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SMB creates innovative canister filling system with dual filling station in a cleanroom

Canister filling for the pharmaceutical industry: 200 units per hour



Die Kabine der SMB-Abfüllanlage ist komplett aus Edelstahl gefertigt. Bis zu 200 Kanister in der Stunde können darin befüllt werden. (Foto: SMB) / The SMB filling system cubicle is made entirely out of stainless steel. Up to 200 canisters can be filled in the facility per hour. (Photo: SMB)

Minimum space usage, a fast filling cycle, simple yet effective cleaning and filling under cleanroom conditions: these were the specific requirements stipulated by the pharmaceutical client for SMB International GmbH prior to the design and manufacture of a new canister filling system.

To realize the project, the material handling specialist based in Quickborn near Hamburg designed two parallel-operating filling stations to replace the existing facility. The filling performance enables an output of 200 canisters per hour (each with a capacity of 25 litres). "The filling system cubicle is made entirely of stainless steel, which we equipped with sliding and double-wing doors in order to fully utilise the space," explained SMB CEO Andreas Heckel "While assembling the system in the plant we also had to be careful not to block any neighbouring evacuation route, be-

cause the filling process is only supervised by a single operator."

The canisters are initially centralised at an upstream filling station. To meet the high turnover during the filling process, four cleaned and closed canisters are simultaneously transported together on apron conveyors. The canister caps are effectively screwed off and placed upon a cap conveyor. The canisters are then moved from the uncapping point to the subsequent 'filling' and 'capping' stations. Throughout the whole process, the canisters are transported on round, stainless steel rods that enable simple yet effective cleaning. Conveying is carried out by four pneumatic swivel catches mounted on a linear slide.

The spillage trays swivel to the side, two filling lances are lowered simultaneously into a pair of open canisters and the filling valve is opened. During filling

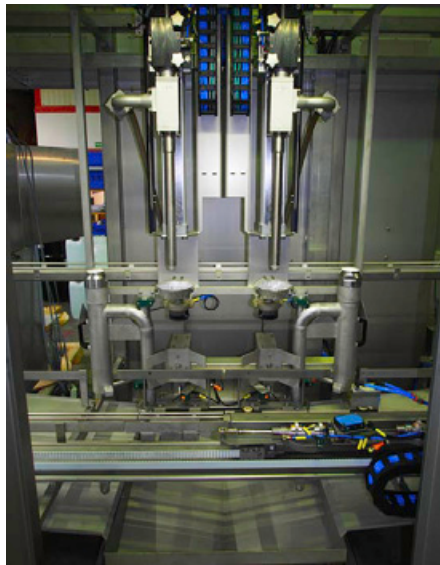
Canister filling for the pharmaceutical industry: 200 units per hour

the lances are raised via weight control, with both stations consequently equipped with a single-point weighing cell, the calibration of which was supervised by SMB. Shortly before completion of the filling process, immersion filling occurs, whereby the product is filled using a fine stream.

High-tech, integrated cleaning process

When the filling process for a batch is complete, both filling lances are cleaned in place (CIP). Two rinsing receptacles are manually swivelled under the lances, which are then cleaned in hot water. The main control system is notified of the lance rinsing process via a switching signal and the filling process is initiated once more, but only after the air in the filling cubicle has been completely exchanged via a cleanroom ventilation device.

SMB International GmbH D 25451 Quickborn



The SMB filling system cubicle is made entirely out of stainless steel. Up to 200 canisters can be filled in the facility per hour. (Photo: SMB)



The SMB filling system cubicle is made entirely out of stainless steel. Up to 200 canisters can be filled in the facility per hour. (Photo: SMB)

Kito Europe releases Clean Room hoists

Kito Europe GmbH announced the release of custom-built clean room hoists. These hoists are ideal for use in micro-chip manufacturing, circuit board processing, display panel production, pharmaceutical and food applications, or other ultra-clean production and testing areas.

Kito reports each hoist is custom built and certified up to class 10 particle size, meaning almost any Customer specification for contamination-protection is possible. The hoists are available for electric or manual operation, and can be combined with overhead cranes.

Kito's Clean Room hoists are built from their standard ED, ER2 or CB models, and depending on the job requirements, are modified with special enclosures constructed of stainless steel or nickel. In addition, selected parts such as chains are housed in special flexible bellows that trap dust or particles created from moving parts. Special double sealed packing is included in some cases to insure no contamination during shipment and installation process.

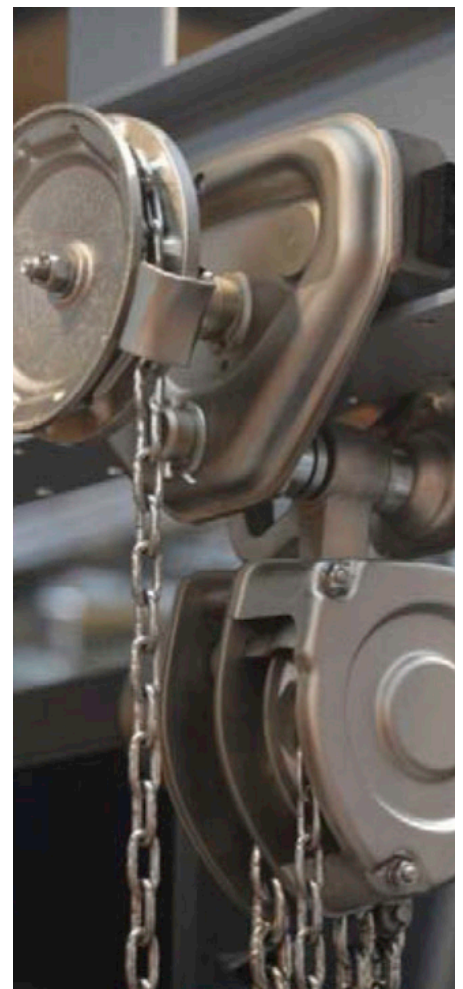
For pharmaceutical and food applications, wash-down suitable electric or manual hoists with anti-corrosion protection are possible.

Kito is a worldwide leader in electric and manual chain hoists, with subsidiaries or partners in all major global markets. Their European sales and supply headquarters is



providing new product supply, spares, and before and after sales support.

Kito Europe GmbH
D 40549 Düsseldorf



Company to promote stable production of pesticide-free, long-life vegetables

Toshiba to Commercialize Vegetable Production at New Plant Factory

Toshiba Corporation announced in May 2014 that it will add a new dimension to its healthcare business by starting production of pesticide-free, long-life vegetables in a closed-type plant factory that operates under almost aseptic conditions.* The company has begun construction of the plant factory at a facility in Yokosuka, Kanagawa prefecture, and will start shipping lettuce, baby leaf greens, spinach, mizuna and other vegetables in the second quarter of 2014. Annual sales are estimated at 300 million yen.

Building on its global presence in CT and other diagnostic imaging systems, Toshiba is promoting a healthcare business that combines technologies and know-how from across Toshiba Group to support the development of a society where people can lead healthier and happier lives. Promoting good health and a better living environment is integral to these efforts, and Toshiba is focusing its attention on improving food, water and air quality.

The plant factory is being installed in an idle facility at Yokosuka. It will be equipped with closed growing systems that integrate state-of-the-art technologies: fluorescent lighting with an output wavelength optimized for vegetable growth; air-conditioning systems that maintain constant temperature and moisture level; remote monitoring systems to track growth; and sterilization systems for packing materials. The production management system will be based on that utilized for semiconductor device production.



Image of Toshiba Clean Room Factory Yokosuka

Plant factories grow vegetables in close to sterile conditions in almost germ-free cleanrooms. Minimizing the entry of germs and the damage that they can do considerably extends the freshness and shelf-life of vegetables, a major concern for retailers of cut vegetables and salads. Toshiba will promote sales to supermarkets, convenience stores and restaurants, and also plans to meet market needs by offering functional vegetables rich in polyphenols and vitamin C, achieved by careful control of the growth environment. In order to increase sales in this new business, Toshiba is also considering construction a large-scale plant factory outside Japan, and the sale of equipment for plant factory applications within 2014.

The Toshiba Group is promoting „New Concept Innovation“ in order to create new forms of value by combining wide-ranging technologies. With these technologies, it

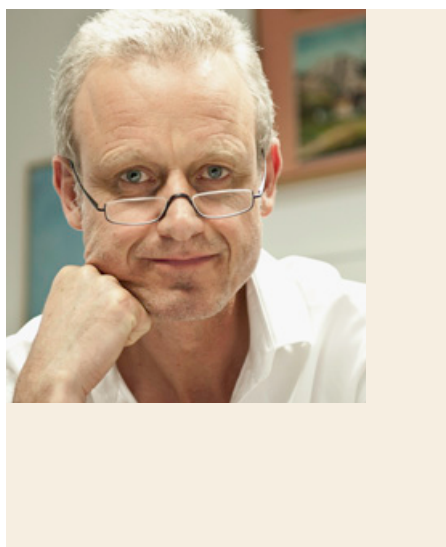
aims to offer new products and solutions not only for agriculture but also for many other fields.

Overview of the Toshiba Clean Room Farm Yokosuka:

- Address: 1-201-1 Funakoshi-cho, Yokosuka, Kanagawa
- Total Floor Area: Approximately 1,969 square meters
- Vegetables Grown: Lettuce, baby leaves, spinach, mizuna, sprout
- Production scale: 3 million heads per year (lettuce-equivalent)

* An environment where germs on vegetables are about 1/1000th of the level typical for vegetables grown in soil.

Toshiba Corporation
JP 105-8001 Tokyo



Dear readers, dear subscribers,

July was a very interesting month and we got a lot of informative and inspiring news. Now it is time to do the planning for the activities after summer holidays. We have a lot of interesting events for your appointment calendar.

So the amount of the German and the international newsletters is growing constantly. We hope we can give you with this information a good help for your daily work and your planning tasks.

Yours sincerely

Reinhold Schuster



NEW

If you click at this sign in the pdf-document you will easily get more information in the internet

Across a total area of more than 600 m², ASYS Prozess- und Reinraumtechnik GmbH implemented cleanrooms compliant with ISO Class 5 to 7 at GEWO in Wörth/Hörlkofen.

ASYS cleanroom for GEWO Feinmechanik



ASYS was responsible for the entire design and implementation of the cleanrooms including ancillary rooms and a pre-cleaning facility for parts. GEWO Feinmechanik GmbH uses the particle-free environment for the assembly of components and for cleanroom packaging of finished products. The products assembled under cleanroom conditions include, for example, components for electron microscopes that are used in TFT-LCD screen production and semiconductor industries. In addition, sub-assemblies for medical and semiconductor devices, microelectronics, optics, and aerospace are processed here.

Long partnership between ASYS and GEWO

ASYS already installed an ISO Class 7 cleanroom at GEWO in 2004. "We are very pleased with the successful and trustful cooperation. The annual support as part of ser-



Easy filter change integrated into the wall system.

vice and maintenance by ASYS works great. That's why we have again chosen ASYS Prozess- und Reinraumtechnik. Other projects will follow in the near future," says Stefan Woitzik, Managing Director of GEWO Feinmechanik GmbH. The cleanroom project implemented by ASYS includes several sub-projects. ASYS not only built the cleanroom and ancillary room facilities, but also the complete ceiling system, including lighting, temperature control with circulating air coolers, walls and filter technology. "A particular challenge in the planning and realisation were the large variety of required media and supply and disposal systems such as the central vacuum cleaning system, process cooling, sewage, electricity, and IT connections. These were installed concealed within the cleanroom walls. This required close coordination between GEWO, the specialist planners of the various trades and our planners," says Karl Goll, Managing Director of ASYS Prozess- und Reinraumtechnik.

Powerful material and personnel airlocks

To ensure a particle-free environment, both the employees and the material need to pass through special pre-cleaning airlocks. Personnel and material airlocks, as access to cleanrooms, have a crucial impact on production safety. Existing particles are whirled up here and extracted by filtering systems so that no contaminants will enter the cleanroom. The personnel airlocks at GEWO Feinmechanik are equipped with powerful air showers and automatic glass sliding doors between the connecting corridors. Automatic feed and cleaning systems introduce ma-

terial into the cleanroom through a 200 m² pre-cleaning room that was also built by ASYS.

The cleanroom classification

The realised cleanrooms meet cleanroom class ISO 7 and 5 in accordance with ISO 14644-1. This internationally valid standard classifies air purity according to the 0.5 µm reference particle. According to this standard, class ISO 5 allows no more than a maximum of 3,520 particles of size 0.5 µm per cubic metre of air. Hence the particles are very light-weight, but they can be filtered out from the ambient air by means of filtering technology. This is really necessary, as Karl Goll explains: "Even particles as tiny as 0.1 µm can massively damage the sensitive components for microscopes. Therefore, potential contamination that has an influence on the production process is minimised or avoided all together."

Unique ASYS monitoring system

Important factors in cleanroom environment are also temperature, pressure and humidity. These must be constantly monitored and kept constant so that the air stays particle- and germ-free. At GEWO, the ASYS cleanroom experts have installed a monitoring system that centrally checks the room temperature, humidity and pressure, and sends and stores alarm messages via SMS. The instrumentation, control and regulation equipment was planned together with the technical building equipment planners and specially implemented for the cleanroom at GEWO. The cleanroom temperature is held constant by an air conditioning system and controlled by return air coolers at 21 °C +/- 2 °C and 45% +/- 5% humidity.

Total area of the cleanroom facility is more than 600 m² with an extension area of 120 m². A third cleanroom is already being planned and will be implemented in the near future by ASYS.



Personnel showers of the personnel airlock into the cleanroom. On the right, the exit and escape door.



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BOY 25 E - a highlight at Plastex in Brno

BOY, the company that produces injection moulding machines and offers a range of clamping forces up to 1,000 kN, will be represented by its best selling machine during Plastex in Brno/ Czech Republic (September 29, to October 3, 2014).

In the booth of the local BOY representative, I.PLASTCOMPANY, spol. sro, a BOY 25 E will produce, inside pavilion G1, a transparent light conductor with a cycle time of 15 seconds. Polystyrene components will be produced in a precise way in a two-cavity mould for the automotive industry (moulding weight: 11 grams including the sprue). The compact BOY 25 E machine (with a footprint of only 1.8 m²) will be equipped with an integrated picker for the removal of the sprue.

Experience and maturity are the basis

The new BOY 25 E machine, presented

for the first time at the K 2013 exhibition, has been developed with a completely new concept. Based on the best machine components of the previous models, the BOY 25 E now has:

- clamping force increased to 250 kN
- energy saving servo drive
- laminating EconPlast unit with improved energy efficiency (optional).

Top hydraulics

The drive unit of the BOY 25 machine allows even faster and dynamic movements. Similarly, the resistance to friction and flows have been significantly reduced. The drying time (in accordance with EUROMAP 6 standard) has been shortened to just over a second.

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



The new BOY 25 E.



Light conductor

igus offers cables for moving applications with EAC and CTP certification

Fit for the Eurasian market with chainflex

Over 1,000 chainflex cables from igus, which are specifically designed for the flexible use in energy chains, have almost 4,000 certificates. This allows customers to not only distribute with complicated special approvals, but also guarantee the reliability of your machines. These include, CE, UL, CSA, GL and cleanroom certifications. New to the range are chainflex cable types that are now marked with the EAC sign for the Eurasian region.

Similar to the CE marking for European countries, the EAC Seal (Eurasian Conformity) has been available for Eurasian countries for some years. With this certificate, the manufacturer confirms that their products have successfully undergone the necessary compliance procedures so that they may be imported into the respective states or even produced there. To date Russia, Belarus and Kazakhstan belong to the alliance founded in 2011. To carry the EAC logo, products must undertake a process of conformity at an authorised certification body. „A multitude of chainflex cables from igus have now successfully passed this process and can therefore carry the seal of the customs union. Special approvals are distributed with the seal and the customer saves a lot of time during the import,“ said Rainer Roessel, head of chainflex at the igus GmbH. „What is special about our cables is that they have been specifically designed and tested for moving applications in energy chains, and therefore we can guarantee the life of the cables.“

Tested and safe - guaranteed

Over 1,000 different chainflex cables, have now been awarded the EAC test mark, and have been examined according to the relevant standards, such as the so-called Russian Machinery Directive. Due to the special structures and materials used the cables specifically developed for energy chains fulfil the conformity according to the guidelines of the Eurasian Customs Union for the first time. In addition, 986 chainflex types have passed the strict CTP fire certification and are also provided with this test mark. The new markings EAC and CTP replace the formerly required GOST-R certificate. In addition to the tests required to obtain the certificates, igus tests its cables in its own 1,750-square-metre test lab in order to guarantee the service life in application in energy chains. Over two billion test cycles are completed there every year. The results of these tests are collected in igus' own database so that the service life can be reliably predicted.



The EAC and CTP certificates for chainflex cables facilitate access to the Eurasian market. (Source: igus GmbH)

The appropriate certificates of the conforming chainflex cable families can be viewed and downloaded online at http://www.igus.de/wpck/11033/chainflex_certificates.

igus GmbH
D 51147 Köln

Fungal Spore Contamination Control and Residue Removal in Cleanrooms

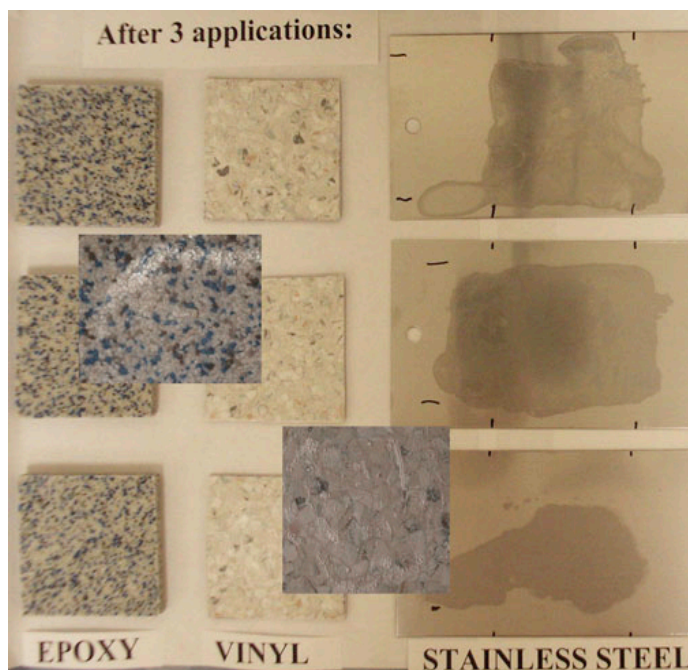


Authors: Jim Polarine & Marc Rogers

Residues

Disinfectants and sporicides are critical for microbial contamination control within pharmaceutical, biotechnology, and medical device industries. However, their regular repeated use can result in build-up on disinfected surfaces over time. These residues are potentially problematic from visual, safety, and product integrity perspectives. Residue is most apparent (and becomes visible to the unaided eye) at about 4 mg/cm² on stainless steel, but can be difficult to see on other surfaces commonly found in cleanroom environments (Fig.1).

Fig. 1: Appearance of residue on typical cleanroom surfaces (distance of 4 feet); 3 applications of 0.5 mL per coupon. Top row: low pH phenolic at 1:256; middle row: high pH phenolic at 1:128; bottom row: ready-to-use sporicide (blend of peracetic acid and hydrogen peroxide). The bottom row vinyl and center row epoxy coupons are enlarged (distance of 1 foot).



Cleaning Agent	Immersion	Wiping	Spraying	Flooding	Average %
Acidic Cleaner	12.3	4.6	34.3	2.1	13.3
Alkaline Cleaner	3.8	9.6	8.3	2.7	6.1
Neutral Cleaner	1.7	8.6	11.1	3.9	6.3
IPA, 70% v/v	10.2	12	27.7	4.6	13.6
DI Water	7.8	11.1	31.5	4.4	13.7
Average %	7.2	9.2	22.6	3.5	

*~43 mg per coupon low pH phenolic residue, representing 25 applications of 0.5 mL

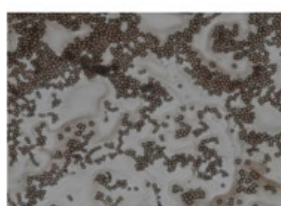
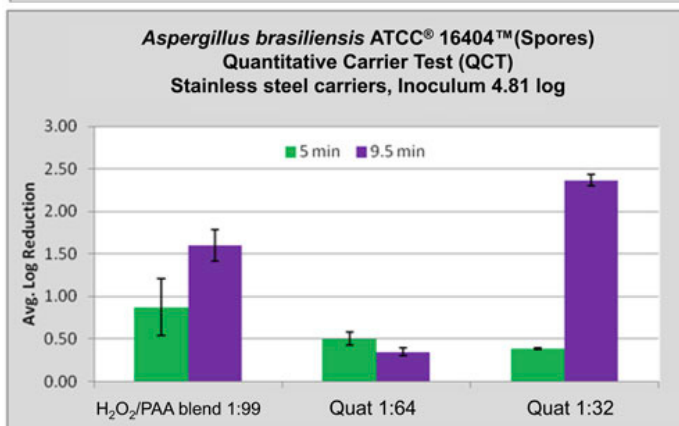
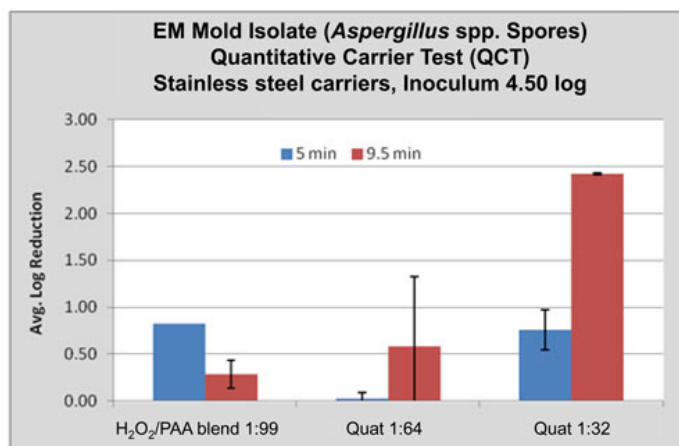
Table 1: Percent residue* remaining on stainless steel coupons after use of cleaners with four removal techniques

Fungal spore inactivation

Fungal isolates commonly found in cleanrooms:

Aspergillus spp. / *Cladosporium* spp. / *Penicillium* spp.
Chaetomium spp. / *Paecilomyces* spp. / *Mucor* spp.
Trycophyton spp. / *Stachybotrys* spp. / *Alternaria* spp.
Fusarium spp. / *Rhizopus* spp. / *Curvularia* spp.

Mold Spore QCT Results



Spore preparation at 400X
A. brasiliensis ATCC® 16404™



A. brasiliensis on SDA – J. Polarine

Fungal Spore Contamination Control and Residue Removal in Cleanrooms

Which product to use for molds?

- Quaternary ammonium formulations
- Phenolic formulations
- Isopropyl alcohol 70% v/v
- Ethanol 70% v/v
- Sporicides
- H₂O₂/ Peracetic acid blends, H₂O₂alone, Sodium hypochlorite

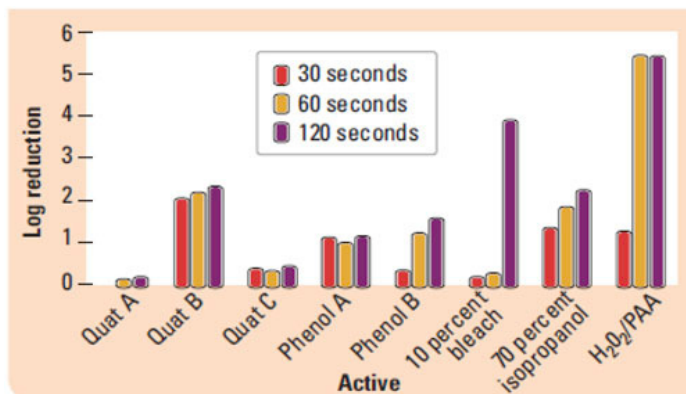
Conclusions

Table 1: Log₁₀ reduction of fungi – Time-Kill Suspension Study

*complete kill	Aspergillus brasiliensis ATCC® 16404™		Aspergillus fumigatus ATCC® 96918™		Trichophyton mentagrophytes ATCC® 9533™		Stachybotrys chartarum ATCC® 16275™		Penicillium notatum ATCC® 10108™	
	30 sec	60 sec	30 sec	60 sec	30 sec	60 sec	30 sec	60 sec	30 sec	60 sec
Quat A (with 21% IPA)	0	0.1	0.4	0.5	2.1	2.5	0.9	1.3	1.6	2.1
Quat B 1:128 (625 ppm)	2.1	2.2	2.4	3.1	5.6*	5.6*	3.7	5.4	3.8	4.9*
Quat C (OACs/Biguanide)	0.4	0.3	0.5	0.6	0.2	0.1	0.6	0.9	0.6	0.8
Phenol high pH 1:128	1.1	1	0.5	0.5	2.4	5.1*	0.7	1.4	1.4	1.9
Phenol low pH 1:256	0.3	1.2	0	0.8	5.4	5.4*	0.7	1.9	1.1	2.4
Bleach (0.525%)	0.2	0.3	0.3	1.1	5.4*	5.4*	0.2	1.3	0.5	4.9*
70% Isopropyl alcohol	1.3	1.9	1.9	5.6*	4.9*	4.9*	6.0*	6.0*	5.7*	5.7*
H ₂ O ₂ /PAA RTU	1.3	5.5*	5.5*	6.0*	5.1*	5.1*	3	6.2*	5.7*	5.7*

In general, a sporicide is recommended for control of fungal isolates on most cleanroom surfaces. In certain cases (e.g. two log reduction desired), quats or 70% IPA may be used. Results can be strain-specific and surface-specific, so in vitro coupon (surface) testing is advised.

Residue removal is necessary for a complete cleaning and disinfection program and should be performed as needed based on visual or tactile observation.



For further reading see: <http://www.ivtnetwork.com/article/jim-polarine-and-marc-rogers-rinsing-strategy>.

Acknowledgements

We thank Carol Bartnett for fungal inactivation data and Brook Meadows for residue data and photos (Fig. 1, Table 1).

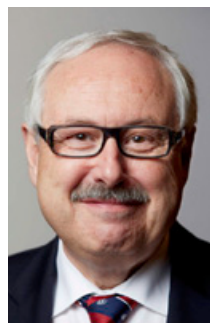


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The Chief Executive Officer of the Endress+Hauser Group chosen to take over top spot at the German Electrical and Electronic Manufacturers' Association (ZVEI).

Michael Ziesemer elected ZVEI president

At its delegates meeting held in Munich on 25 June, the ZVEI named Michael Ziesemer, a top executive with Endress+Hauser, as its new president. Ziesemer cited the energy revolution and the digitalization of various aspects of our lives as the industry's biggest challenge.



The ZVEI boasts 1,600 member companies which employ 1.5 million people around the world. The association represents the interests of a highly-technical industry with a product portfolio that covers a wide spectrum. Michael Ziesemer, Chief Operating Officer of the Endress+Hauser Group, has now been selected to take over the helm of the ZVEI after serving as its vice president for seven years. In his capacity as president, the 63-year-old executive is tasked with representing the interests of the electrical and electronics industry at the highest levels of

business and politics.

“Assuming the association’s top honorary office will be a wonderful task for me given that this industry is marked by so many innovations,” says Michael Ziesemer. “The ZVEI represents around 10 percent of the German manufacturing industry. Every third innovation from the manufacturing sector has its roots in the electrical and electronics industry. That’s why it plays such a significant role in creating jobs and prosperity in Germany.”

The ZVEI tracks economic, engineering, political and societal developments on behalf of the electrical and electronics industry. Although it includes large companies as members, the association consists primarily of small-to-medium enterprises. “Every industry in Europe has outstanding SMEs

that are among the global leaders in their segments,” says Michael Ziesemer. “Far from taking it for granted, this leadership position must be constantly recaptured.”

Radical changes

The energy revolution and the impact of digitalization are two key issues facing the industry over the coming decade. “The energy revolution and the Internet of Things bring radical changes that touch many areas of our daily lives and transform entire business models,” says Michael Ziesemer who adds: “The ZVEI can promote the dialogue and set the processes in motion that will help companies and society best prepare for this transformation.”

In 2013 Nikolaus Krüger, Corporate Director Sales and Marketing at Endress+Hauser, was elected to the ZVEI executive committee that is responsible for the area of Measurement Technology and Process Automation. “We’re proud that two of our executive leaders are in a position to share their know-how with this important German industry association,” says Matthias Altendorf, CEO of the Endress+Hauser Group.

Endress+Hauser AG
CH 4153 Reinach BL 1

Integrated design for the reduction of contaminating particles

Technical cleanliness for assembly processes: CleanFeed – the right concept to eliminate harmful particles in the clean room

Technical cleanliness is gaining increasing importance, particularly in automotive technology. Minute particles can cause devastating damage. For example when components are assembled onto a PCB a tiny stray piece of metal could connect two of the conducting strips and cause a short-circuit. Contaminating particles themselves have an effect on how components function. They can clog up jets and filters, block valves, or cause bearings to jam. The requirement for ever higher power density means that components and units are increasingly more complex, with much tighter tolerances. In recent years the importance of technical cleanliness has grown greatly. It started with active and passive driving safety systems such as ABS, progressed to include diesel and direct injection models, through to variable camshaft phasing and lead-free bearing cups.

With the aim of preventing hazardous contamination caused by particles just 50 - 1000 µm in size, the VDA has created some comprehensive guidelines in its VDA 19 publication for the inspection of technical cleanliness and "VDA 19.2 Technical Cleanliness in Assembly" for processing clean components.

Looking at the assembly process as a whole

"Technical cleanliness is not an isolated process. The technical cleanliness concept affects every department. It starts with staff training, and continues through the engineering design, the manufacture of the components, the manufacturing environment, logistics, assembly, the assembly equipment and the assembly environment," explained Jürgen Hierold, DEPRAG Sales Manager. And now the choice of appropriate assembly equipment to cope with joining technology is coming increasingly under the microscope. "This places a heavy demand on us as manufacturers, which can be achieved only by providing components that are harmonised to one another, along with innovative technologies, without major additional effort and at competitive costs," added Jürgen Hierold. "In our CleanFeed system we have developed a comprehensive concept for technical cleanliness, which includes decades of knowledge of processes, solutions and the components developed especially for technical cleanliness," he continued.

As early as the 1980s DEPRAG SCHULZ GMBH u. CO, the screwdriving system specialist based in Amberg, was already tackling this problem. And with success! The machine builders were supplying renowned US manufacturers with screwdriving systems for diskette drive assembly units. "Assembly conditions for the screwdriving process corresponded to sterile room requirements" recalled Hierold. "Our customers were pleased with our method of including all the planning, production and assembly steps into our solution." The fact that all the components could be harmonised with one another because they all came from a single source, proved to be an advantage. The one-stop-shop company convinced its customers with its high-quality, well balanced sections, all of which had the goal of - preventing any abrasion as the fasteners were fed into the screwdriving system and systematically extracting contaminating particles during the actual fastening process.

So what is the best procedure to adopt? Firstly, obtain an accurate definition of the cleanliness requirements for

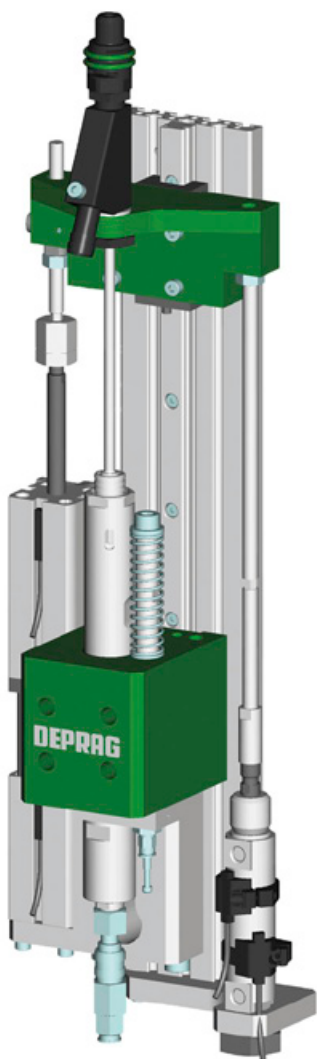


the product in question. Only in cooperation with the quality management department, the design engineers, the production and logistics is it possible to achieve the highest possible level of technical cleanliness and thus reliability. Trained staff is just as important as a clean production environment. The crucial point is that the clean room should be maintained in a state of meticulous cleanliness. The principal aim is to prevent disruptive particles from being brought in by people, materials or transport systems.

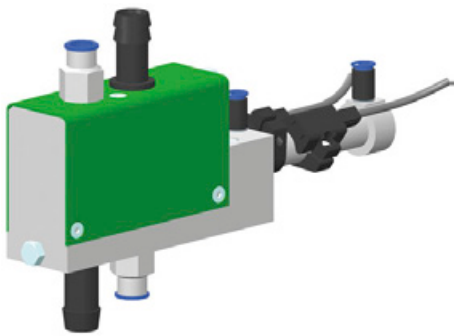
As early as the design stage of a component it is possible to avoid geometries where particles could collect (for example, by creating a through-bore rather than a blind bore). Moreover, it is a good idea to choose suitable materials, such as polished stainless steel or eloxated aluminium surfaces. Along with the screwdriving tools deployed in sterile rooms, the accompanying feeder technology is gaining in significance too. By choosing the right technology the number of particles can be greatly reduced as the fasteners are separated from one another. Standard vibratory feeders move the screws by creating a throwing motion inside the conveyor hopper. The screws rub against one another and harmful particles are created by this abrasive action.

Sword feeders are the alternative to vibratory bowl feeders

Sword feeders are the alternative to vibratory bowl feeders when a non-abrasive feeder is required in order to protect the components. DEPRAG sword feeders are



Technical cleanliness for assembly processes: CleanFeed – the right concept to eliminate harmful particles in the clean room



available in two sizes: with a filling volume of 0.15 litres or of 1.5 litres. A sweeping stroke scoops the components inside the storage container into an appropriately adapted segment-shaped lifting rail (sword). On this rail the components slide through mechanical chicanes by gravitational force, and are therefore sorted when they arrive at the screw separator. Any parts conveyed at an incorrect angle pass through mechanical chicanes back to the storage container.

A sensor on the rail governs the number of lifting strokes required. If the operator is processing fewer items, the feeder correspondingly supplies fewer of them. Where several different operators work with a single feeder unit, working efficiency can often suffer due to the differing working paces of each of the workers.

When the screwdriver is operated by one operator, the DEPRAG feeder unit adjusts to that person's individual working pace. When the shift changes the next worker can call up his own operating parameters (up to ten datasets can be stored). None of the workers feels held back and no-one feels pressurised.

With the optional RFID interface system, a user chip enables the individually customised settings to be activated - once they have been entered via the display unit.

The level of vertical manufacturing, the use of hardened, wear-resistant materials, and the specific coating procedures ensure consistent high quality, high levels of reliability and efficiency in the DEPRAG sword feeder.

Integral vacuum sources increase technical cleanliness

If the screw is fed to directly above the component, contamination by particles is not necessarily prevented. "It is better to look for alternatives", stressed the experts at DEPRAG. "Our Particle Killer provides a tried and tested solution". The feeder system works cleanly and reliably by using a blast of air to shoot the required screw into position for the next screw assembly. Any particles of contamination that may be created during the process are sucked out by the vacuum. The extracted particles are caught in a filter with a replaceable filter element. The filter has a transparent inspection window. Next, the cleaned fastener is fed into the screwdriving module (inline version) or made ready for picking (pick and place version). "Vacuum sources at every relevant position increase cleanliness and are recommended at every point where abrasion can occur", stated DEPRAG Sales Manager Hierold.

Beyond feeding technology - the entire process is crucial

There are even more plans for the comprehensive CleanFeed concept. Some undesirable particles caused by abrasion can occur as the screwdriver's bit engages into the drive of the screw. The DEPRAG MINIMAT®EC-Servo range of screwdrivers reduce their speed as they engage with the screw. The integral sensor system assists with recognising the precise position of the screwdriver and ensures that the bit engages properly into the screw head. Only once the bit is correctly engaged into the head does the speed increase ready to carry out the fastening action. This reduces the amount of harmful abrasion. The vacuum sources extract any remaining particles.

Cover plates and screw templates on the components reduce the risk of hazardous particles falling onto the component. Why not utilise the gravitational force of the particles? "Because of their compact structure all our screwdriving modules can be used for underfloor fastenings", said Jürgen Hierold. Extra equipment such as dirt traps collect any falling particles which can then simply be removed.

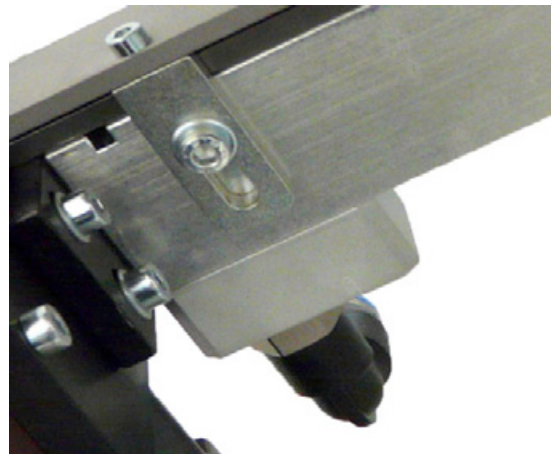
The use of ESD-capable materials further reduces contamination caused by electro-static build-up. Jürgen Hierold: "Our CleanFeed total package includes every possible measure to minimise particles."

So when a factory needs to create clean room production facilities they should choose a machine builder who offers every key aspect of screwdriving systems from their own range of manufactured tools. "It's the best way of ensuring that each component and each process, such as feeding, positioning, and screwdriving is harmonised to the others. The entire process can be examined, evaluated and enhanced with technical cleanliness in mind."

Miniaturisation in technology is coming on apace. Technical cleanliness in the production process is a burning topic and has become a quality characteristic. That, which is standard in the more sensitive sectors of the automotive and computer industry, is now a matter of concern for other suppliers and branches of industry too. Those who comply with these high cleanliness requirements have excellent opportunities in the market. Jürgen Hierold: "With the DEPRAG CleanFeed concept we are ready for the future. We are the professionals."

DEPRAG SCHULZ GMBH u. CO. has approx 600 employees and has representatives worldwide. This one-stop-shop SME is a high-grade specialist in screwdriving technology and automation. DEPRAG has a great deal of experience of technical cleanliness from its involvement in the automotive and electronics industries.

DEPRAG SCHULZ GMBH u. CO. D 92224 Amberg



Engel Austria exports dual vocational training to China

First apprentices start training in Shanghai

To ensure the rising demand for skilled workers is met, Engel Austria has always invested heavily in internal training: some 150 apprentices are currently training at the three Austrian sites of the producer of injection moulding machines. Now for the first time, apprentices are also being taken on at the large-scale machine facility in Shanghai – and Engel has thereby exported the Austrian model of dual vocational training to China.

Ten young men have already made a start: over the next four years, Engel Machinery Shanghai will train them as CNC technicians. “We are expanding rapidly in China, where we always have a high demand for skilled workers,” points out Dr Peter Neumann, CEO of Engel Holding. “Finding qualified staff in China can be difficult, though, because in many areas their state education does not measure up to our high requirements. That’s why we took the decision to set up our own training programme in China as well!”

In contrast to most other apprentices in China, Engel trainees gain a thorough practical grounding on the job from the first year onwards, and receive payment. Engel designed the new training workshop along the lines of its workshop at the company headquarters in Schwertberg, Austria, which has attracted national awards; the new facility is similarly equipped with state-of-the-art machinery. The trainers themselves were trained in Austria. Trainees are now undergoing 12 weeks of practical training and six weeks of classroom instruction alternately. At the end they receive a qualification equi-

valent to the Austrian standard that is recognised in both China and Europe.

Training the trainers in Austria

In setting up a dual vocational training programme, Engel is emerging as a pioneer in China. The producer of injection moulding machines has put in place the infrastructure necessary for this together with partner firm ALPLA Werke A. Lehner GmbH & Co. KG of Hard in Austria. With the support of the Austrian Institute for Economic Promotion (WIFI International) and the foreign trade organisation of the Economic Chamber, the two companies viewed various training facilities around Shanghai before finding the ideal partner in the Shanghai Information Technology College (SITC). The SITC is already running a special class devoted to the theoretical training of prospective CNC technicians.

“To ensure the SITC instructors could gain a clearer understanding of the dual training system, we invited them to Austria. While they were here they familiarised themselves with the apprenticeship programme at

our plants and the Steyr vocational school,” recalls Michael Grininger, Head of Human Resources at Engel. “We developed course content together, taking account of country-specific conditions with the support of the SITC.” As a result, apprentices completed general preparatory subjects at college before beginning their practical training with Engel and ALPLA.

Programme set for expansion

“Our aim is to attend one training class at the SITC every year from now on,” reveals Michael Grininger. “We are open to other partners joining the initiative – Austrian companies that are interested in offering dual vocational training in Shanghai are welcome to join us.”

Engel and ALPLA are seeking to expand the programme as early as the next cycle of training. In future, young men and women will also be able to train as plastics technicians in Shanghai – to European standards.

ENGEL AUSTRIA GmbH
A 4311 Schwertberg



Over the next four years, Engel Machinery Shanghai will train 10 young men as CNC technicians. Werner Wurm, an instructor at Engel headquarters in Schwertberg, Austria (left), assists with training on site. His Chinese colleague Li Taoxian (right) was trained in Austria. (Picture: Engel)



Engel's new training workshop in Shanghai is equipped with state-of-the-art equipment and machinery. Trainer Li Taoxian (left) explains Yuan Chenkai how to mark tools with a marking gauge. (Picture: Engel)

New standard for switch and control systems

Bürkert fulfils DIN EN 61439

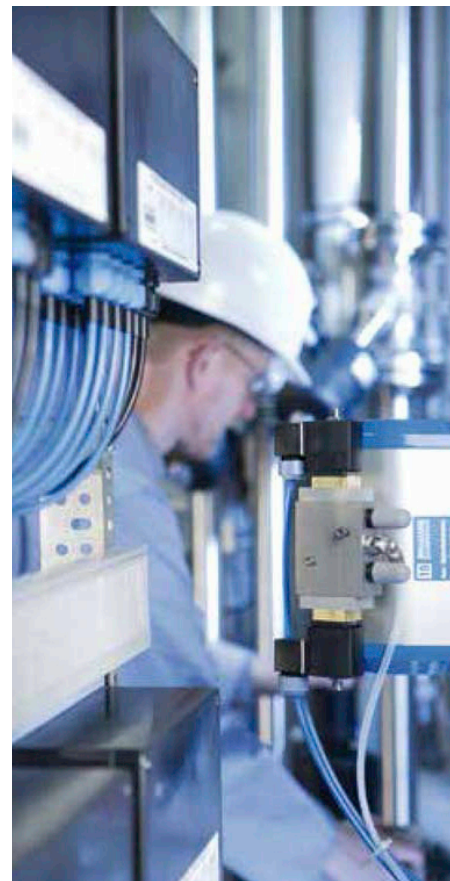
The new series of standards for the construction of switch and control systems, DIN EN 61439, will take effect on 1 November 2014, superseding the previous standard DIN EN 60439 with a transition period. Affected are all switch and control systems for the operation of machines and systems, as well as power distributors for high current applications. The reason for the new legislation is to improve the reliability and safety of such systems. The required documentation for planners will increase significantly as a result of the new standard. In the future, detailed type and item certifications as well as thermal calculations will be required for all switch and control systems.

The fluid technology specialist Bürkert is already capable today of providing its customers with control cabinet solutions that comply with the new legislation. "We fulfil 100% of the changes introduced in the new standards. All of our products in this area are available in conformity with the

DIN EN 61439 series of standards," reports Jens Fuhrmann, Manager of the Dortmund Systemhaus. Bürkert experts at this location in Germany's Sauerland region bear the entire planning, engineering, manufacturing and documentation responsibility for custom control units. This also includes delivery and commissioning of end-to-end solutions for every process environment, including potentially explosive areas. The strength of the Menden-based centre is in the many years of experience in the systematic combination of fluid technology with electrical and electronic systems.

Bürkert currently has 64 employees at the Menden location, divided between Sales and Systemhaus. The number of employees is growing steadily and there is a continuous demand for additional qualified personnel.

Bürkert Fluid Control Systems
D 74653 Ingelfingen



When it comes to the early identification of new technologies, Endress+Hauser is a clear leader – as shown by an award given by the renowned Fraunhofer Institute.

Endress+Hauser is a world leader in the identification of new technologies

Which companies are true champions when it comes to identifying new technologies? This is a question which the German Fraunhofer Institute for Production Technology IPT has tried to answer. More than 200 leading companies participated in its survey and five were honored.

The institute found the winners in cooperation with experts from successful enterprises such as Opel, Audi, BMW, Roche, Sauer and Bosch. The aim of the survey was to identify and compare the most successful approaches and concepts for the early identification of new technologies among leading European companies.

The investigation was based on a detailed written survey to which 207 businesses responded. The Endress+Hauser people taking part in the analysis were Ulrich Kaiser, Head of Technology, and Marc Baret, Technology Manager of Endress+Hauser Maulburg, the company's competence center for level and pressure measurement.

"We were questioned about different areas and topics in the early identification of technologies, with the focus on the process

of early identification, how it is organized, on its methods and tools, its link to our strategies and the evaluation of technologies at



Ear to the ground: Endress+Hauser keeps an eye on the latest technical developments.

the early stages," explains Ulrich Kaiser.

Illustrious names

Following the pre-selection, the most promising candidates were interviewed in great detail. The anonymized results went to the members of the jury for their assessment, with the jury eventually picking five companies that are particularly skilled and successful at implementing their concepts for the early identification of new technologies.

Beside Endress+Hauser, the other companies were Osram GmbH, Enel from Italy, Wittenstein AG and 3M Germany GmbH. "We are proud to be a member of this illustrious club," says Ulrich Kaiser. "We cannot look into each and every technology ourselves, but we can gain a lot if we keep a keen and watchful eye on what's happening worldwide in research laboratories, both of the scientific community and of the industry."

Endress+Hauser AG CH 4153 Reinach BL 1

At the 10-year anniversary of RAUMEDIC AG, the focus is on people

RAUMEDIC celebrates 10-year anniversary

On 28/06/2014, the specialist in polymers for the medical and pharmaceutical industry celebrated its 10-year anniversary. Guests of honour included political and economic representatives from the region. Later on, the employees celebrated with their families into the night.

CEO Martin Bayer looked back on the eventful time. The company has grown constantly over the past ten years. Over 50 million euros have been invested in continual ex-



Numerous political and economic representatives gave their anniversary congratulations.

pansion and modernisation. The plant in the north of Bavaria that the company moved into shortly after it was spun off from REHAU AG + Co. has already become too small. Therefore, RAUMEDIC is investing an additional 26 million euros in a new building with spaces for cleanroom production, logistics, a laboratory and administration. Martin Bayer thanked the company's companions for their lasting support and trust. He particularly emphasised the employees' large contribution to the company's successful development. The workforce has more than doubled since the company was founded, from 220 to 580. „Thanks to their experience and product and market knowledge, they are of inestimable value. Without them, there would be no RAUMEDIC,“ said Bayer.

Jobst Wagner, President of the REHAU Group, also looked back and emphasised that the spin-off of RAUMEDIC and location in Upper Franconia were a commitment to the region. However, the company will grow not only in Germany, but also in Asia and the US. He praised the „RAUMEDIC spirit“ and was

pleased by its successful development.

Dr. Reinhard Schick, Chairman of the Supervisory board of RAUMEDIC AG, emphasised that the key to this success is its well-trained employees.

Wilhelm Wenning, District President of Upper Franconia, Dr. Oliver Bär, District Administrator of the Hof district, and Stefan Pöhlmann, Mayor of Helmbrechts and Chairman of the A9 central commercial zone association, gave their congratulations and were full of praise for the successful development of the medical engineering company. Dr. Manfred Steinhäuser, Medical Director of the Hochfranken clinics, rounded out the session of speeches with a brief look at everyday life in the clinics. This gave the audience an idea of how RAUMEDIC products are used in surgery.

The anniversary celebration afterwards focused on the employees and their families. Over 1000 people celebrated together into the evening hours.

Raumedic AG D 95233 Helmbrechts



The following people celebrated ten years of RAUMEDIC together with political and economic representatives: Dr. Manfred Steinhäuser, Medical Director of the Hochfranken clinics, Dr. Oliver Bär, District Administrator of the Hof district, Jobst Wagner, President of the REHAU Group, Dr. Reinhard Schick, Chairman of the Supervisory board of RAUMEDIC AG, Christian Zuber, Mayor of Münchberg, Stefan Pöhlmann, Mayor of Helmbrechts, Wilhelm Wenning, District President of Upper Franconia, and Martin Bayer, CEO of RAUMEDIC AG



Autoinjector-Label

FINAT Label Competition 2014

International Innovation Award of the Label Industry for Schreiner MediPharm

The Pharma-Tac Plus label from Schreiner MediPharm won first prize in the special „innovation“ category during this year’s competition run by FINAT, the international association for the label industry. A further solution from Schreiner MediPharm, the Autoinjector-Label, was distinguished in the „promotional labels“ category with a „Highly Commended“ award.

The award-winning Pharma-Tac Plus label convinced FINAT with its sophisticated combination of booklet label, integrated hanger and detachable label parts. As a label for infusion bottles, it offers sufficient space for extensive information, ensures stable suspension, and allows reliable documentation of drug administration. There is sufficient space for text in several languages on ingredients and instructions for use in the paper booklet, which is securely connected to the plastic base label. The peel-open tab enables easy opening and re-closing. The secure hanger is part of the label and can be used by simply separating it from the label. The detachable documentation labels, which can be safely removed even with gloves, ensure reliable traceability of medications.

„Due to the special design of the Pharma-Tac Plus label, end-user processes are optimized, while patient safety is increased. An additional benefit for pharmaceutical manufacturers is the fact that the intelligent label solution adds value to the product and can easily be integrated into existing manufacturing processes,“ said Ann L. Merchant, President at Schreiner MediPharm.

„Highly Commended“ Award for Label Offering Added Value

The Autoinjector-Label, which was

distinguished with a „Highly Commended“ award in the „promotional labels“ category, also performs several functions in a single label. A temperature indicator, UV protection for the inspection window, detachable label parts, counterfeit protection features, and an abrasion-resistant field for subsequent

marking are just some of the innovative functions that enhance the ease of use and safety of injection aids.

Schreiner MediPharm, a business unit of
D 85764 Oberschleissheim



Pharma-Tac Plus Label

Image Analysis, Environmental Control and Experiment Handling via Mobile Devices for Life Science Research

Leica Microsystems Releases Leica Application Suite Advanced Fluorescence (LAS AF) 4.0

Leica Microsystems has launched the Leica Application Suite Advanced Fluorescence (LAS AF), the software platform for advanced life science research in widefield and confocal microscopy, in its 4.0 version. With LAS AF researchers can now perform 2D image analysis on multi-channel experiments and fully control the environmental conditions of an experiment. In addition, users of widefield systems can now connect to the acquisition station remotely anywhere at any time.

Wizard for 2D Image Analysis

A workflow guides users step by step through the 2D image analysis from applying filters, thresholding, and binary image processing, to measurements and classification. Results are obtained easily, quickly, and reproducibly even with multi-dimensional data sets. Each analysis step offers a set of tools

that researchers can choose according to the analysis requirements. The image viewer provides immediate feedback on the applied settings. Analysis workflows can be saved as user-defined protocols and applied to further data sets at a later time. The analysis results can be saved with the experiment or exported as Excel reports together with histograms and images of intermediate steps for documentation or further analysis. For statistical purposes users can analyze several data sets of experiments in one run by simply adding the data to a batch list.

Reducing complexity in multi-channel analysis

Samples with several fluorescent markers can be completely analyzed in one run by using separate analysis channels for different markers. Optionally, objects identified in different acquisition channels can be correlated, for example to count the number

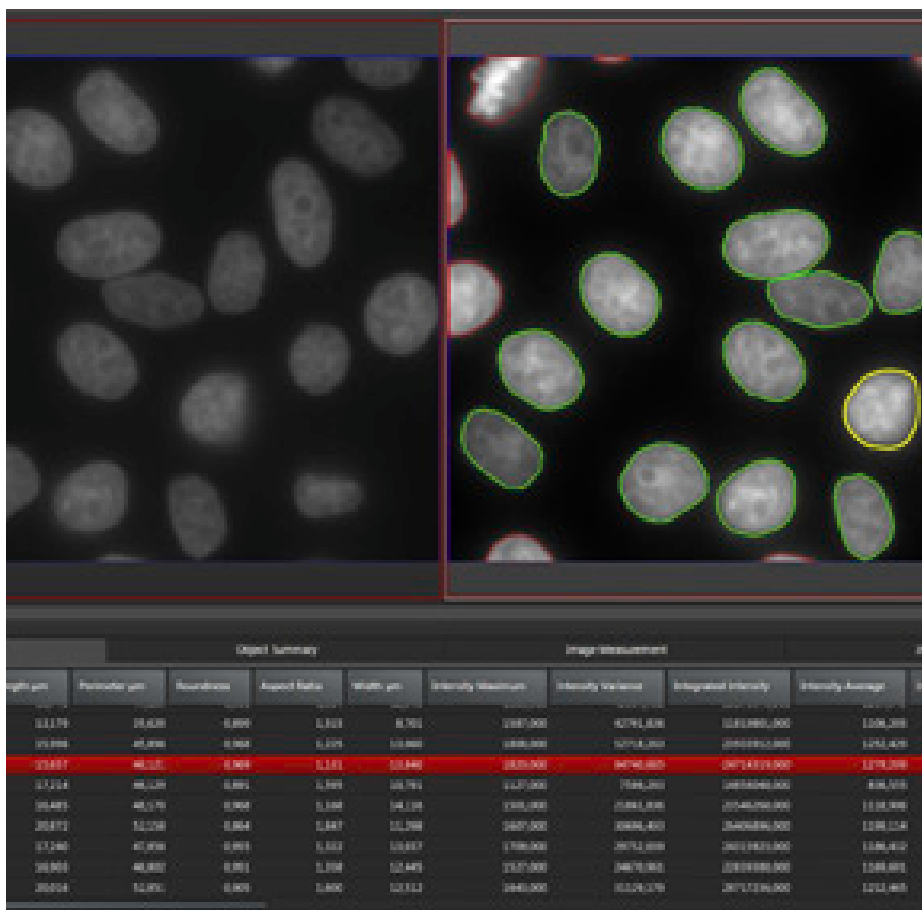
of DNA strand breaks per nucleus. 2D analysis can also be applied to color images – for example to determine the number of healthy cells in one analysis channel versus the number of abnormal cells in another analysis channel.

Control temperature, CO2 and O2, conditions during the experiment

Knowledge of all environmental parameters is crucial for researchers. The correct environmental conditions help minimize experiment failures and enable researchers to fully assess their results. With the Environmental Control module in LAS AF 4.0 users can monitor temperature, CO2 and O2 conditions at all times. They can also pre-define changes of these environmental parameters during an experiment and even let the system wait until a specified temperature is reached before starting. The range control either displays a warning if user-defined limits are exceeded or, alternatively, it stops the whole experiment. All environmental parameter controls are combined in one user-interface, making it easy to keep track. In combination with the LAS AF Live Data Mode module, acquisition macros can be defined to run temperature profiles – for example to perform heat shock experiments.

Monitoring experiments 24/7 – together with colleagues

On widefield systems, the LAS AF Mobile Connection module enables researchers to stay connected to and interact with their experiments 24 hours a day, seven days a week – without the need to stay close to the imaging system. Users can remotely start, stop or pause their experiments, capture images to identify the best time to start an experiment or display an image at a conference that has been taken seconds ago during a running experiment. Mobile Connection works via web client or mobile device. As several users can be connected with the microscope system at the same time, they can also interact with each other, exchanging messages to discuss the most recent developments of a live experiment.



Leica Application Suite Advanced Fluorescence (LAS AF) 4.0 is the software platform for advanced life science research in widefield and confocal microscopy. The image shows the 2D Analysis Module used to count nuclei automatically.

Leica Microsystems GmbH
D 35578 Wetzlar

New production facility to meet industry demands for generative laser melting technology

Topping Out Ceremony for New Concept Laser Production Facility

Concept Laser, a pioneer in the field of laser melting with metals, held a “topping out” ceremony this past June at their headquarters in Lichtenfels, Germany. The ceremony was a milestone in the expansion of the Concept Laser production facility to meet the growing demand in the market for its advanced generative laser melting technology, LaserCUSING. The new production facility is 3,500 m² (approximately 37,000+ sq. ft) and allows Concept Laser to increase its machine output by a factor of 2.5 compared to the previous year.



Frank Herzog, CEO of Concept Laser: „Our use of space between the different plots of land allows us to guarantee secrecy for the increasingly sensitive projects, thus ensuring a high level of confidentiality.“

“We have experienced highly dynamic growth in the USA,” said Frank Herzog, CEO, Concept Laser. “The primary reason for this growth is the increasing demand from the aerospace industry which relies heavily on additive production technology, as a rapid method for building prototypes and production metal parts. As a result of the increased in demand for machines, we are expanding our production facility capacity.

“The new facility provides additional benefits to our customers. The design of our new facility allows for guaranteed secrecy for the increasingly sensitive projects, thus ensuring a high level of confidentiality to our customers.”

Representatives of the laser melting system manufacturer stated that they are expecting a continuation of the massive growth in 3D printing (additive manufacturing) applications with metals. This will be driven primarily by the aerospace, automotive and medical and dental industries, with regional hotspots in the USA, Europe and parts of Asia. Frank Herzog, CEO of Concept Laser, reported highly dynamic growth in the USA at the present time. The reason for this is the aerospace industry, which relies heavily on generative production technology (additive manufacturing) as a fast method of building prototypes and test beds while optimizing the time and costs of manufactu-

ring amorphous components. The reason for the growth is the aerospace industry, which relies heavily on generative (or additive/3d printing) production technology, as a fast method of building prototypes and parts.

New production capacity generated by collaboration within the Hofmann Innovation Group

The Hofmann Innovation Group, of which the independent company Concept Laser is a member, is also a specialist in the fields of toolmaking and rapid and industrial prototyping. However, the group also boasts many years of experience in machine and plant engineering. The Hofmann Innovation Group has previously built machines for Concept Laser, so it was a logical step to take further advantage of the existing experience and synergy within the group, and a win-win situation for everyone involved. The new production facility was built by the Hofmann Innovation Group, will also be responsible for the future production of Concept Laser systems. Concept Laser will lease the space in the 3,500 m² production facility and be responsible for the commissioning and quality assurance of its own machines. Speaking at the topping out ceremony, Frank Herzog stressed the importance of the collaboration. „Concept Laser’s new production capacity is a long-term investment that has the active support of the Hofmann Innovation Group. In the future, the financially solid structure of the Group and its numerous synergies will help us stay on the right track,“ concluded Herzog.

Strategic Expansion to Meet Future Growth and Demands

In addition to expanding its production facility, Concept Laser continues to strengthen its workforce to meet the growing demands for its LaserCUSING technology. Since 2012, Concept Laser has strengthened its workforce in Production, Development, Service, and Applications Engineering divisions worldwide and has increased employees from 35 to 85. Along with the personnel expansion, in 2013 Concept Laser opened a new Research and Development (R&D) center. The 670 m² R&D center allows for expanded testing capacity with dedicated development equipment for the LaserCUSING. The new center offers Concept Laser engineers the perfect platform for process and system development. Engineering developments from the new center includes the recent release of LaserCUSING System X line 1000R in XXL format.

Concept Laser Announces New USA Subsidiary

Due to the growing demand for generative laser melting with metals in the USA, Concept Laser announced their plans to open a US subsidiary. Together with the existing subsidiary in China, and the company headquarters in Europe, this will place Concept Laser in prime locations around the world to support their growing customer base.

Concept Laser GmbH
D 96215 Lichtenfels



Lab cusing system assembly rig

TUM commissions research production line for battery cells

Efficient, durable and affordable: On the road to the super battery

In the future more and more cars will fill up with electricity instead of petrol – ideally, electricity from wind, water or solar energy. A prerequisite for the energy turnaround is the availability of efficient storage media. Scientists at the Technische Universität München (TUM) are working on the optimal battery cell.

By 2020 one million electric cars will be underway on German streets. This is the goal of the “German Government Program for Electromobility”. At the same time, the German federal government hopes renewable energy cover 60 percent of total energy consumption by 2050. However, these goals cannot be achieved without efficient storage. Lithium-ion batteries are a promising storage technology that is already being deployed in electric vehicles. But there is no mass production yet in Germany for the requisite battery cells.

20 production processes on 200 square meters

The Institute for Machine Tools and Industrial Management (iwb) at TUM has now

taken a research production line for battery cells into operation – a first in Germany. 20 different production processes are set up on 200 square meters of laboratory space. The researchers have at their disposal two drying chambers and a clean room, among others. Prof. Gunther Reinhart explains, “We now have the possibility of producing battery cells in large numbers and investigating how the production process affects the performance and lifetime of the cells.”

Close collaboration with industry

The scientists are already working on optimizing the processes. The electrode materials, for example, are not punched out as usual, but rather cut to shape with a laser.

“The process is fast, free of wear and flexible in format,” explains Prof. Michael F. Záh. “Initial cell tests with this material are very promising.”

The project is being done in close collaboration with industry partners that hope to implement the acquired insight in their products. The intention is to test the battery cells in electric cars in the future, for example.

Battery research at TUM

Four projects are currently participating in the iwb research production line for battery cells: DeLIZ, ProLIZ, ExZellTUM und EEbatt. Over 15 departments and institutions are doing research into battery cells at the TU München. The research includes the complete process chain from cell chemistry to fabrication.

Technische Universität München
D 80333 München



With its EcoCWave, Dürr Ecoclean has developed an innovative equipment system for aqueous cleaning processes which can handle a wide range of tasks – from coarse to fine cleaning – in an efficient manner. To this end, the new all-round talent comes with a list of features which ensure superior cleaning quality and process reliability, shorter idling times, and major energy savings. Moreover, this flexible machine sets standards in terms of space demand, operator-friendliness and design.

Superior quality, cost-efficiency and process reliability in aqueous parts cleaning

Aqueous part cleaning with alkaline, neutral or acidic media ranks among the most widely employed technologies in many industries, e.g., automotive manufacturing and its tiered suppliers, medical equipment production, mechanical workshops performing machining, punching, drawing or bending tasks, precision mechanics and optical systems. Application levels range from coarse to intermediate and, ultimately, fine cleaning. Dürr Ecoclean's new EcoCWave system, superseding the existing Universal 81W line, covers this entire application spectrum thanks to its modular, forward-looking technology. With its very small footprint the system can easily be integrated in any production process. It also provides versatility, being easily adaptable to changing cleanliness and throughput specifications so that the user will enjoy investment certainty.

Intelligent technology yields superior cleaning quality

The EcoCWave is equipped with two or three flooding tanks, depending on customer specifications. The tanks exhibit a flow-optimized rounded geometry and are of upright design. Unlike the low-mounted rectangular containers used in conventional aqueous cleaning equipment, the round tanks prevent the formation of chip and dirt traps. Improved cleaning quality and a longer service life of the cleaning fluid are the result. Moreover, each tank has its own separate fluid circuit comprising full-flow filtration. The cleaning and rinsing fluid is filtered on filling and draining as well as in the bypass. Bag filters or cartridge filters can be fitted in a combination-type filter housing. The system's filtration characteristics can thus be adapted to changing cleanliness requirements quickly and without any hardware modifications.

Another contributor to improved performance is the optimized rollover unit in the working chamber. It ensures that the fluid and mechanical cleaning devices – e.g., ultrasonic units and spraying nozzles – can reach the product effectively from all sides. In addition, the design of the rollover unit minimizes fluid drag-out.

Faster processes cut per-unit costs



Thanks to its design the new EcoCWave does not only meet any cleaning task but also cares for optimized quality and efficiency in cleaning processes.

Powerful pumps and large-diameter piping used throughout the EcoCWave accelerate the operations of filling and draining the work chamber and tanks. As a result, non-productive times are minimized, product throughput is increased and per-unit cleaning costs are reduced. These improvements benefit spray cleaning processes as well. Here, an increased number of nozzles working in optimized arrays deliver a more effective cleaning performance and hence, shorter cycle times even in removing coarse contamination. In order to shorten cycles still further, the vacuum drying system available in addition to hot-air drying has also been improved.

Equal to any cleaning task

Due to the use of variable-frequency driven pumps, volumetric flow rates can be adjusted precisely as needed. Major energy savings are achievable as a result. On the other hand, the cleaning process can be selectively adapted to meet specific requirements. Thus, different work chamber filling levels may be defined in immersion processes, e.g., with filling and draining cycles suitable for cleaning parts having blind holes or complex geometries. An intense fluid exchange in critical component areas substantially boosts the system's cleaning performance. In spraying processes, the jet strength can be adapted exactly to the part being processed. Moreover, the ability to control the spraying pressure expands the range of cleaning agents that can be used.

Continuous reconditioning of the rinsing fluid is provided by an Aquaclean system

which can be integrated into the machine. The cleaning fluid in the first flooding tank is heated entirely by waste heat from the evaporation process.

Flexibility includes adaptable batch volume

The EcoCWave has a vacuum-tight work chamber designed for batches measuring up to 670 x 480 x 300 mm. As an alternative, an enlarged work chamber for 670 x 480 x 400 mm containers may be installed without enlarging the footprint. The volume adapted batch configuration reduced per-unit costs.

Easy operation with process visualization

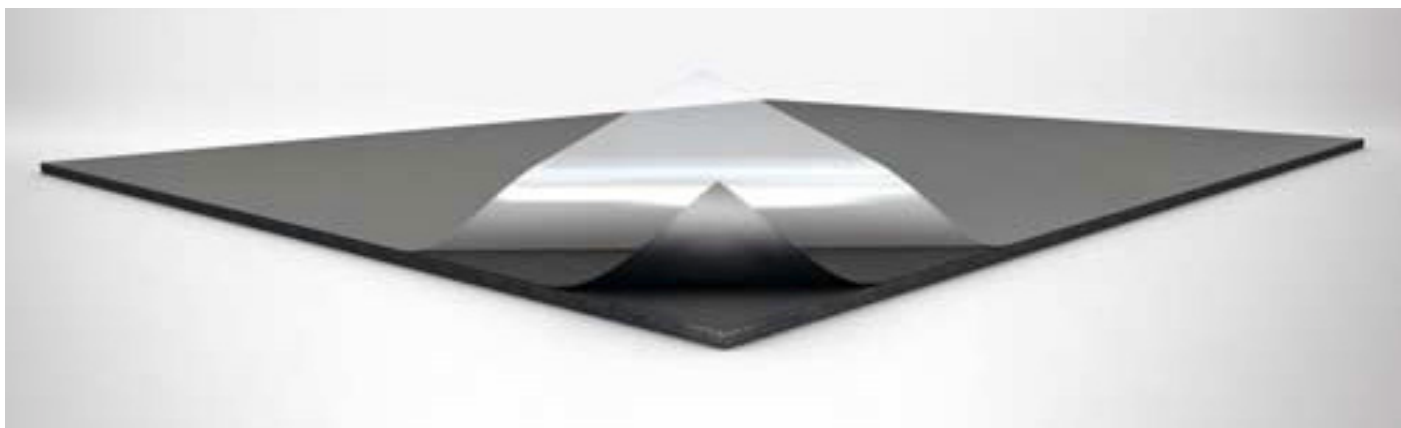
A new colour display with self-explanatory pictographs makes the EcoCWave easy, fast and reliable to operate. Diverse process data such as the work chamber fluid level are indicated in real time by the built-in process visualization system. An acquisition of all relevant process parameters (e.g., for the development of cleaning programs) can be implemented optionally.

Exterior design: space-saving and open to modification

Apart from its high performance, Dürr Ecoclean's engineers focused their attention on minimizing the system's footprint. Accordingly, a machine configured with two flooding tanks needs only 1.8 sq.m. of floorspace. The EcoCWave features a stylish appearance with integrated loading system and all-round safety-glazed enclosure.

Dürr Ecoclean GmbH
D 70794 Filderstadt

A multi-layer construction consisting of closed-cell elastomeric insulation material, robust glass-filament fabric and easy-to-clean, UV-resistant protective foil provides the protection against microbial contamination needed in the food industry. (Illustration: Armacell)



Arma-Chek SD: attractive, robust insulation system from Armacell for indoor and outdoor installations

Easy-to-clean 2-in-1 solution; protection against microbial contamination

New addition to Armacell's Arma-Chek range: an especially easy-to-clean product that meets the highest aesthetic requirements. Arma-Chek SD combines in one product the tried-and-tested properties of the closed-cell elastomeric insulation material AF/Armaflex with a tough, shiny, anthracite covering. The pre-covered insulation system is suitable for indoor and outdoor installations and is predestined for use in the food industry.

Reliable insulation with an attractive-looking covering

Arma-Chek SD is the ideal solution wherever not only robust protection against weathering and mechanical stress is required, but also an aesthetically pleasing appearance. The covering material with an attractive, shiny, anthracite surface protects the insulation material against mechanical impact. At the same time it is so flexible that, unlike a metal covering, it recovers from blows and no dents are left in the material. The tough covering also protects the elastomeric insulation material against saltwater, UV rays, oil and chemicals. The smooth surface is tear- and impact-resistant and very easy to clean. It is even possible to use high-pressure cleaners, but the contact pressure must never exceed 1 N/mm². Because it is so easy to clean and provides an aesthetic appeal, Arma-Chek SD is predestined for use in clean-room environments such as the food industry.

Risk of undiscovered microbial contamination of the insulation

Due to the high humidity, which occurs when installations are steam-cleaned, for example, the food industry provides perfect growth conditions for mould. In this industry, there is a particularly high risk of

germs settling in the insulation on pipes, air ducts and other installations. If traditional open-cell insulation materials with a metal jacket are used in this environment, there is a danger of water penetrating the insulation if the covering is not completely tight – and this is very difficult to achieve in the case of metal jackets. In combination with dust and dirt particles, the damp mineral fibre insulation provides an ideal breeding ground for microbial growth. Germs can settle on the surface of pipes and ducts forming a layer of slime which may then result in a biofilm. Once a biofilm has formed, thorough mechanical cleaning followed by disinfection are required to remove it. This means that the entire insulation and covering material have to be renewed. The real problem, however, is that the source of bacteria and mould is often not discovered because the processes take place under the metal jacket and are therefore hidden.

Greater security through pre-covered elastomeric insulation systems

Arma-Chek SD is manufactured based on AF/Armaflex. The elastomeric insulation material has a closed-microcell structure, low thermal conductivity and high resistance to water-vapour transmission. These properties ensure that installations insulated with Arma-Chek SD have long-term protection

against condensation. Because they are dust- and fibre-free materials, Armaflex products offer passive protection against micro-organisms. In addition, AF/Armaflex is equipped with antimicrobial Microban® technology and has even greater resistance to bacteria and mould. An important benefit of flexible covering systems is the direct connection to the adjoining insulation. This rules out the risk of water ingress, because where there are no seams and crimps, there is no danger of moisture or germs penetrating the insulation.

2-in-1 solution is quick and easy to install

Using pre-covered insulation systems means that both time and money can be saved. Unlike traditional insulation materials and jackets, Arma-Chek SD can be installed directly in one step. The material is easy to cut and can be installed on site without the need for any special tools. Arma-Chek SD is provided as factory-covered continuous sheets in standard and self-adhesive versions in insulation thicknesses from 10 to 32 mm and as self-adhesive tape. The covering material is also available separately on rolls for retrofitting on existing insulation.

Armacell GmbH
D 48153 Münster

Gerresheimer produces drug delivery device for a leading pharmaceutical company

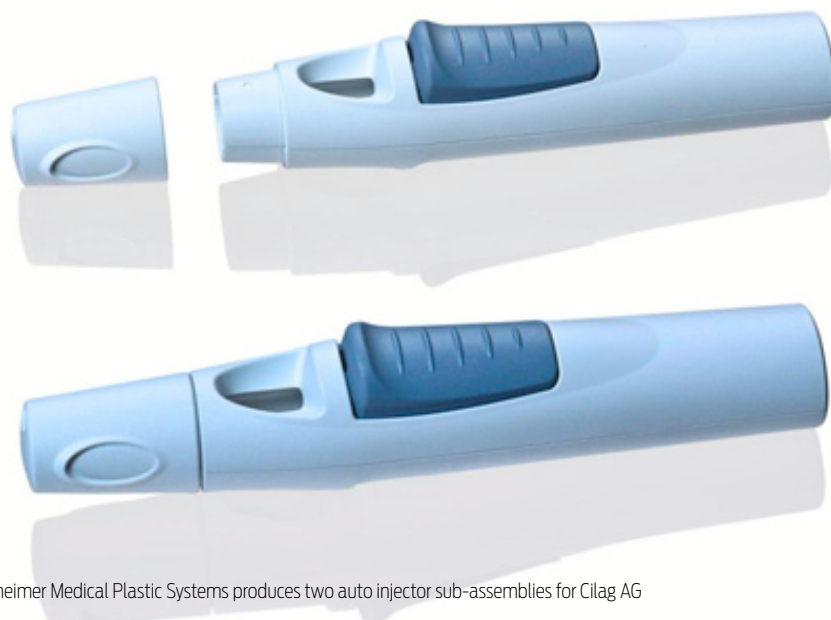
New order for auto injector production

A leading US pharmaceutical company commissioned Gerresheimer with the production of auto injectors. The drug is prescribed for the treatment of moderate to severe active psoriasis arthritis. Gerresheimer produces the plastic components at the Medical Plastic Systems division's production site in Kuessnacht, Switzerland.

The auto injector consists of fourteen plastic components and three metal parts. Gerresheimer produces the plastic components and joins them with the metal parts to create two sub-assemblies, which are assembled by the customer and loaded with the drug. The production lines made by Mikron were supplied by the customer for reengineering and industrialization. Gerresheimer developed and produced the required multi-cavity molds; a 650 sqm ISO class 8 cleanroom at the Kuessnacht site was put into operation for the first time and molds and lines also underwent qualification. The production started in January 2013. For the customer, Gerresheimer's expertise in the area of injection and the wide range of services made them the perfect choice.

Psoriasis is a chronic illness which leads to inflammation and scaling of the skin. The causes of this disorder are complex and have not been researched conclusively, however, malfunction of the immune system has been identified as playing a major role. About one third of psoriasis patients also suffer from psoriasis arthritis with swollen and aching joints. In severe cases, the affected joints are permanently changed or damaged. Psoriasis

arthritis is commonly treated with the drug (active ingredient: Golimumab) which contains monoclonal antibodies that help control the malfunction of the immune system. Once a month, the drug is injected subcutaneously by patients using an auto injector.



Gerresheimer Medical Plastic Systems produces two auto injector sub-assemblies for Cilag AG

Since 2007, Gerresheimer's Medical Plastic Systems division became a global strategic partner for the customer. At present, Gerresheimer operates the large-scale production of medical plastic systems for customer's device, diagnostics and pharmaceutical divisions at five of its total of six production sites that cater to this area in Europe, the US and Asia. The Technical Competence Centers in Wackersdorf (Germany), Peachtree City (USA) and Dongguan (China) also work in close cooperation with the customer. The TCCs act as partners for the entire process chain from development right through to mold engineering, automation and preparing the product for large-scale production. For the customer, the integration of Gerresheimer's special expertise at an early stage means that envisaged budget is not exceeded, technical challenges involved in the manufacture of innovative products can be solved, critical quality-related aspects can be identified and risks can be minimized. In addition to the business unit Medical Plastic Systems, the customer also has business relations with Gerresheimer AG divisions such as Primary Packaging Glass and Plastic Packaging.



Gerresheimer AG
D 40468 Düsseldorf

Medical Innovation Center in Heidenheim

Innovation Center for Wound Dressings and Surgical Sets opened with festive ceremony

The HARTMANN GROUP opened the Medical Innovation Center at its corporate headquarters in Heidenheim in the presence of Federal Minister of Health Hermann Gröhe. The advanced wound care products and customized surgical sets are manufactured here in accordance with international quality standards in stringent clean room conditions under a single roof. This is a key element of the company's strategy, because Germany is an important location for manufacturing and international distribution of innovative medical products.

“With the Medical Innovation Center, HARTMANN provides the manufacturing capacity needed to drive continued growth in the future even more successfully in two principal business segments of the Group,” said Andreas Joehle, CEO of the HARTMANN GROUP, at the opening ceremony on July 7, 2014, attended by government officials, business representatives and customers. “Medical stands for medical products and the medical competence of HARTMANN. Innovation means the development and manufacturing of new products strictly in line with customer requirements. And Center means that we provide a forum for dialogue with our customers here.”

In the Medical Innovation Center, pro-

ducts are manufactured under clean room conditions. And lean manufacturing and logistics ensure a smooth flow of materials. The concept offers transparency and flexibility, which are shown locally in both the internal processes and in dialogue with customers and visitors. Dr. Felix Fremerey, Chief Process Officer and Board Member responsible for the Medical Innovation Center project: „In this building, we make processes transparent by showing the efficient interaction between manufacturing and logistics. Here, together with our customers, innovative product ideas are created and then incorporated into the local production process.“

HARTMANN invested a double-digit million-euro sum in the Medical Innovati-

on Center. About 250 employees produce approximately 93 million wound dressings and 700,000 customized surgical sets a year at the Medical Innovation Center. The comprehensive hygiene concept includes, among others, a multistage changing system for manufacturing employees as well as production processes in low particle environment. A tigger train ensures continuous flow of material by transporting raw materials and semi-finished products to manufacturing facilities and by picking up the finished goods. Training for customers on the proper use of surgical sets is conducted in a real operating room.

PAUL HARTMANN AG D 89504 Heidenheim



Ultrafine cleaning system with hydrofluoroether-based drying for sensitive optical lenses

Cleaning 2,000 different parts ready for coating

Autor: Doris Schulz

In cleaning optical lenses and prisms the challenge lies not just in the diversity of products. At FISBA Optik, part dimensions and widely differing glass grades likewise call for the use of a sophisticated final cleaning solution. In developing such a system, UCM opted for the integration of a HFE drying stage because even de-mineralized water is too aggressive for some of the glass types to be treated.

Based in St. Gallen / Switzerland, FISBA Optik AG has ranked among the world's leading vendors of optical systems, devices and components for over 50 years. Their products are made to customer-specified dimensions for a host of applications such as, e.g., medical equipment, image processing, metrology, biophotonics, laser diode technology, astronomy and aerospace engineering. Also, the company is among the first in Europe to rely on precision glass moulding for the cost-efficient series production of powerful, high-quality glass aspherics and lenses of complex geometry. "The quality of our optical components is critically dependent on their cleanliness", explains Peter Boner, Head of Precision Lens Cleaning at FISBA.

Cleanliness – a decisive quality factor

About three years ago, aiming for the most exacting standards in this field as well, the company invested in a new ultrasound cleaning system for its pre-cleaning operation. The contract went to UCM AG of Switzerland, a Dürr Ecoclean Group company. "Needless to say, a key factor prompting our decision was cleaning quality. UCM is very flexible and can boast enormous experience and know-how in the optical industry, enabling us to benefit from this expertise. Their cleaning solution was tailored to suit our needs in terms of both equipment technology and chemistry, so that we are achieving a very good result. This is in addition to our geographic vicinity and an open, partnering cooperation", Peter Boner summarizes his company's decision-making criteria at



The sensitive glass of lenses and prisms necessitates gentle cleaning and drying. (Image source: Fisba)



The compact system for ultra-fine cleaning of optical parts and lenses is fully enclosed and comprises eight tanks. (Image source: UCM)

the time.

Accordingly, UCM was high on the list of vendor candidates when, in 2012, the time came to replace the final cleaning line. On the one hand, the existing system was getting on in years. On the other, it did not support cleaning of different glass types so that a laborious manual cleaning process was required.



The equipment has a throughput capacity of 12 loads per hour. Part-specific programs are selected by means of a bar code reader (table). (Image source: UCM)

The challenge: a diversity of products, dimensions and glass types

FISBA produces between 1,500 and 2,000 different optical systems. These include high-precision lenses with a diameter of as little as 0.5 millimeters. The huge product diversity and broadly varying dimensions presented a challenge in the design of the new cleaning equipment. It also had to be considered that the new system had to be capable of cleaning even highly delicate and acid-sensitive glass parts ready for coating. Irrespective of size and material, ultra-exacting cleanliness levels had to be attained in terms of both particulate and film-type contamination. After cleaning, some of the lenses must be coated on one or more sides.

High flexibility ensures part-specific cleanliness

Based on the existing technology of the pre-cleaning system, UCM developed a cleaning process meeting all of the above criteria. "As a matter of fact, most parts are ready for coating as they come out of pre-cleaning, which combines the use of solvent-based and aqueous fluids, so this solution suggested itself. Final cleaning, on the other hand, is carried out with an all-aqueous medium developed through trials", the Head of Precision Cleaning notes. The reconditioning systems for the cleaning and drying media were

2.000 unterschiedliche Teile vergütungsreif reinigen

both included in UCM's scope of supply. The cleaning system is fully enclosed and comprises eight immersion tanks, including six equipped with a multi-frequency ultrasound capability (40, 80 and 120 Hz). The power level can be individually adjusted between 2 and 15 watts/liter. Thus, the ultrasound cleaning intensity can be perfectly matched to the given product type. The ideal parameters for the different lenses – e.g., ultrasonic power and frequency as well as the dwell time in each tank – are defined in part-specific programs which are stored in the equipment controller. To ensure an accurate compliance with defined tank dwell times, the flexible control system allows the user to enter “priority time” settings. This also results in an optimization of throughput. “We can store 64 programs. At present we are working with approx. 20 programs in series production. However, there are new developments coming in all the time, so we are grateful for the flexibility provided by the additional spare program slots”, Peter Boner adds. A program is selected by the operator reading a bar code from the associated order documents. From that point the process takes place fully automatically.

Tailor-made cleaning processes

In the first tanks, contamination from handling and shipping operations as well as gloveprints are removed from the lenses by ultra-sonic treatment. All cleaning tanks are equipped with this ultrasound capability. The subsequent rinsing process is a combination of immersion and spraying techniques. This tank is therefore set lower, so that parts dipped into the fluid can be rinsed with ultrasound assistance and then sprayed off with de-mineralized water as they are lifted out. On the one hand, this method prevents any extended exposure of the lenses to de-mineralized water. On the other, it provides an unsurpassed rinsing effectiveness while minimizing the carryover of water into the downstream dewatering tank.

Gentle drying with hydrofluoroether (HFE)

Reliable dewatering is made necessary by the HFE-based drying step. This process allows even sensitive glass parts to be cleaned ‘ready for coating’ without impairing their optical performance.

For the drying process, the last two tanks – which are also equipped with multi-frequency ultrasound units – are installed in a closed chamber. The system is so designed that product trays can be transferred from the first to the second tank without opening the tank cover. The HFE is cascaded from the



After the cleaning process, a fully enclosed discharge conveyor equipped with a Flow Box delivers the lenses to a quality control station where they are inspected under cleanroom conditions. (Image source: UCM)



The last two tanks are reserved to HFE drying and are covered with a lid. Parts can be transferred from one tank to the other without removing the lids. (Image source: UCM)

last to the first stage before entering a distillation system in which it is reconditioned continuously. A condensing zone placed above the tanks prevents HFE fumes escaping during drying and lift-out operations from getting released into the ambient atmosphere. The fumes condense on cooling fins whose temperature may be as low as -23°C and then enter the distillation system.

The dried lenses exit on the fully enclosed discharge conveyor equipped with

a filter/fan unit (Flow Box) which delivers them to an inspection station where they are checked under cleanroom conditions. “We are very satisfied with the cleaning results. Moreover, the cleaning process has become more cost-efficient due to the elimination of manual operations. We are convinced that with UCM, we have made a very good choice”, Peter Boner concludes.

UCM AG CH 9424 Rheineck

German manufacturer of medical disposables celebrates official inauguration of modernised production site

Polymer specialist invests 2.1 million EUR

On 27th of June 2014, ALPO Technik Medical Products celebrated the official inauguration of its modernized and expanded production site. The medium scaled family run business invested 2.1 million EUR in the building complex which became the new headquarters.

The new location contains 700 m² of clean room area with connected areas for injection moulding and medical tube extrusion as well as 800 m² new storage area. The new building provides essential conditions for the manufacture of medical disposable products made from plastics. The complete putting into operation of the building had already been carried out in January 2014.

The company strengthens its international competitiveness with the new location.

The new clean rooms refer to the international standards according to ISO 14644.

About the company:

ALPO Technik Medical Products is a manufacturer of medical devices with more than 40 years of experience in polymer pro-



cessing. The company offers components and finished products. It covers a wide range of manufacturing technologies: Injection moulding, tube extrusion, assembly, tip/thermoforming, punching of tubes, gluing of components, printing, packaging, sterilizing.

The company is certified according to the European Directive 93/42/EEC Annex V and to ISO 13485 (quality management).

ALPO Technik Medical Products GmbH & Co. KG
D 91275 Auerbach

Highest Precision and Constant Quality in Nanometers

M+W Group Receives Top Supplier Award from Customer ASML

Engineering and construction company M+W Group was honoured with the QLTC-Award (Quality, Logistics, Technology, Costs) by customer ASML, the world's largest manufacturer of lithography systems. M+W Group's subsidiary M+W Products received this exceptional recognition because it has consistently achieved best scores in all four categories for last two years – quality, logistics, technology and costs (QLTC). It has donated the prize money of EUR 2,500 to the children's charity association, Care-for-Kids.

M+W Group has been working closely with ASML since the end of the 1990s. The company mainly supplies ASML with high quality equipment for its extremely complex lithography systems. These are used primarily in the manufacture of microchips. High-tech air conditioning equipment for precise control and reproducible performance of process air, exceptional temperature stability and an assured particle free process environment are the characteristics of the machines supplied by M+W Products. Additionally the company delivers most complex ultra-pure water cabinets to ensure supremely accurate nanometer structuring performance within

the latest version of ASML's immersion lithography systems. Such attributes guarantee the highest quality of manufacturing and significantly reduce reject rates.

The photolithographic structuring of the integrated circuits is one of the key sub-processes in microchip manufacture. The circuits are planned in terms of nanometers for the chips. A nanometer is one millionth of a millimeter. The more minute the dimensions of the lithographic equipment the more complex the machines and processes for microchip production, and therefore also the requirements in terms of the quality and reliability of all the systems.



M+W GROUP

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Internet: <http://www.products.mwgroup.net>

M+W Group sells its Automation Business

M+W Group's management decided to sell its automation business as part of a general move towards focusing on its core competencies — engineering and construction. In 2013, automation contributed approximately 170 million euros to the M+W Group's total revenues of 2.56 billion euros. A number of industry partners and financial investors took part in the bidding procedure, but after discussions were complete, ATS emerged successful. The selling price amounts to approximately 255 million euros.

"Our automation business has developed well over the last few years. However, the synergies with our core business area — high-tech engineering and construction — are limited. For that reason, we agreed with the management of the automation business to find a new owner for this business area", said

Dr Olaf Berlien, CEO of the M+W Group. "We were pleased with the high level of interest in the automation business when we came to sell, but in the end, we decided to go with ATS. ATS is ideally suited to take over our automation business and is in the best position to exploit its worldwide growth potential, which provides a great deal of security for its current employees."

"M+W PA's capabilities complement ATS's solutions in strategic customer markets and open new opportunities in attractive industries," said Anthony Caputo, ATS Chief Executive Officer. "We welcome M+W PA's highly skilled people, global and local customers, high value service offerings, scale and worldwide presence to our world-class automation business and look forward to continued successful collaboration with M+W Group."

The agreement between M+W Group and ATS was signed on 8 July 2014.

About the M+W Group' Automation business

M+W Group's automation business today covers 16 markets globally with 51 locations across Europe, the USA and Asia. It is one of the world's largest manufacturer-independent automation solution providers focusing on software development for the control and visualization of critical production processes. Major end markets include the automotive sector (accounting for approximately 40 per cent of the Group's revenue), the chemicals and pharma sectors, and other sectors. Last year, M+W Group's automation business had a turnover of 170 million euros, employing 970 people.

M+W Group GmbH D 70499 Stuttgart

A new colleague at Entrematic Belgium



Entrematic Belgium reinforces its presence in the Chinese market with the recruitment of Austin Yang in the function of Sales Manager. He will join forces with his colleague Paul Liang, who joined the company in 2011. Together they will be responsible for expanding the company's market in China.

Over the years Austin acquired an extensive experience in sales and sales team management, key account management, customer service, management of OEM teams and the development and management of networks of sales agents.

Successively he worked in functions such as consultant, sales engineer, sales manager and channel development manager for compa-

nies like Shanghai Xin Development Consulting Co., ASM, Samsung Semiconductor and Philips Lighting.

Before Austin started his active career he obtained a bachelor's degree in engineering at the Northwestern Polytechnical University and an MBA at the Fu Dan University. He is strong in strategic and creative thinking, communication, networking and team building.

The company is convinced that he will form a great team with Paul Liang and that together they will boost the Chinese sales.



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"Festo Supplier Elite Award" for Schreiner ProTech

Schreiner ProTech ranks among the select 2014 top suppliers of Festo AG & Co.KG. The market leader in the field of automation technology has recognized the specialist for industrial marking and film-based functional components with the "Festo Supplier Elite Award" for its excellent quality, on-time deliveries and technology expertise.

The appropriate solution for any requirement - Festo and Schreiner ProTech share this claim. Festo is committed to maximum productivity and competitiveness of its customers. The company uses the customized marking solutions by Schreiner ProTech for more efficient control of its operations and optimization of processes. "Being recognized as a top supplier by Festo makes our team particularly proud as we continue being committed to delivering top performance to Festo in the future," says Thomas Köberlein, President of Schreiner ProTech.



Together with Key Account Manager Fabrizio Velenosi Thomas Köberlein accepted the award from Dr. Claus Jessen, Member of the Management Board Product Supply, and Heiko Callies, Head of Global Purchasing.

Schreiner ProTech D 85764 Oberschleissheim

Clean measurements even in polluted environments

CO₂ transmitters with insensitive infrared measurement principle



The new CO₂ transmitter series EE850 and EE820 from E+E Elektronik allow highly accurate and reliable measurements of CO₂ concentrations up to 10,000 ppm. The applied infrared measurement principle (dual wavelength NDIR* procedure) is particularly insensitive to pollution. The transmitter's autocalibration function automatically compensates for aging effects.

The multi-point CO₂ and temperature factory adjustment procedure leads to excellent CO₂ measurement accuracy over the entire working temperature range. The measured values are available as either analog current or voltage outputs. An optional kit facilitates easy configuration and adjustment of the transmitters.

The EE850 CO₂ and temperature transmitter for duct mounting is ideal for applications in building management or process control. A mounting flange enables easy installation of the sensing probe directly into the ventilation duct. The CO₂ sensing cell is well protected inside the transmitter. For CO₂ measurement, a small amount of air

flows through the divided probe, into the transmitter housing, and back into the duct. The temperature sensor is located inside the probe. The EE850 offers an additional option for a passive temperature sensor output with a 2-wire connection.

The EE820 CO₂ transmitter is designed for particularly demanding applications. The robust, functional housing with a special integrated filter allows for use of the EE820 in polluted environments such as agriculture, stables, incubators, or greenhouses. Excellent temperature compensation even allows for use of the EE820 outdoors.

*) non-dispersive infrared technology

EE850 CO₂ and temperature transmitter (left) and EE820 CO₂ transmitter (right) from E+E Elektronik. (Photo: E+E Elektronik GmbH)



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

A new range of Airborne Particle Counters

The new Met One Airborne Particle Counters are light weight and ergonomically designed.

They are available in 3 channel options (the numbers of channels and particle sizes monitored simultaneously):

- 2 Channel: monitors 2 channels, 0,5 and 5 microns simultaneously.
Sizing sensitivities - 0,5, 1,0, 2,0, 5,0.
- 3 Channel: monitors 3 channels 0,3 to 10 microns simultaneously.
Sizing sensitivities - 0,3, 0,5, 1,0, 2,0, 5,0, 10,0.
- 6 Channel: monitors 6 channels 0,3 to 10 microns simultaneously.
Sizing sensitivities - 0,3, 0,5, 1,0, 2,0, 5,0, 10,0.

All 3 airborne particle counters can be used for ISO 14644-1 Class, 5, 6, 7, 8 & 9 (EU GGMP Class C & D).

Highlights:

- **Simplicity** - Data can now be transferred quickly and efficiently via USB stick, eliminating the need to remove the particle counter from the cleanroom, reducing cross contamination. With no software requirements, the data is exported straight into an Excel spreadsheet; simply grab the data and go.
- **Versatility** - With a large user configurable screen you can view the data that you want, in the format that you desire, whether this is in information rich or specific data in a clear font size.
- **Value** - With a price tag from less than £1400, this is one of the most competitively priced range of handheld particle counters on the market.

The Airborne Particle Counters are now available at Cleanroomshop.com.



Connect 2 Cleanrooms
Riverside House, Forge Lane
LA2 6RH Halton, Lancashire
Vereinigtes Königreich Großbritannien und Nordirland
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E-Mail: info@connect2cleanrooms.de
Internet: <http://www.cleanroomshop.com>

**13th - 17th April 2015:
Surface Technology Hannover (D)**

**09th - 11th June 2015:
parts2clean 2015, Stuttgart (D)**

**31st May - 02nd June 2016:
parts2clean 2016 + O&S 2016, Stuttgart (D)**

parts2clean attracts record visitor turnout

- Synergies with O&S boost trade visitor count
- Motivated buyers: over 50% of visitors came with definite capital investment projects in mind

It may have been only eight months since parts2clean 2013, but parts2clean 2014 served up all the quality and quantity its exhibitors and visitors were hoping for and more. In this, its twelfth season, the international trade fair for industrial-parts and surface cleaning was co-located with the O&S international trade fair for surface treatments and coatings for the very first time. Held from 24 to 26 June, the premiere of this double act brought over 10,900 visitors to the Stuttgart Exhibition Center. "The resulting synergies were a major plus for the exhibitors and visitors of both parts2clean and O&S," said Olaf Daebler, the project director in charge of the two fairs at Deutsche Messe. "Sixty-two percent of all O&S visitors also attended parts2clean." As a result, the post-show visitor statistics for parts2clean indicate that the show attracted no fewer than 8,460 visitors, which is just on 70 percent up on parts2clean 2013. Twenty-one percent of these visitors came from outside Germany, as compared with 20 percent in 2013. In all, 33 countries were represented in their number.

The visitor cross-over between the two shows was greeted with enthusiasm by exhibitors, including Nathalie Etienne, CEO of Weber Ultrasonics GmbH: "For us as manufacturers of ultrasound components, there were definitely major synergies with O&S. Given our product range, we actually need to have a presence at both of these trade fairs, and so this year it was great to achieve that with a single showcase. This year's parts2clean went very well for us."

parts2clean 2014 featured 269 (2013: 265) exhibitors from 14 countries. It occupied 6,627 square meters (71,332 sq. ft.) of net exhibition area, up a good four percent compared with 2013.

Quality visitors with decision making authority and firm investment intentions

The gains this year were not purely quantitative. Exhibitors were equally pleased with the high level of technical understanding and decision making authority of the visitors they encountered. In their survey forms, 86 percent of the visitors indicated that they were involved in their organizations' operational investment decisions, and 51 percent said they were at the show with concrete investment projects in mind. "parts2clean is well established in the market and is very effective at targeting visitors who are interested in industrial parts cleaning. The meetings and dialogue we had with visitors this year were of an even higher quality than in previous years. We believe this is due in part to the fact that this year's parts2clean, coming as it did only eight months after the previous show, had a higher-than-usual concentration of serious visitors with concrete capital investment projects in mind. The other reason, we believe, is that companies are generally taking industrial cleaning more seriously than before," said

Rainer Staub, Sales Director at Dürr Ecoclean GmbH. parts2clean 2014 also went well for LPW Reinigungssysteme GmbH, as its CEO, Gerhard Koblenzer, reports: "We are very satisfied with this year's parts2clean. The quality and

quantity of the visitor contacts we made this year were on a par with last year, if not better. Every year, the ratio of new prospects to existing customers in the contacts we make works out at about 60:40. Another interesting thing this year is that we encountered a fairly high number of visitors from outside Germany - from places like Turkey, India, China and Eastern Europe." Apart from Germany, the most heavily represented countries in terms of visitor numbers were Switzerland, Austria and Italy, followed by the UK and France.

Betul Coker, a Freelance Business Consultant at Intersonik, Turkey, is also happy with this year's show: "parts2clean is a specialist trade fair that enables us to establish and build new business relationships. This year, we also encountered relatively strong interest from commercial agents. Our parts2clean showcase attracted a lot of German-based visitors, but also high numbers of industry professionals from other countries, such as the UK, Sweden, Finland, Denmark, Switzerland, the Czech Republic and France. We are very satisfied with this year's show and will be back again in 2015." Another person who will definitely be back at parts2clean in 2015 is Chuck Sexton, Sales Manager Industrial Products at Kyzen, USA: "parts2clean always gives us a whole lot of quality new contacts. And, no less importantly, it's also a great opportunity to manage our relationships with plant manufacturers. We sell cleaning chemicals that are used in industrial plants, and so it's always nice to come to a show like this, where we can meet up with large numbers of them at one convenient location. We'll definitely be exhibiting again at parts2clean in 2015."

This year's parts2clean show attracted visitors from all key industries. The following industries were among the most strongly represented: mechanical and plant engineering, automobile and automotive components, metalworking, chemical and process engineering, surface technology and processing, electronics and electrical, plastics processing, medical and pharmaceutical equipment, precision engineering and optics, micro-tool- and micro-mold-making, and aeronautics. And it's clear that the visitors were satisfied with the show's exhibition offering, given that 94 percent of them said they would recommend parts2clean to others and 60 percent said they already had definite plans to attend again in 2015.

Upcoming surface technology shows by Deutsche Messe

Deutsche Messe's next surface technology show in Germany is the SurfaceTechnology fair, which is part of the HANNOVER MESSE industrial technology fair that runs from 13 to 17 April 2015. parts2clean is an annual show, whereas O&S is two-yearly, meaning that the next parts2clean show will be a solo affair, running from 9 to 11 June 2015, and the next parts2clean/O&S double act will be held from 31 May to 2 June 2016.

Deutsche Messe's next overseas trade fairs with surface technology content are Surface Technology INDIA, which runs from 10 to 13 December 2014 in New Delhi and includes a parts2clean pavilion, and Surface Treatment EURASIA, which runs from 12 to 15 February 2015 in Istanbul, Turkey, and likewise features a parts2clean pavilion.

Deutsche Messe AG D 30521 Hannover



For the first time, the congress has been split into ‚Basic‘ and ‚Advanced‘ modules that can be booked separately

Learning from space travel: Cleanzone Congress features future trends



**21st - 22nd October 2014:
Cleanzone 2014
Frankfurt am Main (D)**

The third Cleanzone Congress on 21 and 22 October 2014, organised by Messe Frankfurt and its partner ReinraumAkademie, will be focusing even more closely on the varied requirements of its participants. On both mornings of the event, informative ‚Basic‘ sessions will explore the key questions pertaining to planning, operating and working in cleanrooms. These modules are aimed at everyone who is new to this theme and those without specialist knowledge who are seeking expertise for introducing or optimising their cleanrooms. The ‚Advanced‘ sessions taking place in the afternoon, on the other hand, are targeted at professionals and those already active in the cleanroom industry who are looking to expand their expertise regarding key product developments, market trends and innovations. The Cleanzone Congress will be covering the following three fields: cleanroom construction and planning (‚Basic‘), new cleanroom applications (‚Advanced‘) and the operation of cleanrooms (both ‚Basic‘ and ‚Advanced‘).

‚Basic‘ sessions: Practical expertise and realisation examples

What things must be observed when setting up a cleanroom? What are the regulations and statutory requirements? What technical solutions, training and consumables are worthwhile for which products? In the ‚Basic‘ sessions, presentations by experts such as Dr. Lothar Gail (GMP Consultant), Hubert Rott (Dittel Engineering), Alexander Mayr and Christian Dragosits (both from MED-EL Medical Electronics Innsbruck) will be providing in-depth knowledge on cleanroom standards, exploring current questions of cleanroom use with examples from medical technology, detailing cleanroom air handling concepts and investigating issues of systems classification.

In addition, topics such as clothing concepts, employee training, monitoring systems and cleaning agents will be addressed by experts including Markus Schad (decontam), Rolf Zimmermann (ReinraumAkademie), Michael Müller (vali.sys) and a specialist from Ecolab. The developments of the past few



years will be the topic of a presentation focusing on air handling concepts given by Eric Stuiver, Director of the Clean Technology Practice at Deerns. According to the Dutch expert: „Looking back to my first encounter with cleanrooms in the mid-eighties a lot has changed. Today we face new challenges: How to deal with (which) chemical contaminants, how to measure and control nano sized particles, how to design a cleanroom that motivates ‚clean‘ behavior. These are questions for the international cleanroom society and they need the help and enthusiasm of young people with new ideas that can develop robust solutions that are at the same time economically and practically constructible ”

‚Advanced‘ sessions: Focusing on future trends

Market trends, technical innovations, specific product developments and the challenges they pose for cleanroom technology: the ‚Advanced‘ sessions are aimed at participants who want – and need – to remain abreast of the very latest developments.

The headline speaker, Prof. Dr. med. Rupert Gerzer, Director of the Institute of Aerospace Medicine at the German Aerospace Center (DLR), will be offering participants an inside look at his field of research and how it ties in with future requirements in the field of cleanroom technology: „Manned space travel is facing a number of fascinating challenges. We still do not have satisfactory answers for how people can remain healthy and productive over long deployments in a space station. In addition to the far-reaching effects of weightlessness, another core problem is the accelerated growth, and increased mutation rate, of micro-organisms. Even

a minuscule mistake can result in irreversible contamination that poses a particular threat to the weakened immune systems of astronauts. Work in this area, as well as the unique findings of our research, is providing valuable impetus to technological innovations in a variety of disciplines.” His presentation will also be focusing on themes like new training methods, radiation protection, the unpredictable effects of space tourism and far-reaching findings in the field of weightlessness for fundamental research. Whether it be for screens, displays or large-scale room lighting, OLEDs are booming. In his presentation, Dr. Manfred Weigand (Merck) will be taking a look at the special requirements entailed by organic LEDs for cleanroom production. Other topics that will be covered in the first session include energy efficiency in accordance with the TC-209 standard and the challenge posed by MEMS (microelectromechanical systems) for cleanroom production.

Topics covered by the presentations on the second day of the congress include the even application of the disinfectant hydrogen peroxide, procedures for putting on cleanroom clothing, energy efficiency, compliance and facility management, subjects aimed in particular at professional users who wish to bring their production in line with the state of the art. Joseph Ortner (Ortner Reinraumtechnik) and Con Leddy (PM Group) will be among those providing scientific presentations.

Prices and opening times

The Cleanzone Congress will start at 9:30 a.m. on both days, while the Cleanzone trade

Learning from space travel: Cleanzone Congress features future trends

fair will be opening its doors at 9:00 a.m. The events will be taking place in Hall 1.1. at Messe Frankfurt.

All four congress modules can be booked separately. Prices start at €125.00 for one module, with two modules available for €225.00, three modules for €300.00 and a ticket to the entire event for €350.00. Students can visit two modules for only €50.00. Each congress ticket includes the After-work Party on the first day of the trade fair and admission to the trade fair.

If you register online by 19 October 2014 you can get your ticket for the Cleanzone trade fair free of charge. Starting on 20 October 2014 and at the ticket office during the event, tickets will cost €25.00 each.

Cleanzone – trade fair and congress

Cleanzone – the international trade fair and congress for cleanroom technology – is aimed at all sectors where production, assembly, packaging or work is carried out under cleanroom conditions. The trade fair presents the entire range of what is on offer, from the planning, construction and operation of cleanrooms to consumables and training. The congress taking place at the same time tackles current topics in the cleanroom industry, offering opportunities for interdisciplinary and international exchange at a professional level. Cleanzone is intended for international visitors from all areas of application for life sciences and micro-technolo-

gy. In 2013 more than 800 participants from 44 countries were brought together with 50 exhibitors and a host of prominent international experts at the Cleanzone trade fair and congress.

cleanzone

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The new lab technology show in Hannover

LABVOLUTION 2015

- An overview of the world of laboratory technology
- Focus on buyers from key sectors in Northern Europe
- Launch in October 2015 parallel to BIOTECHNICA

**06th - 08th October 2015:
LABVOLUTION 2015 Hannover (D)**

The Hannover-based trade fair organizers Deutsche Messe are launching LABVOLUTION, a new trade fair to be staged every two years as a major platform for the world of lab technology and equipment. LABVOLUTION makes its debut from 6 to 8 October 2015 at the Hannover Exhibition Center in Hannover, Germany, where it will take place every two years in tandem with BIOTECHNICA. This lab technology show will target trade visitors from Northern Europe's key sectors, principally the chemical industry, pharmaceuticals, biotechnology, plastics, materials processing and testing, cosmetics, medical technology, environmental engineering and the food industry. Deutsche Messe has identified the need for a flagship event for laboratory equipment in Northern Europe, and LABVOLUTION is the answer.

Jürgen Fürstenberg-Brock, the director in charge of LABVOLUTION at Deutsche Messe, explains: "With LABVOLUTION we aim to create a new international event that clearly serves exhibitors and visitors from Northern Europe as a platform for business

leads and a forum for discussing trends and future-oriented laboratory technology." He emphasized that regional events often prove more attractive to trade visitors as they reduce the time and expense involved in long-distance travel – an increasingly important factor for today's businesses. Hannover is an ideal location for visitors from the important sales markets of Northern Europe such as the Northern, North-Western and Eastern regions of Germany, the United Kingdom, the Benelux countries, Scandinavia, Poland and the Baltic states.

Laboratory equipment and technology had previously been exhibited at BIOTECHNICA, an established event in the Deutsche Messe portfolio. The keynote areas here are biotechnology and the life sciences. By launching LABVOLUTION, Deutsche Messe is taking lab technology out of its previous context and creating an independent event. To this end, the organizers have extended the breadth of exhibitor and visitor target groups as well as the thematic scope covered. Every facet of lab technology will be addressed at the new event, where the product portfolio will embrace lab installations, analysis, applications and processes, chemicals, reagents, supplies and consumables, as

well as related services.

"LABVOLUTION will focus on the entire range of lab technology, across the whole value chain", said Fürstenberg-Brock. "The new event will serve as a meeting-place for representatives from the areas of industry, research and science and any sector in which lab technology plays a role." The name LABVOLUTION is self-explanatory. In short, the event will showcase evolution/revolution in lab technology. Visitors will be able to see state-of-the-art equipment, technology and supplies, as well as new perspectives, prototypes and concepts for the future.

The biennial scheduling of LABVOLUTION is a strategic decision that acknowledges the calendar for other lab technology events and avoids collisions with such events in Southern Germany and elsewhere in Europe.

Additional opportunities for new business leads and cultivating existing contacts at LABVOLUTION are offered by the neighboring event BIOTECHNICA, which is clearly established as Europe's no. 1 event for biotechnology and the life sciences. Tickets give trade visitors admission to both events for the price of one.

Deutsche Messe AG D 30521 Hannover

WTT Expo from 1 to 2 June 2016 at Karlsruhe Trade Fair Center

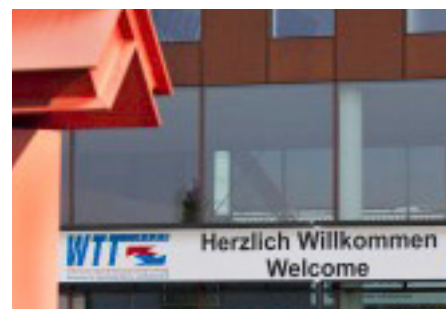
Trade Fair for Industrial Heating and Cooling Technology focuses on core expertise

**01st - 2nd June 2016
WTT Expo Karlsruhe (D)**

The new date for the sixth WTT Expo, the Trade Fair for Industrial Heating and Cooling Technology, is set: the up to now three-day WTT Expo will concentrate itself over two days and take place from 1 to 2 June 2016 at Karlsruhe Trade Fair Center. In view of the trade fair's high specialist focus, Karls-

ruher Messe- und Kongress-GmbH (KMK) will provide an additional further training aspect by organising accompanying professional lectures and events on current practice.

With this KMK is addressing the results of the exhibitors and visitors' survey from the last event and strategically developing the trade fair further. According to the survey, trade visitors are primarily interested in heat exchangers and heat transfer technology in process technology as well as heat



recovery systems. The in-depth specialist knowledge and specific questions that they brought to the WTT Expo led to 87 percent exhibitor satisfaction in terms of the quality of visitors. In addition, 92 percent of the trade visitors attended the trade fair for one day and seven percent for two days.

Karlsruher Messe- und Kongress-GmbH
D 76137 Karlsruhe

EuroMold, the world's leading specialist trade fair for moldmaking and tooling, design and application development, will take place from 25 – 28 November 2014 in exhibition halls 8, 9 and 11 in Frankfurt am Main. On 3 July 2014, a pre-fair press conference took place in the Grandhotel Hessischer Hof in Frankfurt. The Managing Directors of event organiser DEMAT GmbH, Diana Schnabel and Eberhard Döring presented the continually developing and unique profile of this global trade fair.

EuroMold presents the concept for the 2014 edition of the leading trade fair

**25th - 28th November 2014:
EuroMold, Frankfurt am Main (D)**

This year the trade fair is again expecting more than 1,000 exhibitors, along with an increase in international representation, with around 40 countries represented. Traditionally, the majority of the companies are moldmakers and tool manufacturers. Furthermore, there is already a high level of return bookings by former exhibitors, as well as new bookings from first-time exhibitors. The number of first-time exhibitors, currently standing at 88 exhibitors from 19 different countries, emphasises the high international quality of EuroMold 2014. The trade fair is experiencing a particular increase in the number of first-time exhibitors from Germany, Portugal, China, the Netherlands and Great Britain. In addition, an increase in the number of joint transnational stands, run by various associations and individual organisers, can be observed. For example, for the first time ever, there will be a joint stand from the Czech Republic and Slovenia.

In 2014, EuroMold will have a new hall structure, which will also spatially reflect the synergies between the fields of moldmaking & tool production and additive manufac-

turing in Hall 8.0. It is here that the „Stark im Formenbau mit Generativer Fertigung“ (Strength in moldmaking with additive manufacturing) theme park will take place, at which various machine manufacturers and tool producers will demonstrate the possibilities offered by additive manufacturing for the more efficient manufacture of tools, with the help of practical examples. The connection between „lightweight construction and moldmaking“ will be demonstrated in detail in a special exhibition. The CAE Forum, which deals with computer-aided engineering, considerably enhances the area of design and engineering. This is an ideal presentation platform, in particular for the increasing number of engineering service provider exhibitors.

This year the range of information will be extended to include new special exhibitions, conferences, workshops, seminars and forums. For example, one innovation will be the EuroMold 3D-School, which will demonstrate the possibilities of 3D printing to students. With the support of a printer manufacturer, a classroom will be installed in the trade fair hall in which students will receive classes.

The press conference was rounded off with presentations regarding various aspects

of the trade fair, delivered by company representatives. Helmut Brandl, Marketing Manager for the Bundesverband Modell- und Formenbau (Federal Association of Modelling and Moldmaking), addressed the topic of „EuroMold with a focus on the process chain“ and Els Zijlstra, Managing Director and founder of first-time exhibitor Materia B.V., spoke on the topic of the „Lightweight Challenge by Materia“. Dr. Gregor Zimmermann, Managing Director of G.tecz Engineering Unternehmungsgesellschaft GmbH, gave a presentation entitled, „From Concrete to High-Tech Products - The next generation of cement-bonded materials“.

The EuroMold is the only specialist trade fair within its field to present the entire industrial production process chain – in keeping with its slogan, „From idea to series production“ – thus offering exhibitors unique synergy effects. It is now organised on five continents, including in the USA, Japan, China, India, Russia and Brazil. This contributes to the international networking of the participants and to ensuring global representation among the exhibiting companies. Visitors traditionally come from all areas of industry and range from development engineers and manufacturers to production experts and designers.

DEMAT GmbH D 60596 Frankfurt am Main

Arburg Hungary: “Juniális” event focuses on production efficiency

- **Juniális:** Around 60 guests find out more about injection moulding topics at the June event in Budapest
- **Production efficiency:** Key topic “Experiencing quality in a whole new way!”
- **Competence:** participants impressed with practical applications and specialist presentations

Arburg Hungary once again organised its annual “Juniális” event in Budapest on 24 June 2014. Appropriately to the overall topic of production efficiency, the focus of this year’s event was “Experiencing quality in a whole new way!”. Experts from the subsidiary and from the German parent company presented interesting practical applications and specialist presentations to around 60 guests.

“This time a lot of potential new customers accepted our invitation. Every last seat was taken,” says a pleased Gabriella Hollik, Managing Director of Arburg Hungary, summarising the response to the event, which is held in June each year. “We were able to show them how the injection moulding processes can be optimised in terms of part quality. After all, there is growing demand for 100 percent part quality in the Hungarian injection moulding market.”

Specialist presentations: “Experiencing quality in a whole new way!”

Peter Mező and Balazs Domokos from the Hungarian subsidiary explained in detail the potential offered by the control system and the Arburg ALS host computer system in optimising part quality and how to get the most out of them. In two specialist presentations they shared their know-how with the participants in relation to software options and packages for the Selogica control system and the finer details of ALS. In another presentation, Ralf Mutschler, an expert in “International Technical Support” from



Successful Juniális 2014: Gabriella Hollik (centre) Managing Director of Arburg Hungary and her team presented the key topic of “Experiencing quality in a whole new way” to an audience of around 60 people. (Photo: ezfoto)

the German parent company, dealt with the subject of quality optimisation and quality assurance.

Practical situations: high-end Allrounder machines produce technical parts

As well as theory, practical applications were also featured. The team from Arburg Hungary demonstrated live technical applications on two high-end exhibits: an electric Allrounder 470 E with Multilift Select robot system produced a mathematical compass, while a hydraulic Allrounder 470 C Golden Edition was used to make CD stacking boxes. The participants learned when to choose an electric or hydraulic injection moulding

machine as the more suitable solution for efficient plastic parts production and when automation is worthwhile.

“In addition to our technical innovations and excellent service, our proximity to the customer is what differentiates us from the competition and guarantees our success. Today’s event has shown that we know what our customers want and need and that we have our finger on the pulse,” said Stephan Doehler, European Sales Director, summarising the all-round success of Juniális 2014.

ARBURG GmbH + Co KG
D 72290 Loßburg

BOY provided five stage winners at the Tour de FIP

At the French plastics fair FIP in Lyon, which takes place every three years, the five BOY injection moulding machines were counted again as the winners. Attractive applications with efficient, compact injection moulding machines – the formula for success for an all-around successful BOY appearance at the Fair.

The French BOY distributor Bévé-Plast was very pleased with the stream of visitors and the technical discussions during the four days of the fair. Antoine Bidet, Managing Director of BMS France and Bévé-Plast said, “Since the FIP in France only takes place every three years, we noted a very high share of interested trade visitors. Our promising talks at the most important French plastics fair may lead to a variety of extremely posi-



tive conclusions in the near future.”

A 2C medical application on the BOY 100 E / BOY 2C XS, a BOY 35 E with a cleanroom application, and an elastomer application on the BOY 25 E VV were impressive with their

energy-saving technology. Through the use of the servo-motor pump drive and the optional plasticizing technology named Econ-Plast, the potential for energy-savings with the BOY E-Series is clearly higher. Also in France, the drive to increase machine efficiency has become a priority.

A BOY XS with an integrated removal device, a micro silicone mixing pump, and the multi-patented BOY high-end Procan ALPHA® 2 control was impressive as well.

A BOY XS with integrated removal device and micro silicone mixing pump as well as the multi patented BOY high-end control Procan ALPHA® 2 could inspire as well.

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

The international medtech industry gathered at the MEDTEC Europe in Stuttgart from June 3 to 5. A total of 810 exhibitors from 31 countries showed that week at the Stuttgart fairgrounds. This significant trade fair, which attracted over 6.300 visitors, focused on the most recent developments and technologies, notably in 3D printing. SÜDTEC, a trade fair for suppliers from all industries, was held at the same time as Europe's largest medical fair.

Positive result: MEDTEC Europe 2014 stimulates new impetus in medical technology

**21st - 23rd April 2015:
MEDTEC Europe 2015, Stuttgart (D)**

MEDTEC organiser Fabienne Valambas was very happy with the results: „Our focus this year was on the new technological trends. The convention's broad program of workshops and the newly created highlight sections, like the i-Zone and the 3D-Live-Printing-Area, generated lots of relevant input and complemented the exhibitors' section perfectly.“

Indeed, the 3D-Live-Printing-Area and the i-Zone, a forum for start-ups, turned out to be veritable magnets for the visitors. The i-Zone forum was especially interesting for young companies seeking information on topics like financing, billing and payment

processes and marketing strategies for new medical products. The highlight topic, 3D printing, was also introduced in the i-Zone. 3D Systems representative Timothy Lew discussed the opportunities offered by the process for medical technology. The 3D-Live-Printing-Area was also the place to see theory put into practice. The Fraunhofer Institute delivered numerous lectures presenting the advances in this field. Visitors had the opportunity to admire two 3D printers at work. And a leg prosthesis was printed each day of the fair and then fitted onto a patient the very same day.

At the China Breakfast Meeting, interested parties could exchange information about the Chinese market and its regulatory processes. Next year, the presentation of the Chinese market will continue in a dedicated

country area.

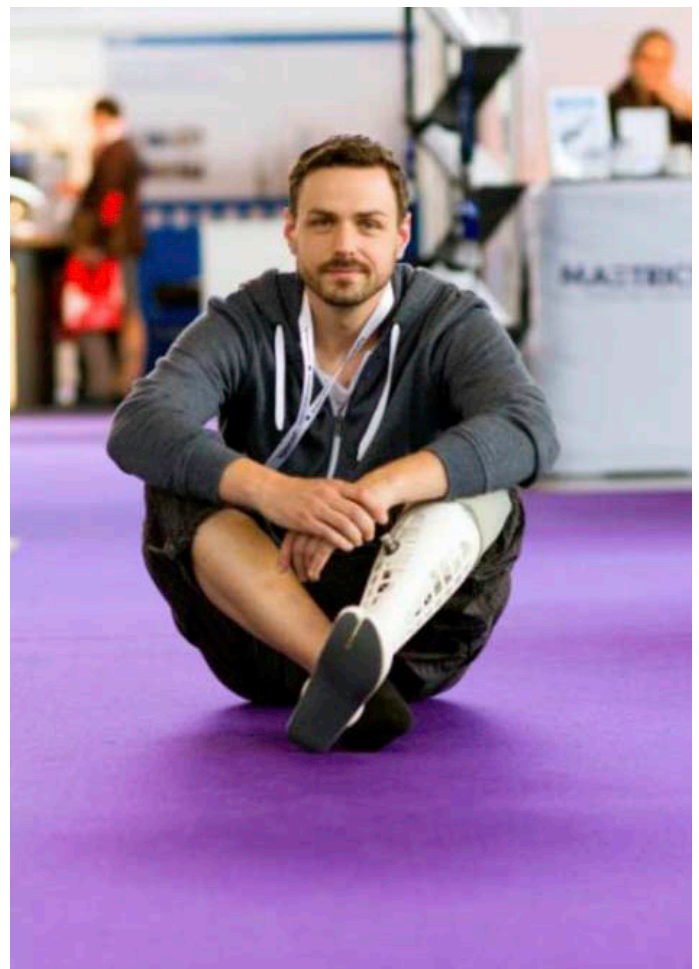
The visitors to the fair also made use of the interactive Social Media Wall. For the first time ever, tweets and Instagram posts with the hastags #medteclive and #MEDTECEurope could be followed throughout the fair on screens. The Social Media Wall created added value by allowing visitors and exhibitors to share information and find each other digitally.

MEDTEC Europe 2015 will be held April 21 to 23, 2015, on the Stuttgart fairgrounds. Many of the current exhibitors have already preregistered.

UBM Canon
SE1 9UY London
Vereinigtes Königreich Großbritannien und Nordirland



Fabienne Valambas, events manager for the organizer UBM Canon, and Timothy Lew from 3D Systems introduced MEDTEC Europe at the opening press conference.



3D-Live-Printing-Area: a leg prosthesis printed in 3D fits perfectly by the end of the same

Dates set for interpack 2017

04th - 10th May 2017: interpack 2017 Duesseldorf (D)

interpack 2014, which took place in May, was marked by a buoyant mood among the roughly 2,700 exhibitors and about 175,000 visitors in the 19 halls of the fully booked-up Düsseldorf exhibition centre. And now the dates for its sequel have been set. Held every three years, the world's premier event for the packaging sector and related processing in-

dustries will be back on the Düsseldorf trade fair calendar from 4 to 10 May 2017.

Companies wishing to exhibit at interpack 2017 can register as of autumn 2015. The official closing date for registrations is in spring 2016. Messe Düsseldorf will announce the precise dates in due course.

The event „components for processing

and packaging“ introduced at interpack 2014 will be continued with a revised concept and in a central position within interpack 2017. Also planned is a repeat of the Innovationparc Packaging on the subject of SAVE FOOD.

Messe Düsseldorf GmbH
D 40001 Düsseldorf

Evenly filled and travel benefits to boot

From 2015 on, MEDICA and COMPAMED with new dates from Monday to Thursday

12.11. - 15.11.2014: MEDICA 2014, Duesseldorf (D)

12.11. - 14.11.2014: COMPAMED 2014, Duesseldorf (D)

16.11. - 19.11.2015: MEDICA 2015 + COMPAMED 2015 Düsseldorf (D)

The world's largest medical trade fair, MEDICA, and the leading international trade fair for suppliers of the medical technology industry, the COMPAMED, are always going to take place in November on the days running from Monday to Thursday from 2015 on and all days of the event are going to take place parallel to each other in Düsseldorf. This was decided on by the MEDICA Advisory Board according to recommendations made by a working group comprising participants from leading industry associations, exhibitors and Messe Düsseldorf.

“In light of the analysis of the market research results on the visitor structure and the number of visitors on days up until this point, the decision is consistent with, and equally oriented to the needs of the exhibitors and the visitors,” explained Joachim Schäfer, managing director of the Messe Düsseldorf GmbH. He added: “The portion of international visitors and decision-makers, including those from the commercial sector, has continuously risen in recent years with

an ever-increasing preference for the days Wednesday and Thursday for the event to take place being away from the weekend.” Joachim Schäfer also mentioned that the concentration of the “normal” working days of the week, Monday to Thursday (instead of Wednesday to Saturday as it has been up until this point), would make it possible in the future for the trade fair halls to be evenly filled on all days, which would incidentally have a positive effect on the hotel booking and traffic situation in and around Düsseldorf.

Horst Giesen, Director MEDICA + COMPAMED, cited an additional benefit: “Rescheduling the days of the event is of benefit to the numerous specialist forums integrated into the MEDICA and the accompanying conferences. Over the entire duration of the event, a continuously high level of response from the participants can be expected. This makes it easier to plan themes and coordinate with our partners what subject matter is to be focused on.”

This year's MEDICA, World Forum for Medicine, is going to take place from 12 to 15 November 2014 in Düsseldorf. The COMPAMED, High Tech Solutions for Medical Technology, is taking place from 12 to 14 November 2014.

Key programme components include the international MEDICA EDUCATION CONFERENCE, designed by the German Society for Inner Medicine (DGIM) as a medical training event with regard to subject matter, and the

37th German Hospital Conference as a leading event for the management of German hospitals.

After their successful premiers in 2013 respectively, the disaster and military medicine conference, DiMiMED, and the MEDICA MEDICINE + SPORTS CONFERENCE for the special needs of sports medicine will also enrich the MEDICA 2014 conference programme once again, being in the English language and therefore attractive to an international audience.

More than half of the approx. 132,000 trade visitors to the MEDICA 2013 were international visitors who had originated from over 120 nations. They collected information from the 4,641 exhibitors from 66 countries on the entire spectrum of new products for qualitatively good and simultaneously efficient medical care, ranging from medical technology and electromedicine, laboratory technology, physiotherapy products and orthopaedic technology all the way to health IT.

During this, the COMPAMED 2013 counted 681 exhibitors from 37 countries. They presented to 17,000 visitors a multitude of technological and service-based solutions for use in the MedTech industry - from new materials, components, primary products, packaging and services all the way to complex microsystem and nano technologies.

Messe Düsseldorf GmbH
D 40001 Düsseldorf

Nuremberg gets ready for “Pharma. Manufacturing. Excellence”

- **TechnoPharm 2014 provides answers for big questions in pharmaceutical production**
- **A supporting programme of high-innovation topics**
- **Advance online ticket sales start on 19 August 2014**

Under its slogan, “Pharma. Manufacturing. Excellence,” TechnoPharm will again be opening its doors in Nuremberg from 30 September to 2 October 2014, for those in the field to learn the latest about development and production in solid, semi-solid and liquid pharmaceuticals. Validation, packaging and anti-counterfeiting are only a few of the current topics that the roughly 250 exhibitors will present for operators and planners of production facilities in the pharmaceutical industry. And many solutions with pharmaceutical relevance will also be on display from the more than 700 exhibitors at the parallel POWTECH, the world’s leading trade fair for processing, analysis and handling of powder and bulk solids. Visitors can buy tickets online starting on 19 August 2014 at www.technopharm.de/ticketshop. Buying tickets online gets you into the combined trade events faster and lets you bypass long queues at the box office.

30th Sept. - 02nd Oct. 2014: TechnoPharm 2014, Nuremberg (D)

It’s well known that the pharmaceutical industry is facing a great many challenges. Buzzwords like the “facility of the future,” more cost-effective production, greater flexibility, productivity standards compared to other industries, and “operational excellence” have been making the rounds. At the same time, demand is rising for single-use components – meaning that not only containers, tubes and valves, but even entire pumps are now available for one-time use. Successful development and adaptations of continuous systems, as well as microprocesses, have triggered lively interest and discussion. Experimental and producing systems are being developed and built at full speed. And there are still the perennial questions about scale-up, mixing effectiveness, online analysis, and automated process optimisation. The discussion of completely closed systems and process analytical technology (PAT) further highlights the ongoing efforts of manufacturers and systems operators to optimise work and achieve the greatest possible product purity and process reliability.

The clock keeps ticking

A further challenge for the pharmaceuticals industry is labelling requirements. Beginning in 2017, every package of prescription medications must have a unique serial number and tamper-proofing protection.

The broad range of urgent questions demands the most innovative, efficient technological answers possible. Those answers will be available from the exhibitors at TechnoPharm and POWTECH 2014 in Nuremberg. At TechnoPharm, some 250 exhibitors from about 15 countries will be offering a wide range of proposed solutions, under the slogan, “Pharma. Manufacturing. Excellence”.

Another very fruitful opportunity for planners and operators of pharmaceutical production systems: a visit to the parallel POWTECH, the world’s leading trade fair for processing, analysis and handling of powders and bulk solids. In 2013, nine out of ten exhibitors at POWTECH indicated they would present solutions relevant to the pharmaceutical industry. Only in Nuremberg do the topics of sterile technology and powder and granulate technology intermesh so perfectly. A full quarter of the more than 700 exhibitors at POWTECH will be showing process solutions that are suitable for the pharmaceutical industry’s rigorous hygienic requirements. Mills, mixers, sifters, filters and separators, agglomeration and granulation techniques, dryers, and also everything to do with handling, including pneumatic conveying, metering and containment – all these systems, apparatus and components that will be on display at POWTECH are also available in sterile versions. And not only are the materials, surfaces and seals here designed to the latest hygienic standards, but these systems and apparatus are also characterised by either freedom from dead

spaces or reliable residue removal. The range of topics at POWTECH is an ideal complement to what TechnoPharm offers, and rounds it out perfectly with innovative solutions for producing and processing powders and granulates.

Highlights of the supporting programme

The AVP (International Association for Pharmaceutical Technology), which is also supporting the trade show as an honorary sponsor, is hard at work on an exclusive supporting programme for TechnoPharm 2014. Highlights of the forums in hall 6 include a one on serial numbering for pharmaceutical manufacturers, a lecture series by the German Packaging Institute, a report on orodispersible forms of medications, and a user report on hot melt extrusion from BASF SE. Again this year, there will be an expert forum with specialised presentations on all aspects of planning, building and operating clean and ultraclean rooms. Highlights here include a presentation from Boehringer Ingelheim comparing RABS (restricted access barrier systems) and isolators, as well as presentations on current government requirements for clean rooms. For more information about the supporting programme please go to www.technopharm.de/en/supporting-programme.

NürnbergMesse GmbH
D 90471 Nürnberg

The example of cleanroom technology: room-in-room concepts ensure longer shelf lives and fresh products

Anuga FoodTec: Innovative solutions for the food industry

At the upcoming Anuga FoodTec event taking place from 24.3. to 27.3.2015 in Cologne, the international supplier trade fair is exhibiting innovative solutions for the food and drinks industry – from the initial processing steps through to complex technological workflows. This will be exemplified by the example of cleanroom technology. The suppliers already registered for this area include Anton Hurtz GmbH & Co. KG, B-Hygienic - PolySto bvba, BLU Ewelina Kasprzyk, Dastex Reinraumzubehör GmbH & Co. KG, Ecolab Europe GmbH, Endress + Hauser Messtechnik GmbH + Co. KG, FF Fischer Planning LTD., FIMINOX SPA, Friedrich Sailer GmbH, Fromfroid SA, Heraeus Noblelight GmbH, Index-6 Ltd., Maschinenbau Helmers GmbH, Niebling Techn. Bürsten GmbH mrca GmbH, Peschl Ultraviolet GmbH, PNR Deutschland GmbH, Industriespritzdrüsen, SPX Flow Technology, TRAVAGLINI S.P.A., Vikan A/S and Wiedemann GmbH. They are exhibiting in the 'Food Safety/Hygiene Technology' offer sector of Anuga FoodTec. The overarching theme here will be product-specific cleanroom concepts. Since the trend is moving away from large cleanrooms to small, local solutions.

**24th - 27th March 2015:
Anuga FoodTec 2015, Cologne (D)**

When the catchword 'cleanroom' comes up, most people think of the large halls in microchip factories. However, production under cleanroom conditions, for a long time the domain of the semiconductor branch, is increasingly finding its way into the food industry. Yogurt, bread, sausage, cheese, salads and drinks – more and more products are being filled and packed in sterile environments.

Foods use this to advertise that they do not contain additives. So-called 'clean label' products are in line with the trend. It is the unpopular preservatives that are being cut from the recipes more than anything. 'Less chemistry, more physics', is the philosophy that Martin Schüring from the Bremerhaven Institute for Food Technology and Bioprocess Engineering (BILB) is using to make this point. However, the manager of the F&E Innovation department knows there is another side to this coin: „By shying away from preservatives, food manufacturers have to keep microbiological threats at a greater distance from the product, in order to achieve the desired shelf life.“

Less germs in the air

A clean - that means sterile - environment is the prerequisite for being able to relinquish preservatives. Every germ counts! Especially when it comes to fresh products such as salads, pasta, or sandwiches. Schüring: „Cleanrooms can securely lock out bacteria and mould, the factors that cause food to spoil prematurely.“ And in the truest sense of the word, since multi-level high-efficiency

particulate air filters block out even the most minuscule particles. A constant inlet of sterile air generates high pressure, which forces the impure air out of the production zone. The ISO 14644-1 standard is essential. It defines cleanroom classes 1 to 9 and determines how many particles of which size are allowed per one cubic meter of air – the lower the clean room class, the greater the level of purity.

Whilst a chip factory requires a very high level of purity, cleanrooms between ISO class 5 and 8 are the norm for food manufacture. It isn't always necessary to furnish complete production halls as clean rooms, which make a large dent in the budget. ISO class 5 already represents a load of less than one germ per cubic meter, in other words - practically sterile. Schüring: „This is already being put to use in cleanrooms and room-in-room concepts.“ Clever divisions make it possible to set up zones in the production area with different grades of purity. The highest level of purity is only used where it is really necessary. Like in the production of sliced bread: Laminar Flow Tunnels come into operation for this process. The boxes, which, are sealed on three sides, generate a horizontal or vertical stream of pure air to provide the necessary high pressure. Once the baked goods have been removed from the oven, they are cooled using sterile air and cut whilst still in the tunnel. They only leave the local cleanroom once they have been packed.

Hygiene Minis for the filling process

Every cubic centimetre of pure air is expensive. The aim of the plant construction firm is therefore to configure this on as small a scale as possible. Machines that might be impure are kept outside of this sterile zone.

The drinks industry in particular has tried to reduce the cleanroom to an absolute minimum over the years. Restricted Access Barriers (RABS) and isolators are the focus of current developments. The compact 'Hygiene Minis' are not only cheaper to build, but also to operate. The area around an isolator is so strictly marked out that employees are allowed to wear normal hygiene clothing. In modern, cold aseptic filling facilities, only the bottle track still runs inside the isolator, which is separated from the surroundings to form a thick chamber. In this process, non-heated fruit juice flows directly into the bottles. RABS, on the other hand, are not hermetically sealed: An air barrier is generated from the high-pressure inside the housing and protects the heart of the machine – the sterile area. While production is taking place, it can only be accessed from the outside using glove boxes. These are placed at critical points along the filling machine. All other areas can be reached via external doors without air locks.

Organic cultivation in 'pure culture'

The Japanese technology group Fujitsu goes one step further as part of its 'Kirei Yasai' (clean vegetables) programme. Salads are being cultivated on 2,000 m² under cleanroom conditions in a former semiconductor plant. Perfect environmental control means the harvested salad should remain fresh for two weeks at 10 degrees Celsius and display low levels of nitrate. Organic cultivation in 'pure culture' – a new aspect of cleanroom technology.

Koelnmesse GmbH
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From Freeformer to Allrounders: Arburg will present its full product spectrum for the efficient production of plastic parts at the Fakuma 2014. (Photo: ARBURG)

Production efficiency from A to Z

Arburg at the Fakuma

- **The next step in production efficiency: from one-off parts to high-volume production**
- **Allrounders and Freeformer: the entire range for cost-effective plastic parts production**
- **Future topics in practice: function integration, Industry 4.0 and lightweight construction**

At Fakuma 2014, which takes place from 14 to 18 October in Friedrichshafen, Arburg will present the next step in its production efficiency strategy. In addition to a holistic approach, the focus will also be on the cost-effective production of plastic parts, from one-off parts to mass-produced items. Thanks to the expansion of the product portfolio to include the Freeformer, Arburg is now the only manufacturer to cover the entire spectrum from additive manufacturing to injection moulding. The total of eleven exhibits on the exhibition stand in Hall A3 will also present innovative applications, special industrial and automation solutions as well as practical examples regarding the future topics of Industry 4.0, functional integration and lightweight construction.

14th - 18th Oct. 2014: Fakuma 2014 Friedrichshafen (D)

“The Fakuma will provide us with an opportunity to demonstrate that we offer our customers a truly comprehensive portfolio for efficient plastics processing,” states Michael Hehl, Managing Partner and Spokesperson for the Arburg Management Team. “The eleven exhibits will give visitors a practical insight into how such product-oriented solutions can look. Key areas of industry will be represented, such as the automotive, me-

dical technology and packaging sectors, as well as complex processes such as Arburg Plastic Freeforming (AKF), three-component injection moulding, long-fibre direct injection moulding, micro-injection moulding, Particle-foam Composite Injection Moulding (PCIM) and liquid silicone processing (LSR). Production efficiency will be the common thread running through our entire Fakuma presentation and will be the focus of each exhibit.”

Individual: additive manufacturing

with the Freeformer

The two Freeformers will demonstrate how plastic parts can be produced economically as one-off parts or in small-volume batches directly from CAD data, without requiring a mould. These machines use inexpensive standard granulate, building up the parts in a drop-by-drop process. This industrial process can be used to produce fully functional parts, not just demo samples and prototypes, and also enables new geometries to be achieved.

Arburg at the Fakuma

The two Freeformer exhibits will have a three-axis component carrier and two discharge units, in order to produce plastic parts from two different materials. The focus will be on two-component parts and products with supporting structures that can be subsequently removed in a water bath or by mechanical means. Furthermore, the Freeformer will be integrated in the "Industry 4.0" project, which will involve the production of customised moulded parts.

Productive: around 31,500 disposable articles produced and ready-to-ship every hour

An electric Allrounder 820 A with a clamping force of 4,000 kN and a size 2100 electric injection unit will demonstrate the cost-effective production of mass-produced articles. This exhibit will show the potential of the high-performance Alldrive electric series in a high-speed application. A 24+24-cavity mould from Fratelli Bianchi will be used to produce 24 knives and forks in around 5.5 seconds, including demoulding, set-down and immediate packaging. This corresponds to an output of around 31,500 ready-to-ship parts per hour.

The other hydraulic, hybrid and electric Allrounder injection moulding machines will also demonstrate a wide range of capabilities, from individual plastic parts to mass-produced articles.

New: complete micro-injection unit

Evidence of Arburg's targeted approach to the development of its machine and component range will also be demonstrated in a micro-injection moulding exhibit. Following the micro-injection module, the Arburg range now includes a complete micro-injection unit in Euromap size 5, which will be unveiled for the first time at the Fakuma. The exhibit, which will be built around an electric Allrounder 270 A is designed as a production unit for micro parts and produces four 0.03 gram micro counter wheel. A clean room enclosure ensures a clean environment and the micro-injection unit enables very precise plasticising. It combines a 15-millimetre screw for melting the material with an 8-millimetre injection screw. This means that standard granulate can be used to achieve very small shot weights and tolerances measured in microns.

In addition, there is the specially configured Multilift H 3+1 horizontal robotic system, which removes the sprue and the delicate micro parts and gently sets them down, segregated according to cavity.

Industry 4.0: a glimpse of tomorrow today

Also when it comes to important future topics, such as Industry 4.0, functional integration and lightweight construction, Arburg will show just what is possible in practice at the Fakuma.

Industry 4.0 is a future project involving the vision of a smart factory. This requires the networking of machines, order information and process data. The fact that this vision can already be a reality will be demonstrated by Arburg at the Fakuma with the optional production of left and right-handed scissors on an electric Allrounder 370 E. An individual QR code will then be applied by laser, so that all of the most important process parameters of the relevant item can be retrieved online. The Arburg host computer system (ALS) is of central importance here, networking various independent stations, recording all the parameters and transmitting them to a web server. The scissors can then be customised to individual requirements using the Freeformer.

Enhanced efficiency: reducing weight, integrating functions

The production of a lightweight component for the automotive industry that also has a high level of rigidity will be demonstrated by a hydraulic Allrounder 820 S using long-fibre direct injection moulding. The advantages of this process include the flexible adjustment of the fibre length to up to 50 millimetres, the low incidence of fibre damage in the plastic melt and the lower material costs in comparison with long-fibre granulates.

Another interesting lightweight construction process is Particle-foam Composite Injection Moulding, which Arburg will present at the Fakuma with an example of function integration, the main topic of the Blue Competence campaign "There's more to plastic", run by the Plastics and Rubber Machinery Association (KuG) within the German Machinery and Plant Manufacturers Association (VDMA). Together with its partners Krallmann and Ruch Novaplast, Arburg will be showing the practical application of this innovative process. A foamed part product component will be produced on the compact foaming system integrated in the production cell. A six-axis robotic system inserts this into the injection mould, where a thread is moulded on in a positive bond. These composite parts - consisting of a foamed and a moulded plastic component - can be integrated in a further step as standardised parts for example in a foamed housing, enabling media lines to be connected easily

with an effective seal.

A further innovative application will be presented on a hybrid Allrounder 520 H in „Packaging“ version: the production of a SKET cup, a recent development of Uniplast, a company belonging to the Knauer group. The mould and the highly flexible Multiflex IML robot are made by H. Müller-Fabrique de Moules SA. The special geometry of the cup, with spiral-shaped flow aids, enable extremely thin walls to be produced with a thickness of less than 0.3 millimetre in conjunction with a relatively thick sealing edge, so that the cups can be reliably sealed in production. The cup is produced with innovative peel-off cardboard labels which can be easily removed to reveal printed product information on the inside. The cycle time of this application is under five seconds.

Trends in automation: complex and/or flexible

Automation plays a key role in efficient production, ensuring process stability, availability, high output and part quality. Two trends are in evidence. On the one hand, turn-key systems are becoming increasingly complex, while on the other, there is a demand for highly flexible automation solutions. Arburg will provide proof of the wide range of its offerings at the Fakuma: from the electric Integralpicker and the linear Multilift robotic systems, through to six-axis robots. An intelligent solution will be presented in the form of an interactive process involving human/robot cooperation, in which inserts are transferred manually to the robotic system. This ensures flexibility and disposes with the need for complex feeder peripherals.

High-level flexibility and complexity are also offered by the mobile robotic cell with a small six-axis robotic system from Kuka, which also moves along an additional linear axis. The advantages of this solution, implemented with cooperative partner fpt Robotik, are short cycle times, an increased working area and the option of using the cell on different Allrounder machines.

A suitable solution in every case

"Our Fakuma exhibits underline that each machine and production solution from Arburg can be specifically tailored to the requirements of the customer, industry and product - that's all part of what we mean by production efficiency," explains Michael Hehl.

ARBURG GmbH + Co KG
D 72290 Loßburg

The new FE75 rounds off Fette Compacting's innovative FE Series. Users can equip this high-performance double-sided rotary press with up to 115 punch stations and produce more than 1.6 million tablets per hour. The FE75's four compression rollers enable it to work with two intermediate pressures thanks to a special control system for direct compression. The result is a 166 percent increase in dwell time with FS19 punches. With a footprint of only two square meters, the FE75 also sets new standards in terms of its size and space requirement.

Interpack 2014: Fette Compacting FE75 Offered Top Performance for Large Batch Production

The production of large batches makes special demands on tableting technology. The output of a rotary press usually depends on the number of punch stations and the speed of the turret. It has therefore generally been the case in the past that the higher the required output, the larger the machine. However, any increase in turret diameter or speed also leads to an increase in the centrifugal forces on the materials to be compressed. Another limiting factor: customers prefer more compact machines because of the high cost of cleanroom space.

Maximum Productivity, Minimum Footprint

At Interpack 2014, with the FE75, Fette Compacting presented a machine that offers both high productivity and a small footprint. The machine is the third model in the innovative FE Series, which was developed completely from the ground up. The FE75 shares a number of outstanding technological features with the other two machines of the FE Series, such as a new, patent-pending conical filling unit, highly accurate manually adjustable filling table, innovative compression rollers, trouble-free tablet discharge through the column as well as a new operating terminal and the connection of process equipment through a standardized plug-and-play interface. While the FE35 single-sided rotary press is optimized for quick changeovers and the FE55 offers maximum flexibility in diverse production scenarios, the FE75 has been specifically tailored to large batch production with high-volume output.

The success of this design is made impressively clear by the performance data of the new machine. With a footprint of just two square meters, the FE75 is the only double-sided rotary press of its size that enables users to press single- and double-layer tablets as well as powder. The FE75 configuration with FS12 punches and 115 punch stations achieves a maximum output of over 1.6 million tablets per minute. The four compression stations enable users to work with two intermediate pressures and process materials that are difficult to compress. Using FS19 punches even facilitates up to 166 percent longer dwell time in direct compression.



Design Details: Minimum Product Loss, Protection against Contamination and Optimum Vibration Dampening

Fette Compacting's development department has also successfully improved many details. For example, new pneumatically controlled tablet scrapers make a significant contribution to efficient tableting. Now fitted as standard, they guarantee a constant surface pressure and minimize product loss. New conical filling units also make it possible to easily and safely process complex product mixtures. Tablet contamination is hindered by a new lubrication system that separates the lubrication of punch head and punch shaft in combination with a closed cam track system. Another innovative feature is the design of the FE75 chassis. Optimum vibration dampening is provided by a two-part frame structure and a pneumatic suspension system in the feet under the housing made of FDA-certified high-performance plastic that is already known from the FE55 and FE35.

TRIEASY Design: Simple Operation Delivers Efficiency

Fette Compacting has also implemented its new TRIEASY design concept in the FE75.

It is based on the principle that technology can only be efficient if it is equally easy to use in the three dimensions of production, changeover and maintenance. That's why the TRIEASY design focuses on the user and ensures trouble-free production irrespective of the operator's experience and qualifications.

Fette Compacting has implemented a new approach to turret changing. Utilizing a patent-pending process, the turret is raised by a lifting mechanism employing the adjustment drive of the compression rollers and then moved out of the machine with the aid of a CFRP carrier support. All the work steps involved in turret changeover have been automated or designed for tool-less execution. In addition, all the machine's supply lines are connected by multifunctional plugs. The machine's design also delivers excellent accessibility to all components.

Another highlight of the FE75 is its new extraction unit. It has a completely tubeless design. Fixed positioning makes it practically impossible to falsely install the unit. The advantage for users is clear: faster and easier fitting and changeover during cleaning.

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Cleanroom Award supports innovation in the industry



Cleanzone 2014: Innovative solutions for IT integration, automation, process optimisation and bio-contamination

**21.10. - 22.10.2014: Cleanzone
Frankfurt am Main (D)**

Technological innovations and an open exchange on future developments with colleagues and experts from around the world are the primary reasons for visiting an international trade fair, and Cleanzone, which is taking place for the third time on 21 and 22 October 2014 in Frankfurt, has proven itself to be an essential meeting place for the cleanroom industry in this regard.

This year's presentation of the latest technological innovations at the trade fair will be focused on the integration of IT in clean environments, automation, process optimisation, energy efficiency and bio-contamination monitoring. International exhibitors utilise this interdisciplinary platform to present their pioneering solutions to companies that are already carrying out production under cleanroom conditions or are planning to do so. Exhibitors include market leaders such as Assa Abloy, Basan, Cleanroom Competence, Daldrop + Dr. Huber, Deerns, Dycem, Ecolab, Profi-con, Trox, Spectec and Weiss.

Cleanroom Award: Focus on innovation

It is not only established companies that offer exciting innovations. Users, universities and start-ups are also hotbeds for new concepts, and new developments often arise from collaborations between universities and industry. Professor Dr. Gerhard Winter, Professor of Applied Hygiene, Cleaning Technology, Chemistry, Materials and Sterile Technology at Albstadt-Sigmaringen University, explains: "Our university is the only one in Germany that offers a degree programme in hygienic engineering, providing academic training for aspiring cleanroom experts – it is what sets us apart. We work very closely with industry, and for their theses, students have to design solutions to queries from companies that are usually related to classification and validation. Most of these new developments are implemented by the companies, providing our students with excellent opportunities for their future employment."

Since 2012, ReinraumAkademie (Leipzig) has been using the Clean-room Award to showcase concepts and products from providers, users, newcomers and university projects that are notable for their outstanding innovation. By doing so at Cleanzone, they provide an overview of how and where innovations are currently being created within the cleanroom industry. The award honours pioneering advances in the field of cleanroom technology for their innovation, sustainability and efficiency. The five finalists get to present their concepts in a special area and through presentations at Cleanzone Plaza. The winner will be chosen by the trade fair public during the trade fair and officially honoured on the second day of the event.

The winners in 2012 and 2013 found out just how great an impact participation in this competition – which offers 3,000 euros in prize money – can have. The first-prize winner in October 2012 was Technology of Sense B.V. The Dutch firm won the award for its innovative "Apmon" monitoring system. "We were convinced that our innovation would be of use to the industry, and that is why we entered the competition. The award, and the tremendous support from experts that came in its wake, were a huge help to our efforts to successfully launch "Apmon" on the market. Major brands like Samsung and BMW showed their interest straight away," says Anneloes Elbers, Marketing Director for Technology of Sense B.V. The ground-breaking idea behind "Apmon" is that, rather than measuring the particles suspended in the air as was previously the case, it is the particles deposited on surfaces that are measured. "Apmon" makes it possible to conduct automated particle measurement round the clock and to continuously monitor contamination values in cleanrooms on screen. The system is already in use, including at the European Space Agency (ESA) and in the automotive industry by Kostal Industrie El-ektrik. The sales partner in Germany is PMT Partikel-Messtechnik GmbH, which is presenting "Apmon" at Cleanzone 2014.

The Portuguese firm Laborial, winner of the 2013 Cleanroom Award, has also benefited from its win. The company's innovation, "Blautouch", is an interactive workbench



designed especially for ultra-clean environments. This specially prepared workbench can also be utilised with gloves, and allows users to access any company and/or project data they require – without having to set up additional computers or devices that often endanger the purity of the room. "The Cleanroom Award was the second competition we entered in 2013, and we have been enjoying an outstanding response from experts worldwide ever since. They have realised that "Blautouch" sets new standards for the utilisation of IT in sensitive environments. Without a doubt, this has helped us achieve our leading position in this field," states Tânia Fernandes, Marketing Director at Laborial. "Blautouch" will be represented at Cleanzone by the exhibitor Basan.

**Cleanroom Award: Deadline for applications
is 15 August 2014**

Applications will only be accepted until 15 August 2014. They are to be submitted to: ReinraumAkademie (Leipzig), Annett Michel, email: annett.michel@reinraum-akademie.de.

cleanzone

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Evenly filled and travel benefits to boot

From 2015 on, MEDICA and COMPAMED with new dates from Monday to Thursday

**12.11. - 15.11.2014:
MEDICA 2014, Duesseldorf (D)**

**12.11. - 14.11.2014:
COMPAMED 2014, Duesseldorf (D)**

**16.11. - 19.11.2015:
MEDICA 2015 + COMPAMED 2015
Düsseldorf (D)**

The world's largest medical trade fair, MEDICA, and the leading international trade fair for suppliers of the medical technology industry, the COMPAMED, are always going to take place in November on the days running from Monday to Thursday from 2015 on and all days of the event are going to take place parallel to each other in Düsseldorf. This was decided on by the MEDICA Advisory Board according to recommendations made by a working group comprising participants from leading industry associations, exhibitors and Messe Düsseldorf.

"In light of the analysis of the market research results on the visitor structure and the number of visitors on days up until this point, the decision is consistent with, and equally oriented to the needs of the exhibitors and the visitors," explained Joachim Schäfer, managing director of the Messe Düsseldorf GmbH. He added: "The portion of international visitors and decision-makers, including those from the commercial sector, has continuously risen in recent years with an ever-increasing preference for the days Wednesday and Thursday for the event to take place being away from the weekend." Joachim Schäfer also mentioned that the concentration of the "normal" working days of the week, Monday to Thursday (instead of Wednesday to Saturday as it has been up until this point), would make it possible in the future for the trade fair halls to be evenly



filled on all days, which would incidentally have a positive effect on the hotel booking and traffic situation in and around Düsseldorf.

Horst Giesen, Director MEDICA + COMPAMED, cited an additional benefit: "Rescheduling the days of the event is of benefit to the numerous specialist forums integrated into the MEDICA and the accompanying conferences. Over the entire duration of the event, a continuously high level of response from the participants can be expected. This makes it easier to plan themes and coordinate with our partners what subject matter is to be focused on."

This year's MEDICA, World Forum for Medicine, is going to take place from 12 to 15 November 2014 in Düsseldorf. The COMPAMED, High Tech Solutions for Medical Technology, is taking place from 12 to 14 November 2014.

Key programme components include the international MEDICA EDUCATION CONFERENCE, designed by the German Society for Inner Medicine (DGIM) as a medical training event with regard to subject matter, and the 37th German Hospital Conference as a leading event for the management of German hospitals.

After their successful premiers in 2013

respectively, the disaster and military medicine conference, DiMiMED, and the MEDICA MEDICINE + SPORTS CONFERENCE for the special needs of sports medicine will also enrich the MEDICA 2014 conference programme once again, being in the English language and therefore attractive to an international audience.

More than half of the approx. 132,000 trade visitors to the MEDICA 2013 were international visitors who had originated from over 120 nations. They collected information from the 4,641 exhibitors from 66 countries on the entire spectrum of new products for qualitatively good and simultaneously efficient medical care, ranging from medical technology and electromedicine, laboratory technology, physiotherapy products and orthopaedic technology all the way to health IT.

During this, the COMPAMED 2013 counted 681 exhibitors from 37 countries. They presented to 17,000 visitors a multitude of technological and service-based solutions for use in the MedTech industry - from new materials, components, primary products, packaging and services all the way to complex microsystem and nano technologies.

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