)

by performing simple gymnastics and stretches. This helps to prevent tension in the joints and also encourages concentration. Dauphin is providing the "Industry Trainer" in the form of a poster and a brochure – these can be ordered from info@dauphin.de.

**17th - 20th October 2017: A+A,
Düsseldorf (D)**

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Statement by Joachim Schäfer, Managing Director of Messe Düsseldorf GmbH regarding MEDICA 2017 in Düsseldorf (13 – 16 November)



Those wishing to reduce the German economy, its potential for development, the value it creates or the number of people it employs to its most important common denominator have for years drawn on the following adage: 'Germany is a car nation.' And it is true and still true that Germany is a car nation. But, it is a saying that more than ever needs something decisive added to it – which is: 'Germany is a car nation as well as a health nation.' That is because, over the last 10 years, the health economy has grown significantly faster than the economy in general. The number of people in Germany who work in the health sector increased to more than seven million for the first time in 2016. The health industry's industrial segment alone now provides jobs for a good 900,000 people and therefore 100,000 more than the automotive industry does (sources: BMWi/ GGR, VDA).

Irrespective of any discussion about financing and the costs for modern healthcare provisions, the health sector is a stability factor and driver of growth not only in Germany but across the world. Europe and the USA are still the main export markets for medical-equipment companies, large numbers of which will be represented at the world's No. 1 leading trade fair – MEDICA – which will be taking place in Düsseldorf from 13 to 16 November 2017. The registrations to date lead us to expect that more than 5,000 exhibitors from 68 countries will be taking part.

Besides the 'classic' target markets of Europe, North America and Japan, suppliers are also increasingly focusing on emerging economies in spite of some uncertainties. That is because people's willingness to spend on health is increasing with rising incomes in these markets. More and more prosperity-related diseases and greater life expectancies in these countries are additionally driving up demand for medical products and modern treatments. The large number of people who will be attending MEDICA from other countries, particularly from Asia, is indicative of these increasing needs. Of the 120,000 to 130,000 trade visitors that MEDICA has regularly welcomed over the past, a good 60% of these travelled to the event from countries other than Germany.

The significantly increased popularity with visitors and exhibitors that the Messe Düsseldorf Group's medical trade fairs are enjoying in opportunity-rich continental markets – for example, the MEDICAL FAIR INDIA and MEDICAL FAIR ASIA – also shows how attractive these markets for medical-equipment suppliers are and demonstrates that a great potential to do business exists there. This applies in particular to the highly innovation-oriented privately funded areas of inpatient and outpatient care.

Rapid change – MEDICA in step with the times

But, just like the automotive industry, the healthcare sector is also experiencing rapid change. Digitisation is affecting all aspects of supply and such buzzwords as 'networking' and 'artificial intelligence' are characterising the technical discussions and are already affecting production in particular.

MEDICA 2017 will provide professionals with the opportunity of gaining insights into all the developments – during the presentations and talks at the MEDICA CONNECTED HEALTHCARE FORUM, during the MEDICA HEALTH IT FORUM and even with the help of the exhibitors' new products as well as the exciting MEDICA APP COMPETITION.

More and more health applications for smartphones, tablet PCs



and 'wearables' – applications that are already enjoying increasing acceptance in the practical world – are going to be presented, for instance, within the appropriately relevant contexts. 45% of German smartphone owners are already using health apps and another 45% can see themselves using them. A further 60% of people in Germany approve of the concept of an electronic patient file that could be used to store their medical data centrally (Source: Bitkom/ Bayerische TelemedAllianz BTA).

That is why one of the leading German health insurance providers has taken the initiative and commissioned the development of an electronic patient file for its more than 10 million clients. The plan is for customers to be able to access their health and treatment data on a central server with the help of a security code and an app or Internet browser. Standardised interfaces are to be implemented to enable the data to be exchanged between IT systems in doctors' practices and clinics.

The project will certainly constitute a topic for controversial discussion at the MEDICA ECON FORUM (platform for political dialogue on health issues / Hall 15), which is being organised at MEDICA 2017 by the Techniker Krankenkasse. That is because the IT infrastructure for electronic patient data, which has been on hold for years, was to provide comparable functions for all people covered by health insurance.

Artificial intelligence is another challenge that the healthcare sector is facing. A robot that is able to automatically set up needles for infusions and biopsies was already presented to an amazed expert audience at MEDICA 2016. It is therefore not surprising that artificial intelligence is on the agenda for this year's MEDICA HEALTH IT FORUM. Because what previously seemed like 'science fiction' is currently on the threshold of becoming reality in concrete and plausible applications. IBM's 'Watson' cognitive assist system, for example, is already helping to diagnose rare diseases at the University Clinic of Marburg. It is doing so by analysing patient data and comparing it with huge quantities of information about successfully solved previous cases and searching for documented symptoms and the drugs administered accordingly. The analysis also takes digitised medical knowledge sourced from databases, publications and even Wikipedia

Statement by Joachim Schäfer regarding MEDICA 2017

into account. It is then able to generate a list of probable diagnoses.

Developments in the field of medical imaging appear just as revolutionary. The first applications to use artificial intelligence for the automated detection of possible tumours on the basis of digitally generated image data from CRT or MRT systems are about to be launched on the market.

The above examples demonstrate the dynamic that the healthcare sector is currently experiencing. For the 'market players' in the field of medical technology this means: Only those who use their creativity and power of development to consistently align themselves with customer interests and market developments will be able to succeed.

This applies equally to the world's No. 1 trade fair – MEDICA – as well as the COMPAMED trade fair for suppliers, which will be taking place at the same time. It is also a market leader in its market segment.

New programme highlights for topical subjects

With the aim of meeting the needs of the international professional public even into the future, the programme for the accompanying conferences and the forums integrated into the trade fair have, over recent years, been radically restructured and aligned at a more international level with many highlights also being presented in English and rounded off by ever-new formats that focus on topical subjects.

The dynamic that characterises eHealth applications and the digital networking of those involved in the health sector are producing interesting business options, for example, particularly for creative start-ups – be it in innovative services, smart products or software applications. That is why the new MEDICA START-UP PARK has been created in Hall 15 with the intention of matching founders of innovative businesses up with potential business partners, investors and distribution partners. With the aim of complementing the contents that are going to be presented at MEDICA CONNECTED HEALTHCARE FORUM and the MEDICA HEALTH IT FORUM (both also in Hall 15), up to 40 start-ups will be presenting themselves and their ideas to an audience of experts on a total area of 500 square metres in direct proximity to these events.

The MEDICA LABMED FORUM is also new this year. Under the key heading of "The Interdisciplinary Fascination", laboratory medicine, molecular pathology, microbiology, medical technology and life sciences will be presenting themselves as drivers of innovation and generating new impulses for the entire medical sector.

Four themed days will be offering a range of exciting presentations and panel discussions that will be focusing on the following highlights: Preventive screening tests for cancer, cardiac and circulatory conditions, innovative diabetes diagnostic tools, infection and migration. The events will all be taking place between 11.00 a.m. and 4.00 p.m. and are free for trade fair visitors with MEDICA tickets. The cooperation partner for the content for the MEDICA LABMED FORUM in Hall 18 is the medical publisher Trillium.

The trade fair is 'smartening' itself up

Hall 18 is a modern structure that has been built with lightweight materials and that is located centrally between Halls 10 and 16. This temporary structure was specifically constructed for exhibitors who are presenting products within the MEDICA's laboratory-technology and diagnostics sections, which were previously located in Halls 1 and 2. Background information: The South Entrance to the Messe Düsseldorf trade fair centre is being completely renovated, due for completion in summer 2019. The old Halls 1 and 2 are at the same time going to be replaced with a newly built hall. The new Hall 1, measuring 158 metres in length and 77 metres in width, with over 12,000 square



metres of floor space, will be around the same size as Halls 8a and 8b once it is completed.

The new and the tried-and-tested – conferences by professionals for professionals

One highlight at the conference programme – the MEDICA ACADEMY – will be celebrating its launch at this year's MEDICA. It will be the venue for two workshops that are going to be devoted to 'blockbuster' subjects related to medical practice and that are going to be held on each of the four days of the fair. These will include, for example, 'updates' about imaging procedures, modern surgery procedures and even an ultrasound 'refresher' course. The MEDICA ACADEMY will also be discussing the 'hand over of practices' as a highly topical subject in a seminar aimed at both young physicians looking for practices and physicians wishing to pass on their practices.

In addition to the MEDICA ACADEMY, additional items on the MEDICA's conference programme will bridge the gap to the new products being presented at the trade fair through presentations with relevance to highly topical subjects and by focusing on the interests of the MEDICA's important target groups. The 40th German Hospital Conference deserves mention here as a leading event for the management of German hospitals. The bandwidth in this regard ranges from political health questions through aspects of financing and controlling for hospital services to the presentation of best-practice projects for hospital IT. These will additionally be presented at the same time by the ENTSCHEIDERFABRIK IT (IT DECISION-MAKERS) initiative at a large joint stand in Hall 15. This year, the German Hospital Conference is to be complemented by the European Hospital Conference, which takes place every two years as a gathering that allows top decision-makers from European hospitals to swap notes.

Other highlights include the DiMiMED conference for disaster and military medicine and the MEDICA MEDICINE + SPORTS CONFERENCE (respectively on 14 + 15 November 2017 / Congress Center Düsseldorf South) that will be focusing on prevention and sports medical treatment concepts. The conferences will be held in English and are geared towards an international audience.

Its great reception from participants has meant that the MEDICA PHYSIO CONFERENCE, which was launched in 2014 and organised by the Thieme publishing house, has established itself firmly within the conference programme. With its treatment-oriented presentations, it is directed towards professional physiotherapists, sports medicine specialists and orthopaedists and is taking place this year on 15 + 16 November (Congress Center Düsseldorf South).

Globally unique – varied presentations

Now, and in the future, a central strength of the MEDICA continues to be that it does not just deal with solutions for one individual medical specialist discipline, but that it offers solutions for the complete workflow of patient treatment in one place at one time.

Statement by Joachim Schäfer regarding MEDICA 2017

The more than 5,000 exhibitors from a good 70 countries will use MEDICA 2017 to present their entire range of new products, services and processes for inpatient and outpatient care. No other event worldwide comes even close to this wealth of innovations.

Being clearly structured by halls, the MEDICA trade fair will be focusing on the following subjects: Electromedicine / medical technology (approx. 2,500 exhibitors), laboratory technology / diagnostics, physiotherapy / orthopaedic technology, commodities and consumables, information and communication technology, medical furniture and specialist furnishings for hospitals and practices.

COMPAMED – suppliers as creative partners

COMPAMED 2017 will be taking place in Halls 8a and 8b alongside the MEDICA trade fair on all four days (13 to 16 November). With more than 750 exhibitors, it is the driving force and internationally leading market platform for suppliers to the medical technology industry. The high levels of creativity and development know-how that characterises the supplier sector means that, over its 25 years of its existence, COMPAMED has become the place to see what the future of medical progress looks like. Be it product development, production and marketing or the desire for comprehensive solutions: COMPAMED constitutes the starting point for close collaborations between suppliers and their customers.

This is something that may be demonstrated by the example of diagnostic applications for so-called 'Point-of-Care Testing'. These are analytical procedures for patient-proximate and rapid while favourably priced and uncomplicated laboratory diagnostics. The equipment used in diagnostics and treatment must operate reliably and automatically for the benefits to be properly utilised. Samples must be directed towards analysis in precisely defined quantities and then processed and tested. Drugs must be adapted and dosed according to

the individual disease patterns presented by the patients. And it is here that microfluidic systems play an important role. The development of smallest components and parts to this end has turned out to be highly complex but does provide the necessary basis for great progress in the field of 'lab-on-a-chip' technology, for example.

So if an increasing number of illnesses which, just a few years ago, could only be diagnosed with the aid of complex laboratory analyses and that now can be detected with the help of cheque-card-sized mini laboratories, it is the exhibitors at the COMPAMED trade fair and their competence who are driving these developments.

Other innovations that also deserve mention here are those that are being employed in so-called 'wearables' that are used to monitor important vital parameters and the functioning of implants. Be it suitable wireless modules for sharing data, the most delicate of sensors, body-compatible materials and coatings or powerful energy supplies that are associated with the smallest of footprints – the latest solutions are going to be presented at the COMPAMED trade fair with the most important aspects also being discussed at the two integrated specialist forums.

This globally unique combination means that both MEDICA and COMPAMED will be reflecting the entire process chain and presenting a comprehensive range of medical products, devices and instruments. Together, they occupy the entire space at Düsseldorf's exhibition centre.

Of the 127,800 specialist visitors who attended MEDICA + COMPAMED in 2016, a good 17,000 were particularly interested in the topics covered within the COMPAMED event. As in previous years, it will be possible to visit both events with a single ticket.

Messe Düsseldorf GmbH
D 40001 Düsseldorf

Statement by Joachim Schäfer, Managing Director of Messe Düsseldorf GmbH on COMPAMED 2017 – High-tech solutions for medical technology



Joachim Schäfer
Managing Director
of Messe Düsseldorf GmbH

Medical technology has undoubtedly become one of the most exciting industries in the world. This is because health is one of the most important elements of life, above all others. Therefore, advances in diagnostic and therapeutic procedures are followed with particular interest. The number of applications for patent from service providers is keeping pace with these expectations. The European Patent Office has recorded that more applications for patents come from medical technology than any other branch. All experts agree that the constant market growth of the past few years is set to continue into

the future. The true speed of the growth rate cannot be precisely estimated as a result of certain economic and political development, as a result of trade protectionism. Alongside acceleration in innovation from service providers and skyrocketing enthusiasm for and interest



Statement by Joachim Schäfer on COMPAMED 2017

in good medical care, superior technology trends also provide extra fuel for this boost. Digital transformation must be mentioned here. All industries have had to come onboard with digital transformation, and also miniaturise components to elicit better handling and easier application for their products.

Both service providers of medical technology and their suppliers profit from these positive factors. They will present their full range of services and expertise at the N° 1 international industry platform COMPAMED in Düsseldorf from 13 to 16 November 2017. COMPAMED has been a parallel event for the world's biggest medical trade fair, MEDICA, for 25 years, and has become a portal into the future of medical technology, allowing you to access futuristic technology and make it into reality today, with over 750 exhibitors. Be it product development, production and marketing or the desire for comprehensive solutions: COMPAMED constitutes the starting point for close collaborations between suppliers and their customers. Often, suppliers' ideas are aired here, and these lay the foundations for huge advances in development in the world of medicine in some cases.

This can be demonstrated by taking the example of diagnostic applications for 'Point-of-Care Testing'. These are analytical procedures for patient-proximate and rapid yet favourably priced and uncomplicated laboratory diagnostics. The equipment used in diagnostics and treatment must function reliably and automatically for the benefits to be fully exploited. Samples must be taken for analysis in precisely defined quantities and then processed and tested. Drugs must be adapted and dosed according to the individual disease patterns presented by each patient. Microfluidic systems play an important role in this. The development of tiny components and parts to this end has turned out to be highly complex but it does provide the necessary basis for definite progress, for example in the field of 'lab-on-a-chip' technology.

So if an increasing number of illnesses which, just a few years ago, could only be diagnosed with the aid of complex laboratory analyses can now be detected with the help of credit-card-sized mini laboratories, then it is the exhibitors at the COMPAMED trade fair and their skill who are driving these developments.

Other innovations for application in wearables should be mentioned here. Wearables are becoming a market that is earning billions worldwide. The best-known wearables are those used for sports watches or fitness wristbands. Microcomputers for medical applications (i.e. for monitoring important vital signs or monitoring implant func-

tion) are also developing at breakneck speed. Be it suitable wireless modules for sharing data, the most delicate of sensors and servos or powerful energy supplies that fit into the smallest spaces – the latest solutions are going to be presented at the COMPAMED trade fair and the most important aspects will be discussed at the two integrated specialist forums.

Raw materials and materials are also a big theme at COMPAMED. For the specialist providers of these, foam isn't just foam. Our trade visitors learn this at COMPAMED. New varieties (based on polyurethane) are marking new milestones in wound care. They show a high capacity for fluid retention and fluid containment and are thus excellently suited for use in modern wound dressings. Patients also have good reason to be happy about this: When dressings are changed, the foam can be removed from the wound easily and without causing pain.

When it comes to coatings, specialist experts know that even a few micrometers can effect significant change and improvement in the functional characteristics of a medical product. This applies for all systems such as catheters or stents that are used within the body. On the one hand, this depends on biocompatibility, but ensuring minimal friction is also a priority.

The entire value-added chain in medical technology

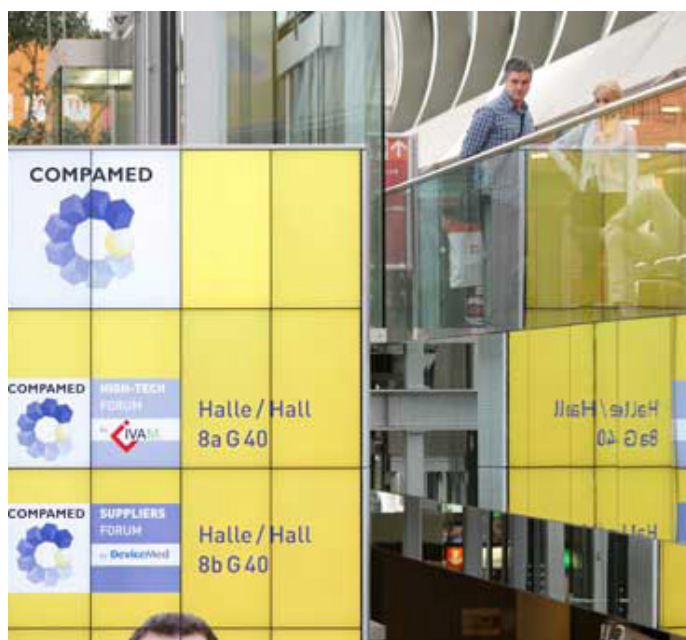
The product range at the COMPAMED trade fair (in Halls 8a and 8b) includes the following key branches: Components for medical technology (electronics, components, hoses, filters, pumps, and valves, among other items), materials/ substances, micro- and nanotechnology, made-to-order manufacturing, electronic manufacturing services (EMS), complex manufacturing and equipment partnerships (e.g. OEM – Original Equipment Manufacturers) as well as packaging and services.

In conjunction with the world's largest medical trade fair, MEDICA 2017, it will cover the entire medical technology supply chain – from individual components to measuring techniques and quality testing through to sterile, packed end products, within one time period and under one roof. This coordinated tandem of trade fairs and topics is a one-off event and both events experience more success as a result of this mutual support.

Therefore the two forums will be making relevant medical technology supplier trends subjects of discussion. Thereby, the COMPAMED HIGH-TECH FORUM (Hall 8a) presented by the IVAM association for microtechnology places key focus on microsystem technology, nanotechnology and production technology and process control. The content will focus on smart sensor solutions, printed electronics, microfluidics and innovative laser and photonics applications. The Countries session, on attractive markets, is dedicated to France.

At the COMPAMED SUPPLIERS FORUM held by the specialist magazine, DeviceMed (Hall 8b), specialists, leading international companies and organisations will be talking about current developments throughout the entire process chain which concern medical technology. Main focal topics this year include: Digitalisation (mobile health, medical apps, medical industry 4.0), wearables, 3D printing and regulations.

As in previous years, it will be possible to visit both events with a single ticket.



13th - 16th Nov. 2017: COMPAMED 2017, Duesseldorf (D)

Messe Düsseldorf GmbH
D 40001 Düsseldorf

Interplas 2017 Smart solutions for more productivity, quality and flexibility



Experience the smart factory – this is ENGEL's focus at the Interplas 2017, from September 26 to September 28 in Birmingham, United Kingdom. At its trade-fair booth, the injection moulding machine builder and system expert, headquartered in Schwertberg, Austria, will demonstrate the opportunities created by digitalisation and networking, and how inject 4.0 can help to take advantage of these in a simple fashion. From the perspective of technologies, the focus of ENGEL will be on the highly precise processing of LSR and extremely economic process integration.

inject 4.0 is ENGEL's answer to the challenges of the fourth industrial revolution. The goal is the smart factory in which production processes continuously self-optimize through the networking of production systems, the systematic use of machine, process and production data, and the utilization of decentralised, intelligent assistance systems. During the three days of the trade fair, ENGEL will demonstrate how plastics processors can increase the productivity and quality of their production and respond flexibly to ever more rapidly changing requirements with the production of inject 4.0 logos on an all-electric and tie-bar-less ENGEL e motion 170/80 TL injection moulding machine.

Self-optimising injection moulding process

The CC300 control is capable of simulating process fluctuations; the automatic readjustments by the intelligent assistance systems can then be tracked on the display of the machine. Three assistance systems from the inject 4.0 programme of ENGEL will be used. While iQ weight control maintains consistent injected melt volume throughout the entire injection moulding process, iQ clamp control monitors the mould breathing in order to calculate and automatically adjust the optimal clamping force. Thirdly, iQ flow control will connect the injection moulding machine, which is equipped with the e-flo electronic temperature control water distributor, to the temperature control unit, enabling the pump speed to automatically adjust to the actual requirement. This results in higher energy efficiency. ENGEL, together with its partner HB-Therm, has developed a new line of temperature control units called e-temp. The machine is connected via OPC UA, thus pointing the way for further applications. Together with its market partners, ENGEL is actively committed to establishing OPC UA as the standard for communication models in injection moulding applications. OPC UA enables platform-independent, high-performance, and above all secures communication, both within the shop-floor level and with higher level control systems such as MES and ERP.

Hydraulic precision for sophisticated LSR

Burr-free, zero-waste, rework-free, and fully automated – these are the key elements in the economic manufacturing of high-tech products from liquid silicone. At the Interplas, ENGEL will demonstrate how this can be put into practice with the production of venting valves for beverage bottles on a hydraulic ENGEL victory 860/160 injection moulding machine. This application optimally utilises the efficiency potential of the tie-bar-less machine. For example, the patented Force-Divider allows the moving mould mounting platen to follow the mould precisely while clamping force is building up, and ensures that the clamping force is evenly distributed across the platen face. This allows both the outer and inner cavities to be kept closed with exactly the same force, ensuring consistent compression of the mould and a consistently high product quality. iQ weight control provides a further contribution to high process consistency and reproducibility. Initially, the software was only available for injection moulding machines with electrical injection units; ENGEL has expanded the area of application with a version for hydraulic machines.

ENGEL is presenting the processing of LSR together with its partner Elmet Elastomere Produktions- und Dienstleistungs GmbH (Oftring, Austria). In this application, Elmet is providing a model TOP 5000 P LSR dosage system, a 16-cavity mould with a cold runner and a demoulding unit. Parts are handled by a viper 40 robot from ENGEL's linear robot programme. The conveyor belt is integrated into the safety gate of the injection moulding machine, keeping the entire system compact.

One-shot process reduces costs per unit

The healthcare application presented at Interplas also impresses with an extremely high degree of integration. Interdental brushes of the type „scrub!“ will be produced on a clean-room version of the all-electric ENGEL e-motion 170/110 T injection moulding machine. Together with the grip surface



At its exhibition both, ENGEL will produce single-component interdental brushes on a highly integrated and automated production cell. (Picture: ENGEL)



During the Interplas, ENGEL will produce geometrically complex venting valves for beverage bottles on a hydraulic victory 860/160. (Picture: ENGEL)



The production technology developed by ENGEL in cooperation with Hack Formenbau and Hekuma makes it possible to fully form up to 500 bristles using a single-component process. (Picture: ENGEL)

Smart solutions for more productivity, quality and flexibility

and core, up to 500 bristles can be formed in a single-component injection mould. Extremely delicate in the bristle area, the high-performance precision 8-cavity mould comes from Hack Formenbau (Kirchheim unter Teck, Germany), with Hekuma from Eching, Germany, providing the automation. A highly integrated, automated production cell, built in the modularised HEKUflex design, will be presented by Hekuma. Immediately after injection moulding, the parts will be inspected by camera and the usable parts will be automatically packed in retail bags, 16 parts to each. A bag leaves the production cell every four seconds.

The high degree of process integration and the single-component design of the interdental brush, developed by pheneo in Bremen, Germany, significantly increases production efficiency in comparison to the products and processes established on the market. Interdental brushes are generally

made up of three components, which are usually produced in separate processes: The grip surface, a wire-mesh, and the filaments. However, the technology of the system partners ENGEL, Hack and Hekuma has made single-component injection moulding production possible.

With a total shot weight of only 1.93 grammes, completely filling eight cavities with up to 500 bristles places extremely high demands on the mould as well as the injection moulding machine. The all-electric drive technology ensures the highest precision in machine movements. In addition, iQ weight control and iQ clamp control help to prevent rejects.

The application potential of the integrated process is huge. It ranges from medical applications to cosmetics. For example, besides interdental brushes, mascara brushes are needed in very large quantities and at low unit costs.

All-electric for maximum performance

At the Interplas, the booth next to ENGEL (Booth H71) is also dedicated to the very highest performance. Campetella from Montecassiano in Italy is presenting a highly integrated production cell for the manufacturing of thin-walled containers, including in-mould labelling. The cups will be injected in a 2-cavity mould on an all-electric ENGEL e-motion 440/160 T injection moulding machine. On the basis of this application, Campetella presents a side-entry automation of the MINI MODULA series. The entire system operates with a cycle time of 2.8 seconds and accordingly produces 2,571 cups per hour.

**26th - 28th Sept. 2017:
Interplas, Birmingham (UK)**

ENGEL AUSTRIA GmbH A 4311 Schwertberg

After successful premieres this year: special shows innovationparc and SAVE FOOD once again to be part of the trade fair in Moscow



Registration Window for upakovka 2018 Now Open

Interested companies can now register for upakovka 2018, to be held at AO Expocenter Krasnaja Presnja in Moscow from 23 to 26 January 2018. Exhibitors already signed up for the coming trade fair include Sollich, Kronos, Konica Minolta, TMI and Comexi. There will once again be an official German federal participation in 2018 with a registration deadline of 22 September of this year.

Despite the tricky political climate Russian food production is expanding and both Russian and international companies are continuing to invest in setting up and developing local production capacities. The resulting upswing at the last edition of upakovka with considerable rises in visitor numbers and satisfied exhibitors is now impacting companies' general registration behaviour: there is a clear trend towards enlarged stands.

As part of Messe Düsseldorf's international interpack alliance, upakovka benefits from the successful and established special themes at interpack as the world's most important event in the packaging sector and related process industries. For instance, the last upakovka

saw the innovationparc celebrate its highly regarded premiere. The forum for this parc was very well attended on all days of the trade fair with trade visitors appreciating this opportunity to gather information on selected innovations and discuss creative and future-oriented packaging solutions. The focus at the forthcoming innovationparc, like the special theme at interpack 2017, is the topic of Industry 4.0. It generated a great deal of interest in Düsseldorf. Visitors in Moscow can now expect application examples of solutions from the packaging machinery and process technology sector that open up new dimensions in terms of safety, tracking, protection against copying and plagiarism as well as custom packaging. The area of the special show organised in collaboration with the food processing and packaging machinery association within the German Engineering Federation (VDMA) is set to grow in size compared with last year.

Also part of the supporting programme again – after the launch of the initiative in Russia at the last upakovka – is the special topic SAVE FOOD featuring a presentation of new projects on the first day of the trade fair (23 January). The Russian office of the United Nations Food and Agriculture Organisation (FAO) headed by director Eugenia Serova invited high-ranking representatives from ministries and industry to the 2017 premiere to focus on food loss and waste in Russia and to present solutions. Amongst others, the Dairy Union of Russia and the Food Bank "Rus" joined the SAVE FOOD initiative. The programme for SAVE FOOD at upakovka 2018 is currently under preparation.

**23rd - 26th January 2018:
upakovka 2018, Moskau (Russia)**

Messe Düsseldorf GmbH
D 40001 Düsseldorf



© Messe Düsseldorf GmbH

The International Powder & Bulk Solids Processing Conference & Exhibition (IPB) China is going to open its doors again: The leading exhibition for powder and bulk solids processing will take place for the 15th time in Shanghai from 16 to 18 October 2017. As part of POWTECH World, IPB is one of the cornerstones of the global powder and bulk solids community and encompasses the entire spectrum of mechanical process engineering. The exhibition will be held at the modern Shanghai World Expo Exhibition & Convention Center for the first time in 2017. At the same time, IPB is widening its portfolio to include powder materials.

IPB 2017: New venue and excellent prospects for China's number one powder and bulk solids exhibition



As it prepares to take place for the 15th time, IPB is once again positioning itself as an expert forum for the entire spectrum of mechanical process technology – from sorting, grinding, separating, mixing and granulating to handling and transporting powder and bulk solids. Exhibitors will also include process-related technologies for measurement, analysis and process control in the portfolios. For the first time, suppliers of raw materials for powder and bulk good processes have been invited to take part in IPB as exhibitors. A new Powder Materials Expo special area will be created for them within IPB 2017.

With its move to the modern Shanghai World Expo Exhibition & Convention Center (SWEECC), IPB will benefit from better infrastructure. The venue at the old expo site has good transport connections, and the premises also allow for the exhibition and accompanying conferences to be held in close proximity to one another.

Trade visitors: A spotlight on chemicals

IPB appeals to trade visitors from a large number of different sectors and covers

the entire spectrum of process engineering applications. For instance, experts from the worlds of chemicals, pharmaceuticals, plastic production, cement, food/feed, cosmetics and engineering will meet again in Shanghai. Since the AgroChemEx exhibition will take place at the venue at the same time as IPB, the organisers also expect many additional trade visitors to attend from the field of agricultural chemicals.

Programme: Pharmaceutical, particle technology and much more

The co-organiser, the Chinese Society of Particology, makes sure that IPB and accompanying conferences have a high technical level. An extensive programme is planned, including the Shanghai Pharmaceutical Powder & Particle Processing Seminar on 16 October and the IND EX Safety Symposium on 17 October. Issues from the fields of pharmaceutical production, protection and safety and particle technologies are on the agenda in the conference rooms. Other presentations and on-site events on the latest hot issues in the industry will be held with trusted partners, among them IND EX,

Powder Industry Media and academic organisations. The programme will be geared especially towards the issues facing sectors located there.

Growing visitor numbers

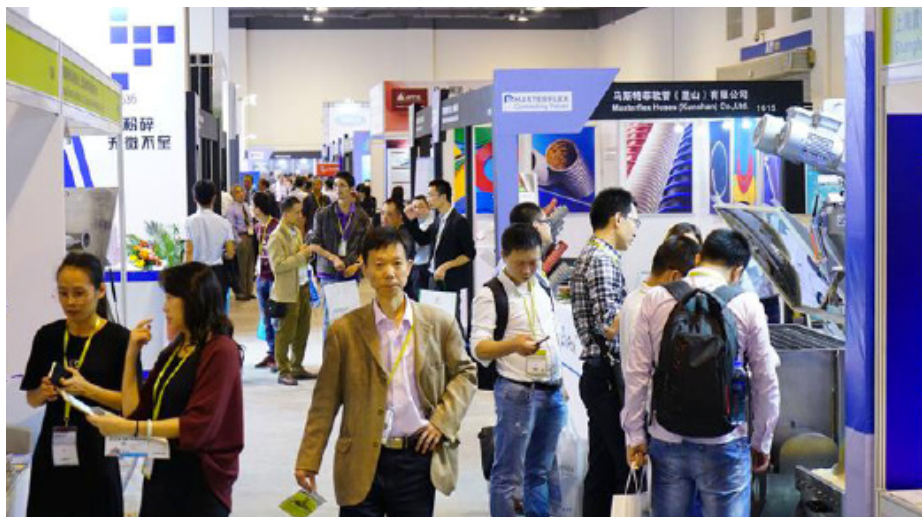
IPB 2016 enjoyed another significant increase in visitor numbers. Last year, 7,988 trade visitors came to Shanghai and learned about the latest developments and solutions in the field of mechanical process technology at stands set up by 142 exhibitors. Most trade visitors were from the chemical (27 per cent), pharmaceutical (21 per cent) and engineering (15 per cent) sectors, with users in plastic manufacturing and food/feed production also well-represented. Exhibitors at IPB 2016 travelled from 14 countries. Besides China, they included the US, Australia, Japan, Germany, the UK and Italy.

Process technology worldwide

POWTECH World is a global network of exhibitions and conferences relating to mechanical process technology. Events at POWTECH World represent the ideal platform for global knowledge sharing and new global business relationships. Other upcoming POWTECH World events:

- POWTECH: Leading exhibition for mechanical process technology, analysis and handling of powder and bulk solids, 26-28 September 2017, Nuremberg
- POWDER & BULK SOLIDS INDIA: International Conference & Exhibition on Storing, Handling and Processing Bulk Solids and Powder, 11-13 October 2018, Mumbai, India

16th - 18th October 2017: IPB, Shanghai (China)



As it prepares to take place for the 15th time, IPB is once again positioning itself as an expert forum for the entire spectrum of mechanical process technology.

ergMesse GmbH
D 90471 Nürnb erg

An attractive appearance in combination with hygienic design, ergonomics and ease of use: all these features are combined in a clever, simple manner in Labsit, the brand new laboratory chair from Bimos. Labsit not only meets all the requirements associated with this special profession, it also boasts a convincing fresh look, quality and durability. Whether in the lab or in an educational and training environment, Bimos Labsit is a specialist as well as an all-rounder, and – thanks to its variety of colours – an eye-catcher at the same time.

Simple is clever: Eyecatcher with outstanding laboratory features

The outstanding laboratory features of the new chair from Bimos is attested to by various certifications. Designed down to the smallest detail, comfortable and flexible, Labsit's high-quality workmanship guarantees long-lasting quality even when used non-stop – all with excellent value for money.

All surfaces are easy to clean and disinfect. Seamless finishing of the low-emission materials also ensures cleanliness and the safety of laboratory personnel. Repetitive tasks commonly performed in the lab, e.g. pipetting, demand a high degree of concentration and hand-eye coordination. Optimised seating solutions that create a balance between rest and movement are essential in this environment. The built-in "Flex Function" makes adjusting Labsit easy and intuitive, while the chair's innovative materials and finish are stylish and attractive. The flexible chair back supports the body when leaning back and bending to the side. The flexible front edge of the seat facilitates forward-tilt sitting, e.g. when using a microscope. The Labsit's ergonomic features prevent breathing from being impaired by poor posture, and avoid blood circulation problems in the legs.

Space saving and mobile

Laboratory workplaces are special in numerous respects: Large numbers of individuals often work side by side in a confined area and change chairs during the course of their work. Consequently, Labsit offers inherently intuitive settings and – thanks to the Flex Function – individualised, ergonomic seating



: One of Bimos' core competences is developing high quality, innovative chairs for laboratory work. The new Labsit laboratory chair has a convincingly fresh look, quality and durability. (Photo: © Bimos)



Adjusting the Labsit is easy and intuitive, while the chair's innovative materials and finish are stylish and attractive. The flexible chair back supports the body when leaning back and bending to the side. (Photo: © Bimos)

without adjustment parameters. To prevent seating from "disturbing" during some work situations, the Labsit stool can be conveniently stored under a work surface and used as a short-term seating solution when needed. The integrated handle of the compact Labsit chair, however, permits it to be moved easily from position to position. The optional Lab Clip accessory can be used to assign the chair to its specific lab area, a particular user or a company in general. In addition to its line-up of technical features, Labsit's variety of colours visually distinguishes what is often a rather mundane laboratory environment. The chair's excellent value for money also makes it extremely attractive to large companies in an international context.

Bimos, an Interstuhl brand, produces the best industrial and laboratory chairs in Euro-



The optional Lab Clip accessory can be used to assign the chair to its specific area of use, an individual user or a company in general. (Photo: © Bimos)



The flexible front edge of the Labsit seat facilitates forward-tilt sitting, e.g. when using a microscope. (Photo: © Bimos)

pe. For over 50 years, Bimos' specialist know-how, technical expertise and passion have ensured that individuals can sit in a way that makes them productive, healthy and happy, regardless of where they work.

One of Bimos' core competences is developing high quality, innovative chairs for laboratory work. This field places requirements on seating in terms of functionality, hygiene, space, ergonomics and comfort that are unique to the sector.

Bimos
D 72469 Meßstetten-Tieringen



In addition to its line-up of technical features, Labsit's variety of colours visually distinguishes the often rather mundane laboratory environment. The chair's excellent value for money also makes it extremely attractive to large companies in an international context. (Photo: © Bimos)



Hygiena's New SuperSnap Testing System Enables Accurate and Timely Verification of Endoscope Cleanliness

Hygiena, a leading provider of microbial detection, monitoring and identification solutions, has introduced its SuperSnap testing system, which provides high sensitivity, real-time verification of the cleanliness of endoscopes and other reusable medical instruments in just 15 seconds. This quick process highlights whether the initial cleaning steps have been effective, so the instruments can then be disinfected, sterilised and reused.

Operating on the powerful and proven adenosine triphosphate (ATP) bioluminescence technology, SuperSnap offers simple and dependable detection of ATP, a common component of all body fluids and bacteria. The system generates immediate, objective results, allowing for the rapid assessment of cleaning procedures and the timely undertaking of corrective actions. SuperSnap is a thousand times more sensitive than conventional protein detection systems, offering increased confidence in results. The system can be used at multiple stages within the reprocessing workflow to facilitate the success of later disinfection and sterilisation procedures, which are dependent upon effective



cleaning.

“Owing to their complex structure and design, endoscopes are very hard to clean. In addition, their high usage rate means that the available time for cleaning is short. Research has shown that more than 30 percent of endoscopes are inadequately cleaned, and even drying cabinets have been identified as sources of contamination. As such, diligent and thorough reprocessing is necessary to avoid cross-contamination and infection,” explains Dr Martin Easter, Chief Scientific Officer at Hygiena. “SuperSnap enables the quick and easy verification of cleaning on a daily basis, providing greater assurance of safety and containment of risk within the whole facility.”

SuperSnap is an integrated, all-in-one disposable device incorporating robust reagents and a swab for surface sample collection from the hand controls and distal end of the endoscope. A long swab is also available to collect samples from the internal channels. AquaSnap is another integrated device designed to collect liquid samples and can be used on the same system to verify water quality. All of the test devices generate results in the sensitive EnSURE luminometer in 15 seconds. The systems also incorporate Hygiena's SureTrend software package for the easy recording of test data and tracking of results. These data can be used to generate graphs and reports that detect cleaning issues, identify personnel training needs and monitor the overall cleanliness of an instrument inventory over time.



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