



Hans J. Michael GmbH



Criminal (2016 Movie) Official Trailer – "Remember"

Lancaster firm Connect 2 Cleanrooms hits Hollywood as one of its cleanrooms features in the new Ryan Reynolds film, Criminal.

Coming to a Cinema near You

In the trailer for the film, Tommy Lee Jones is seen operating on Kevin Costner inside the cleanroom, implanting the memories of a deceased CIA agent:

<https://www.youtube.com/watch?v=vwgoYFIS87I>

The scene demonstrates the unique way in which a modular cleanroom can create a clean environment anywhere – although Connect 2 Cleanrooms serves a diverse range of clients, this is the first time it has installed one inside an eerie abandoned warehouse. "We're more used to installing our cleanrooms in commercial warehouses", says MD Joe Govier. "When we originally supplied the cleanroom back in 2014, we were given an idea of how it would be used in the set, but to see it in the trailer is just fantastic. As you can imagine this has created a fair bit of excitement in the office." "Our cleanrooms achieve wonderful things every day, creating mission critical environments to protect sensitive applications, such as medical device manufacture and high precision technology." "The production company chose one of our modular cleanrooms for the same reasons hundreds of other organisations have – for their bespoke, flexible design, cost effectiveness, short lead time and fast installation."

Connect 2 Cleanrooms is a global specialist in cleanroom design & manufacture and its classified controlled environments protect critical processes for a diverse range of sectors around the world.

Criminal is directed by Ariel Vromen and is due for a UK release on 15 April 2016.



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LOUNGES2016

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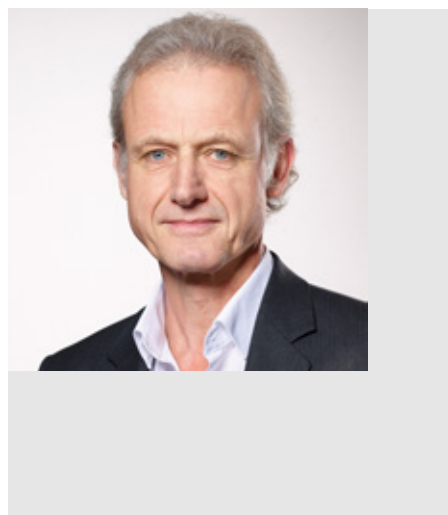
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Dear readers, dear subscribers,

now it's March 2016 and we have a lot of interesting news and a lot of interesting events for your appointment calendar.

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

Yours sincerely

 Reinhold Schuster



The map shows where the readers of the cleanroom online newsletter are coming from: if you want to get in contact with these readers please contact us.



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Customer Driven Cleanroom Innovation for Plastics Manufacturing

The continuous improvement strategy towards cost-effective, lean production comes with an explicit requirement for innovation and scalability for today's manufacturing facilities.

In looking to increase their manufacturing capability offering with cleanroom production, Tex Plastics' Technical & Quality Director, Andy Clarke & Manufacturing Director Dave Kearney, found both with Lancaster-based cleanroom solutions provider, Connect 2 Cleanrooms.

Tex Plastics' mission to develop higher performing, lower cost solutions for its clients, is now complemented with a class 7/8 clean room system that includes automated clean-air HEPA-lite™ canopies, controllable by a user-friendly touch screen interface.

The tooling challenge

When considering injection moulding processes, the tool face of the machine is often the most exposed area of the production line and this is the area which often requires the supply of controlled air. A simple way to achieve this is to enclose the full machine in a cleanroom; however this brings inevitable challenges of managing tool changes.

Enclosing the machine, mould and crane creates a large environment, in floor space and height. This approach leads to a vast amount of air being unnecessarily processed, negatively impacting on attempts to reduce carbon emissions.

This approach also increases the risk of contamination and safety issues as the overhead crane inevitably retains particles and cleaning it is a cumbersome and difficult task - not to mention the hopper creating a mass of contamination within the cleanroom.

A more cost effective and energy efficient option is to create a modular cleanroom on castors, that can be wheeled away to provide aerial crane access. Whilst this low-cost solution

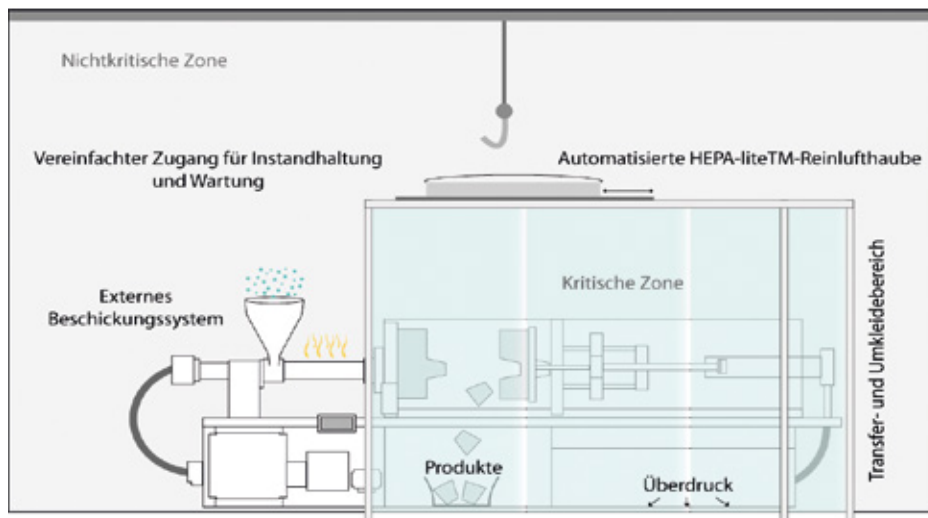
is a practical solution for many, Tex Plastics consider this solution to create unacceptable downtime as machinery requires an extensive full clean down following exposure to the external manufacturing environment.

This increases the risk of contamination and reducing the ability to offer a timely response to customer schedule changes.

The ultimate tooling solution: HEPA-lite™ automated canopies

To solve these issues, that many manufacturing and production staff has been working around or compromising on for years, Connect 2 Cleanrooms R&D team has now developed within its HEPA-lite™ range, an automated canopy system within its cleanrooms. Through an intuitive user-friendly touch screen interface, Tex Plastics is able to remotely activate actuators that slide sealed HEPA-lite™ canopies back to allow overhead crane access to tooling. (see figure 1)

Customer Driven Cleanroom Innovation for Plastics Manufacturing



This customer driven requirement ensures that clean air is supplied at the critical point of production and reduces contamination by significantly limiting the areas of machinery that are exposed to the external environment during tooling changes. This limits downtime for cleaning, reduces risk of contamination and increases productivity.

The canopy is a bespoke unit, containing a MAC10XL HEPA filter and is fully sealed to facilitate the re-circulation of the cleanroom's air conditioning. Connect 2 Cleanrooms is also able to build in ULPA filtration form those users looking for higher cleanroom classifications.

An LED warning beacon above the control panel visually indicates when the canopy is open, reminding operators to close the canopy, prior to new batch production.

This innovative and market leading cleanroom solution, features LED strip lighting around the underside of the canopy for extra lux levels, illuminating the tool face for operators.

Auditable control

The touch screen interface also acts as a control system, allowing full control of HEPA filtration and lighting levels, as well as monitoring pressure levels and alerting staff if the cleanroom is operating out of specification.

All of the pressure data is logged, exportable and auditable, to demonstrate performance and continued compliance of the production processes.

Effective cleanroom design

There are 4 zones inside Tex Plastics' cleanroom separated by partitions; two for Arburg injection moulding machines, a packing area and a goods transfer area. If one machine needs decommissioning or servicing, this can safely be done without affecting any of the other processes.



The modular design means that additional space can be added to accommodate more machinery or create a larger packing area. This gives clients the peace of mind that scalability and future capacity is achievable when required.

Tex Plastics supplied 3D models of their machines allowing Connect 2 Cleanrooms to maximise on floor space when designing its cleanroom and ensure a seamless installation programme with minimal disruption to Tex Plastic's production team.

The cleanroom is now fully operational, complimenting an already comprehensive "concept to completion" project solution for all conventional, white room and cleanroom thermoplastic requirements.

Meticulous project management of comprehensive tooling validation protocols including scientific moulding disciplines means Tex Plastics assure technical capability and a competitive edge, with a cleanroom production facility operating at maximum efficiency.

Additional features:

- Open, Close, Kill control
- Sealed HEPA-lite™ unit can be opened for pre-filter access during validation
- Benches for the packing area supplied by Cleanroomshop.com
- Transfer area features a bench with goods in going over the bench and goods out under, plus a waste hatch to dispose of waste without leaving the classified clean area
- Injection moulding machines are part enclosed so the hopper is kept external to the clean environment as it is a high contamination producing component



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Successfully Accredited

 **E+E Elektronik Offers Accredited Calibrations for CO₂**

The Austrian sensor specialist E+E Elektronik offers now accredited calibrations also for CO₂-fraction in gas. The E+E calibration laboratory is accredited by Akkreditierung Austria according to DIN EN ISO/IEC 17025 and is the only facility in Austria which can carry out CO₂ calibrations at this high level.



Figure 1: Accredited CO₂ calibration in the E+E calibration laboratory. (Photo: E+E Elektronik Ges.m.b.H.)



Figure 2: The devices under calibration are placed in a chamber with precisely defined gas concentration. (Photo: E+E Elektronik Ges.m.b.H.)

The E+E calibration laboratory offers accredited CO₂ calibrations for gas concentrations in the range 5 ... 300,000 ppm ($\mu\text{mol/mol}$), as well as for the equivalent volume fraction in $\mu\text{L/L}$. Due to the wide calibration range it is possible to calibrate all common CO₂ measuring devices such as sensors, handhelds, data loggers and spectrometers.

The calibration is performed as comparative measurement with a constant CO₂ reference concentration. The CO₂ reference concentration is generated by a special gas mixing pump according to DIN 51898-1_2015-05 and is freely selectable. The piston pump works with four high-precision pistons. The gas volume flow is precisely defined by the diameter of the cylinder, the stroke and the frequency, and can therefore be traced back to length, which is a fundamental physical quantity of the International System of Units (SI).

According to the International Laboratory Accreditation Cooperation (ILAC) agreements, only calibration laboratories accredited according to EN ISO/IEC 17025 can ensure the traceability of measurement results to SI and full international comparability. The accredited calibration certificate states the measurement uncertainty associated to the specific calibration process.

Accredited CO₂ calibration certificates are generally required for measuring devices used for safety or for the control of key manufacturing processes. Accredited CO₂ calibrations are of interest for instance in the Food and Drugs Administration (FDA) regulated industries such as food and pharmaceutical. Reliable CO₂ monitoring and control is paramount for biological incubators. In building auto-

mation, the accuracy of CO₂ measuring devices impacts directly on the efficiency of demand controlled ventilation systems.

In addition to CO₂, the calibration laboratory of E+E Elektronik GmbH is accredited for humidity, dew point, temperature, pressure, air velocity and mass flow by Akkreditierung Austria / Federal Ministry of Science, Research and Economy according to DIN EN ISO/IEC 17025 with identification number 0608.



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Drying Technology

Gentle and Reliable Drying – Innovation for Pharma Products

„Heat pump based condensation drying“ is the solution to many a drying challenge. It combines seemingly conflicting features such as low temperatures and short drying times. The purpose devised Airgenex® condensation drying system and its variants AIRGENEX®med and AIRGENEX®food are capable of drying, in a gentle and stress-free way at temperatures between 20 °C and 90 °C, items made from metal, glass or plastic, or organic products such as food. Quality drying results at very short times are obtained through the use of extremely dry air routed as required for the specific application. The integrated heat pump technology ensures highest efficiency of the drying process. Drying always takes place in a closed system, which makes it absolutely independent of the climate. Clean room environments are not affected. This ensures best quality and process reliability. Airgenex® condensation drying is a flexible system which may be integrated in any process. Air dehumidification by means of a heat pump may be implemented in any batch or continuous operation. Airgenex® drying systems meet GMP and GAMP requirements.

Drying Tests to be on the Safe Side

Our in-house pilot plant station is used to test customer products for response to drying. This is both part of the services offered and a reasonable method for determining the parameters for successful drying such as temperature, humidity, drying time, air speed and airflow. The documented results, our long experience plus the customer's know-how form the basis for further system design which will also draw on approaches for solutions in hundreds of various projects.

Drying and Cooling

With minor modification, our AIRGENEX® condensation drying system may also be used for cooling if desired or required by your process.

Condensation Drying - How it Works

The so-called AIRGENEX®med drying method uses an alternative physical approach. Extremely dry and, thus, unsaturated air is passed over the items to be dried to absorb any humidity. In a downstream dehumidification module, the air is stripped of the humidity it carries. The humidity is condensed and the condensate drained off. Subsequently, the cooled air is reheated and recirculated. The loop is closed. This makes the drying cycle almost emission free. The AIRGENEX®med module controlling dehumidification is integrated in the drying station. It does not matter if batch or continuous drying



Fig. 1: AIRGENEX®med Tunnel Drying

is used. The drying chamber includes a custom-designed air recirculation system. Because it is the perfect combination of dehumidification, air routing, air speed and airflow rate that ensures successful condensation drying for your product.

Batch Drying and Cooling - Application Example #1

A drying-cooling tunnel is loaded with batches of 12 support assemblies including 7 trays each. These hold, for example, a total of 15,000 infusion bottles with a capacity of 500 ml. Sterilisation takes 120 minutes. After sterilisation, the bottle temperature is about 55 °C. Upon customer request, the process of drying and subsequent cooling was adapted to the given cycle time. Thus, the bottles also dwell in the drying tunnel for 120 minutes. Drying is completed after 20 minutes. The remaining 100 minutes are used for cooling of the bottles to ensure smooth transition for further processing. The energy released in the cooling process is, in this application, removed through the existing cooling water system. All infusion bottles are now dried and cooled in a uniform and gentle way. Drying and cooling are fully reproducible. The tunnel has an in-built air recirculation system to produce a high and controlled airflow. The tunnel has an AIRGENEX®med 40.000 dehumidification module attached to provide the necessary environmental conditions for the various process stages inside the drying-cooling tunnel. Upon customer request, the module was placed atop the tunnel.

Application Example #2

Racks supporting cassettes holding vials with a capacity of 5 to 100 ml are loaded in a drying-cooling tunnel after sterilisation. The vials are dried at 55 °C for 45 minutes and subsequently cooled to 35

Gentle and Reliable Drying – Innovation for Pharma Products

°C for 30 minutes. The drying-cooling tunnel is designed to accommodate three racks. A total of three special fans inside the tunnel provide optimum air routing with each fan providing its own recirculating system to pass the dry air required for drying through the applicable rack / cassettes. The total airflow rate produced is about 30,000 m³/h. This way, the drying process will run smoothly with partial loads, too. The system has an input power of only 33.4 kW. Existing leakage test systems can produce valid results now that the vials are truly dry and no longer indicate suspected leakage. False rejects, which were really vials with residual external humidity, are a thing of the past. The drying-cooling also eases downstream processes such as stamping, labelling or printing. Also, packaging cool vials is much easier.

Continuous Drying – Application Example #3

For some projects, the process is different, which means infusion bags are dried after separation. Robots separate the infusion bags and place them on conveyor belts. A non-compressed air blowing type drying tunnel was integrated in the line to the test / packaging stations. In such cases, trays are not dried together with the bags.

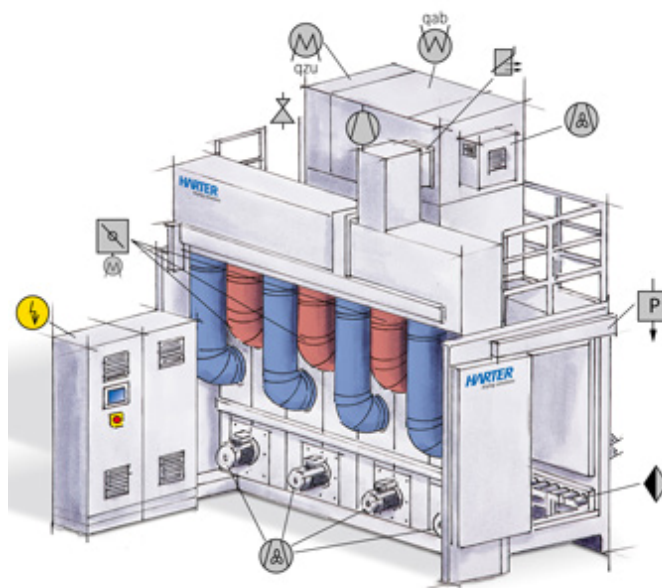


Fig. 2: Process Schematic

Harter Oberflächen- und Umwelttechnik GmbH
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Fig. 3: AIRGENEX@med Belt Drying



Fig. 4: AIRGENEX@med Continuous Dryer



From left to right Deprag Head of Purchasing Volker Schmidt, Deprag COO Dr. Rolf Pfeiffer, Stäubli Sales Manager Heiko Göllnitz, Stäubli Regional Sales Manager Johannes Seitz.

DEPRAG has been recognised as the „Preferred System Integrator“ of Stäubli Tec-Systems Robotics. This distinction demonstrates Stäubli’s appreciation of the loyal and reliable partnership between the companies. Over the many years of positive collaboration DEPRAG has integrated a significant number of Stäubli robots in innovative applications.

DEPRAG honoured as „Preferred System Integrator“

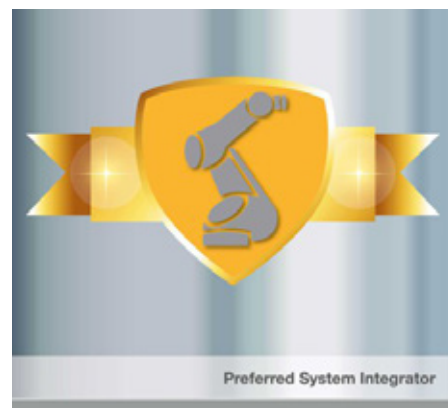
Stäubli Robotics, a leading global robotics manufacturer, offers a high-performance product portfolio of four and six-axled robots with capacities of up to 190 kg. Their standard robot range has continuously expanded to include specialised series for customised applications such as for clean and ultra-clean rooms, steam, explosive and sterile environments. Today these precise and flexible robots can be found in all market sections in industries as varied as the automotive, food, life sciences, machine building and plastics.

The sales strategy of Stäubli is built on long-term partnerships with system integrators. Stäubli Robotics support their partners in creating and developing customer specific projects in all branches of leading automation solutions. „We deeply value close project collaboration with our clients. This recognition is designed to honour the cooperation with our partner DEPRAG, which has enabled the realisation of numerous individual flexible and highly sophisticated auto-

mation solutions over many years“, explains Gerald Vogt, Managing Director of Stäubli Robotics, Germany.

Originating from their core area of expertise: screwdriving technology, over the years DEPRAG has evolved into a well-established, globally active provider of assembly automation. A particular speciality is the implementation of solutions for the automobile supplier industry and electronic production. „The solutions realised are implemented by our customers on a worldwide scale. Industry robots are being used ever more frequently as essential handling components. Their reliability, simple handling and flexibility are decisive in relation to the success of the entire system. All these characteristics can be found in the products of our partner Stäubli Robotics“, confirms Dr. Rolf Pfeiffer, COO of DEPRAG SCHULZ GMBH u. CO. in Amberg.

DEPRAG SCHULZ GMBH u. CO.
D 92224 Amberg



DEPRAG SCHULZ GMBH u. CO.
is a Preferred System Integrator
of Stäubli Robotics

DEPRAG SCHULZ GmbH u. CO. is a Preferred System Integrator of Stäubli Robotics.

Phillips-Medisize Completes 17,000 sq. ft. Dedicated Clinical and Pilot Facility

Phillips-Medisize Corp. recently added a 17,000 square foot clinical and pilot facility, dedicated to medical device and drug delivery device, in Menomonie, Wisconsin. This dedicated facility is a direct result of the company's continued commitment to purpose-built facilities and the support of several customers.

The expansion provides a dedicated, cGMP clinical and pilot-scale facility for the development of programs in clinical trials. Importantly, this allows customers to validate their product, manufacturing process, and assembly activities as part of the clinical trial regimen, improving speed to market and reducing risk.

The clinical and pilot-scale facility allows for critical scale-up activities prior to programs ramping to new product introduction (NPI) and commercialization at one of Phillips-Medisize's 14 manufacturing facilities around the globe. Demand for this capability is driven primarily by the company's rapidly growing drug delivery segment, and it is expected to support consumable diagnostics and medical device customers as well.

„The investment in this facility showcases Phillips-Medisize's continued commitment to purpose-built facilities, which in this case supports our customers' clinical development efforts. We will continue to invest in our people, processes, and facilities necessary to support our biopharmaceutical, diagnostic and medical device customers throughout their product development cycles," commented Bill Welch, Phillips-Medisize Chief Technology Officer.

Improvements to the facility include expansion of the Class 7 cleanroom space and critical systems. Additionally, LED lighting was installed to reduce power consumption. Future capabilities under consideration for the facility include drug handling and drug delivery device packaging, pending completion of appropriate registrations. All Phillips-Medisize locations supporting healthcare customers are ISO 13485 certified, including Design Controls in US and Europe Design Development Center locations.

Phillips-Medisize Corporation CH 8309 Nürens Dorf

Pharmaceutical Cleanroom Disinfection and Monitoring

Cherwell Supports Two Microbiology Events in Oxfordshire



Cherwell Laboratories exhibition stand highlighting its range of cleanroom microbiology solutions.

Cherwell Laboratories, specialists in cleanroom microbiology solutions for the pharmaceutical and related industries, will be attending two Pharmig events in March 2016 at the Oxfordshire Hotel, Oxford. These meetings will cover aspects of pharmaceutical cleanroom sporicidal disinfection and environmental monitoring best practice during manufacture of pharmaceuticals.

The first event on 2nd March will highlight Best Practices in Environmental Monitoring Covering Steriles and Non-Steriles - dis-

cussing the ideal strategy in setting up and maintaining an effective cleanroom environmental monitoring (EM) program. Topics covered include: choosing EM locations by risk assessment; correct use of EM media, identification strategies according to GMP guidance; and investigating out of spec results and data integrity. The full itinerary can be found on the Pharmig website.

Focusing on the Latest Updates on Sporicides as Part of Your Transfer Process, the second event is on 3rd March. The danger of and difficulty in controlling bacterial and fungal spores is of great importance in aseptic manufacturing. Topics being discussed include: an overview of the risk of bacterial spores in an aseptic environment; a consideration of sporicidal agents and their usage limitations; the validation of disinfectants; and the development of best practice for transfer disinfection process and potential alternatives.

Experts from Cherwell Laboratories will be on hand to answer questions on their products and their applications within environmental monitoring, sporicidal disinfection, and process validation. Cherwell's exhibition stand will present some of the tools and materials on offer, including Redipor® prepared media, SAS microbial air samplers, Mar Cor Dry Fog microbial decontamination and Mar Cor sporicidal disinfectants.

Andrew Barrow, Sales Manager, Cherwell Laboratories will be attending both events and commented, "The sporicides day is aimed primarily at NHS aseptic production and both events facilitate Pharmig sharing pharmaceutical industry expertise with the NHS."

Cherwell Laboratories Ltd
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Vereinigtes Königreich Großbritannien und Nordirland



2nd Trade Fair for Deburring Technology and Precision Surface Finishing, 10 to 12 October 2017 in Karlsruhe (Germany)

DeburringEXPO **– Everything is Pointing Towards Growth**

After the successful trade fair premiere in October 2015, more than half of the exhibitors who participated at the first DeburringEXPO have already booked booth floor space for the next event – including lots of industry “heavyweights”. And thus growth is already becoming apparent for the 2nd trade fair for deburring technology and precision surface finishing, which will take place at the Exhibition Centre Karlsruhe (Germany) from the 10th through the 12th of October, 2017.

**10th - 12th October 2017: DEBURRING EXPO 2017,
Karlsruhe (D)**

With 108 exhibitors and 2038 expert visitors from 31 countries, the promoters of DeburringEXPO succeeded in organising a made-to-order trade fair premiere in 2015. But the question remained as to how the trade fair for deburring technology and precision surface finishing would develop thereafter. And it would appear that the answer has already been found, because at the beginning of February 2016 – 20 months before the trade fair opens – Hartmut Herdin, managing director of trade fair promoters fairXperts GmbH & Co. KG – has announced that more than 50% of the initial exhibitors have already booked booth floor space for the next event in Karlsruhe from the 10th through the 12th of October, 2017. “This strong demand for booth floor space well in advance of the event has even surprised us a bit, and of course we’re quite pleased. But it also confirms that suppliers of products, processes and services for deburring and precision surface finishing already feel at home with DeburringEXPO after just one event”, explains Hartmut Herdin. This is illustrated by the words of Günter Gözl, managing director of Benseler Entgratungen GmbH: “A trade fair like DeburringEXPO was really long overdue. There’s tremendous interest on the part of the expert visitors, and lots of them brought sample parts for which they were seeking solutions.

The visitors know what they’re looking for, want problem-oriented advice and aren’t just interested in finding out what’s available on the market. The feedback was great and we’re happy that the next trade fair has already been scheduled.”

In addition to numerous initial exhibitors, various new companies have also already decided in favour of participating at the next trade fair for deburring technology and precision surface finishing. The exhibitor list is already brimming with renowned enterprises, which a glance at the trade fair website confirms (www.deburring-expo.com).

Multi-Industry Exhibition Spectrum for an Extensive Variety of Materials

DeburringEXPO’s exhibition portfolio is focused on products, systems, processes and services for deburring and rounding, as well as precision surface finishing for components made of nearly all materials from all industry sectors. The fields of training and technical literature are represented at the event as well.

fairXperts GmbH
D 72639 Neuffen

Special display generates new customers and strengthens partnerships

smartLAB: intelligent laboratory creates huge stir long after fair ends



**16th - 18th May 2017:
BIOTECHNICA + LABVOLUTION 2017, Hannover (D)**

The undisputed highlight of last year's BIOTECHNICA/LABVOLUTION fair was the smartLAB – a world-first window on the future of intelligent laboratories. The smartLAB was a joint project of a group of German companies and scientists who wanted to demonstrate the possibilities opened up by digitalization and Industry 4.0 technologies. And their display was a resounding success. More than half of the around 10,000 industry professionals who visited BIOTECHNICA/LABVOLUTION explored the smartLAB and gave the showcase top marks. That's why the showcase will return in May next year, when the next combined BIOTECHNICA/LABVOLUTION fair is staged. The 2017 edition of smartLAB will ponder the question of when the future visions of laboratory technology are likely to become reality.

"We find that smartLAB 2015 was an outstanding success," said Simon Bungers, the CEO of labfolder, a Berlin-based software company. "Our vision of the laboratory of the future as an integrated but highly flexible, modular system has enormous appeal. We came away from the fair with several hundred qualified leads, a number of which we have already converted into new business. However, the most important thing for us was that by working closely with the other smartLAB partners, we were able to make great strides in developing our business before the fair had even started." Jan-Gerd Frerichs, Director of Information Integration at Eppendorf AG, agrees: "For us the fair went very well indeed, thanks to an excellent joint effort by the smartLAB partners. As far as I am aware, it was the first time a group of lab technology companies from completely different disciplines have collaborated in this way to present a fully functional lab solution."

The three broad themes of last year's smartLAB showcase were

flexibility and modularization, integration and functionalization, and digitalization and automation. A total of 12 companies and institutions collaborated to illustrate the possible future trajectory of laboratory infrastructure. The joint project was coordinated by the Institute of Technical Chemistry of the Leibniz University Hannover.

Visually, the smartLAB was also a stand-out showcase. The display was designed in the vivid white and green color scheme of the new LABVOLUTION fair and its inviting octagonal shape worked well in terms of drawing in visitors and focusing their attention on the futuristic laboratory at the center of the expo area. The design of the laboratory itself was based on the "ballroom" manufacturing concept, which facilitates flexible processing. The modular workstations featured simple laboratory equipment, such as stirrers, scales and sensors. These were mounted on honeycomb-shaped plinths supplied by laboratory furnishing company Köttermann GmbH, leaving plenty of free work surfaces in between.

"As a manufacturer of innovative laboratory furniture, we like to work closely with the laboratory staff who use our solutions. And the smartLAB project gave us plenty of opportunity to do just that," said Tobias Thiele, Köttermann's Managing Director. Thiele also reported strong interest at the fair in his company's honeycomb-shaped laboratory furniture. Thiele: "We are already designing the next generation of this product for a new customer. The new version will incorporate many of the wishes and suggestions of the people who visited the smartLAB, such as user-friendly data and power connections."

The smartLAB was a joint initiative of the Institute of Technical Chemistry at the Leibniz University Hannover, Laser Zentrum Hannover, the Fraunhofer Institute for Manufacturing Engineering and Automation, Eppendorf, iTiZZiMO, Köttermann, labfolder, Merck, PreSens Precision Sensing, Sartorius, Stäubli Tec-Systems Robotics and Deutsche Messe AG.

Deutsche Messe AG D 30521 Hannover



Le plus grand salon suisse en matière d'automatisation industrielle prépare sa troisième édition. Cette année, le SINDEX aura lieu du 6 au 8 septembre, au parc d'exposition de BERNEXPO, comme précédemment. «L'industrie 4.0» est le thème clé de l'édition 2016, tant en ce qui concerne le programme-cadre que les exposants, qui sont déjà plus de 300 à s'être inscrits au salon.

L'industrie 4.0 au SINDEX 2016

06.09 - 08.09.2016: SINDEX 2016, Bern (CH)

Les préparatifs du principal salon suisse de la technologie battent leur plein. Cette année, une attention particulière est portée au thème de l'industrie 4.0. Le programme-cadre correspondant montrera aux visiteurs comment la production peut être organisée de manière plus efficace grâce à l'industrie 4.0 et leur révélera le classement de la Suisse en comparaison internationale. Un forum et des exposés, mais également des pièces d'exposition concrètes, permettant de présenter des applications pratiques au public, sont prévus. Les visiteurs auront ainsi un aperçu de la manière dont les opportunités liées à l'industrie 4.0 peuvent être transformées en avantages concurrentiels tangibles.

Retransmissions en direct depuis des halles de production suisses

Les diverses retransmissions en direct depuis des halles de production suisses constitueront l'une des attractions majeures du SINDEX cette année. Grâce à la diffusion de vidéos filmées en temps réel, le quotidien de l'industrie helvétique fera son entrée au salon. Les entreprises montreront en direct comment elles produisent aujourd'hui et ce qui changera à l'avenir. Les visiteurs du salon pourront participer activement et poser des questions aux experts techniques.

Déjà plus de 300 exposants

Les visiteurs pourront obtenir des conseils personnalisés sur l'industrie 4.0 en faisant le tour des stands des exposants. Les chiffres provisoires des inscriptions au salon sont réjouissants. «Plus de 300 exposants s'étaient déjà annoncés fin janvier. Cette évolution positive montre qu'après deux éditions seulement, le salon est devenu le rendez-vous incontournable de la branche et que les entreprises y voient une plate-forme idéale pour présenter leurs nouveautés», a déclaré Douglas Krebs, responsable du salon SINDEX. C'est la première fois qu'il a en charge le salon complet. Cet économiste d'entreprise travaille pour le GROUPE BERNEXPO depuis 2012 et a dirigé des sous-projets de SINDEX lors des éditions précédentes.

Le SINDEX aura lieu pour la troisième fois en 2016 et durera du 6 au 8 septembre. Les fabricants leaders des domaines de l'automatisation, l'électrotechnique, la fluidique et la robotique présentent leurs nouveautés au salon. En 2014, le SINDEX a attiré plus de 400 exposants et quelque 13 500 visiteurs.

BERNEXPO AG
CH 3000 Bern 22

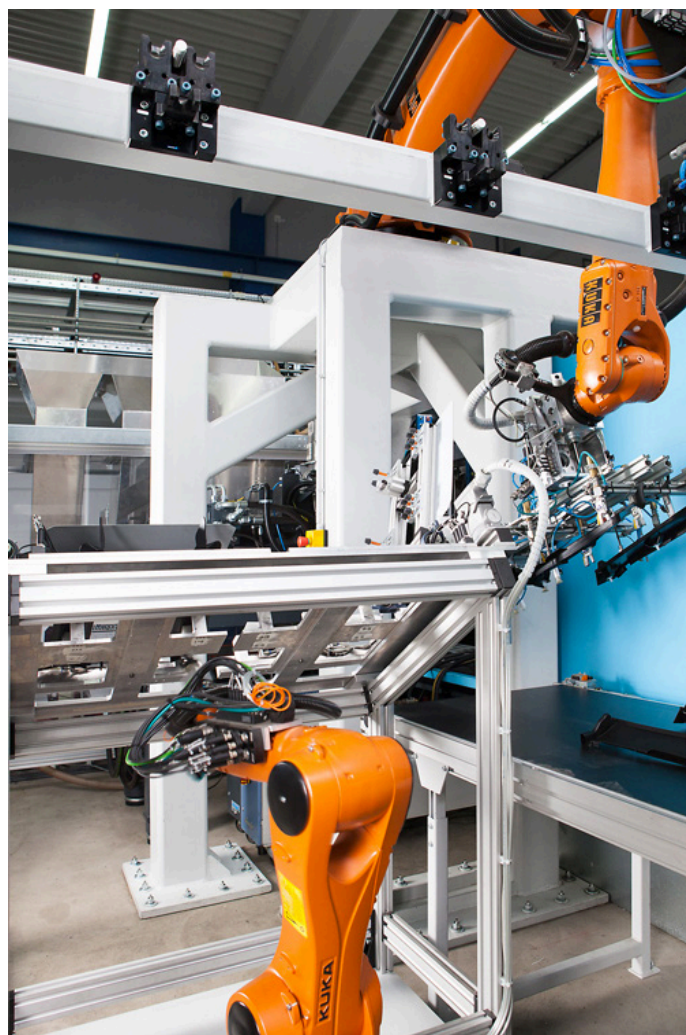
AUTOMATICA 2016: Automation in the Plastics Industry


Complete machining in plastic

The plastics industry is booming. Regardless of whether in the automobile industry, aviation and aerospace industry, food, pharmaceutical or medical industry or any other industry, it is a question of automation of plastic applications. The mega-trend here is the complete machining of plastic parts directly at a press. At AUTOMATICA 2016 in Munich from June 21 to 24 June, robot manufacturers and system integrators will present suitable automation solutions.



The automotive supplier TRW relies on complete machining of sophisticated plastic parts directly on injection molding machines. (Photo: Ralf Högel)



Two KUKA robots work on an injection molding machine by hand in hand. (Photo: KUKA)

21st - 24th June 2016: AUTOMATICA, München (D)

The days are long gone when robots were hardly utilized and only handled simple part removal from injection molding machines (IMM). With the complete automation of the entire process chain from part insertion via all possible machining steps to packaging and labeling, automation has advanced to handle the most demanding tasks in the plastics industry.

The reason for this is obvious: The production of simple injection-molded parts is largely outsourced to low-wage countries outside the European Union. However, business is booming in Europe with plastic parts and components, which require a great deal of know-how and substantial engineering effort. The challenge today is to manufacture complex parts economically in complete machining directly at an IMM.

The Diedorf plastic specialist Borscheid + Wenig, which produces covers for the engine compartment of a German automobile manufacturer, demonstrates how such solutions can look like in actual practice. "We searched for a solution that can handle the removal from an injection molding machine as well as transfer into the cavity and the mounting device as precisely and with as much repeatability as possible," Managing Director Carlo Wenig explained. Only the use of robots came into question to automate the different steps in a system. Even the subsequent mounting of clips into the component is fully automatic in the same cell. Two fast KUKA robots share the activities and work hand-in-hand in the cell, thereby ensuring highly efficient production of components.

Complete machining is also a big item on the agenda at the automotive component supplier Body Control Systems, a company of the automotive supplier TRW, in the production of eight million brake light switches. In the cell, two robots take over not only the loading and unloading of the injection molding machine, but also all upstream and downstream work including the complete quality assurance process.

Important market for automation specialists

The plastics industry has developed into one of the most important markets for almost all robot manufacturers in the recent past. According to International Federation of Robotics, the number of robots is experiencing a continuous upward trend. In period from 2010 to 2014, the automobile industry recorded an increase of robots for rubber and plastic applications by an average of 46% per year worldwide. With such this dynamic growth, many AUTOMATICA exhibitors are naturally focusing on this industry and pushing forward innovative developments in close cooperation with users and machine manufacturers.

For example, FANUC: The company is involved in the automation of tasks in the field of plastics in all three product areas: control systems and servo feed drives, IMM and robots. Olaf Kramm, Managing Director of FANUC Germany GmbH, emphasized: "Our competence topics are performance, reliability and seamless integration from CNC all the way to robots. AUTOMATICA provides an interesting venue to present this application scope." Mr. Kramm also pointed

Complete machining in plastic

out changes in market conditions in automation. Due to the trend toward complete machining with integration of assembly work and other value-added activities, he sees other criteria for the selection of a "linear handling device or flexible robot" than for simple removal. Selecting the right robot enables easy integration into secondary operations in many cases.

Plastics expertise at AUTOMATICA 2016

Regardless of whether under harsh production environments or in a clean room, the appropriate robot can be found for every task involving IMM at AUTOMATICA 2016. Exhibitors show what types of robots enable the shortest mould open time on injection molding machines, how simple the connection of robots is using standardized Euromap interfaces, and how increasingly complex processes for complete machining can be integrated space-saving. The trendy topics are user-friendly operation and Industry 4.0. Further development steps are expected here, which will enable plant operators and system integrators to take advantage of the very varied possibilities of robotics and integration into digital networks even without expert knowledge.

Messe München GmbH
D 81823 München



The traversing axis driven by a Fanuc servo motor gives the robot additional range. (Photo: Robotec Solution)

Chillventa and China Refrigeration initiate extensive marketing collaboration



CONNECTING Experts: Planned collaboration between Chillventa and China Refrigeration

The organisers of Chillventa, the leading exhibition for refrigeration, AC, ventilation and heat pumps, and China Refrigeration, the key event in China for HVAC&R, have agreed to work more closely together from 2016. The aim is to develop common trade fair themes internationally and establish them in the respective markets. The idea for this initiative was prompted by the longstanding business relationship between the two parties. The concept for the partnership is based on a comprehensive marketing mix that will once again focus on „CONNECTING EXPERTS“.

11th - 13th Oct. 2016: CHILLVENTA 2016, Nürnberg (D)

For many years, NürnbergMesse has been successfully organising and developing a large pavilion at China Refrigeration. For two years this has gone under the name "European Pavilion - powered by Chillventa". The pavilion introduces a mix of European and international companies to the professional community in Asia. China Refrigeration will take place in Beijing in spring, from 7 to 9 April 2016. Since it was launched in 2008, Chillventa has grown to become the leading international exhibition and biggest event in the refrigeration sector. Featuring the usual air conditioning, ventilation and heat pump segments, Chillventa will be held in Nuremberg from 11 to 13 October 2016.

Alexander Stein, Executive Director Chillventa, underlines the importance of the alliance between the two events: "We are delighted to have agreed on this marketing collaboration with China Refrigeration, which will be conducted in a spirit of partnership to be expedient and fruitful for both parties. NürnbergMesse has been operating successfully in the Chinese market for many years. This was one of the main reasons for establishing NürnbergMesse China eight years ago. We are confident that this joint venture will be a success for both

parties and are looking forward to working closely with the Chinese Association of Refrigeration (CAR), the China Refrigeration and Air-conditioning Industry Association (CRAA), China Council for the Promotion of International Trade, Beijing Sub-council (CCPIT Beijing) and their successful China Refrigeration."

Jin Jiawei, Secretary General of the Chinese Association of Refrigeration (CAR) is equally positive: "The collaboration between Chillventa and China Refrigeration is based on a longstanding strategic partnership underpinned by a spirit of mutual trust. In order to push forward Chinese HVAC&R product and technology towards the world's market and improve the influence of Chinese manufacturing, CAR and China Refrigeration are obliged to choose an excellent international public platform and promote the Chinese enterprises' effective participation in activities such as the academic communication as well the exhibition. In NürnbergMesse and its successful Chillventa event we have a partner we can rely on. We also see this alliance as an opportunity to create synergies and make progress together and are looking forward to the collaboration between the two events."

NürnbergMesse GmbH
D 90471 Nürnberg

Practical trainings on solid pharmaceuticals

Extended range of pharma solid seminars

- Global variety of topics under the umbrella of the Bosch Packaging Academy
- Seminars designed to meet participants' individual needs
- Practical trainings on globally trending topics

Bosch Packaging Technology has expanded its range of seminars for the development and production of solid pharmaceuticals under the umbrella of the Bosch Packaging Academy. In response to an increasing demand, Bosch now offers more practical trainings on sought-after topics, for instance at the German sites in Schopfheim and Waiblingen.

Learning from industry experts

The lectures are given by Bosch associates from different departments together with external industry and research experts. Participants benefit from a mix of theoretical industry knowledge, long-term experience and practical training in the local laboratories. „Our goal is to consistently adapt the trainings to participants' needs,“ explains Dr Marcus Knöll, head of the pharma service department of the Bosch subsidiary Hüttlin GmbH in Schopfheim. „Due to keen interest, we have continuously expanded our range of seminars over the years. And most of them are fully booked within a very short time.“

In 2016, the Schopfheim site offers specific operator trainings for granulation and fluid bed usage, as well as seminars focusing on scale-up, granulation and coating. In the scale-up seminar, for instance, lecturers provide a deeper insight into the possibilities of scale-up. „Our specialists train the participants regarding the ideal approach and explain all practical process steps in detail,“ says Dr Knöll.

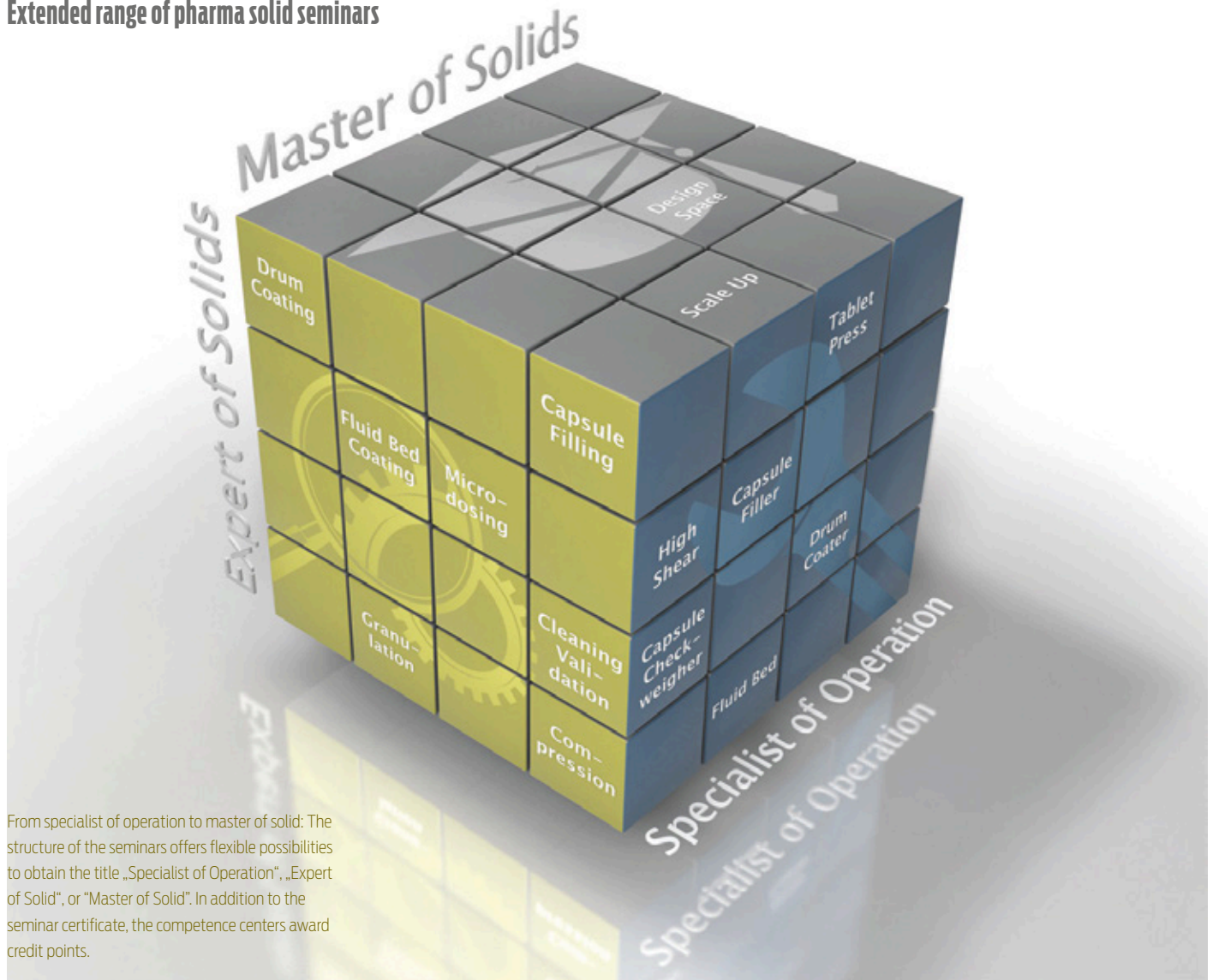


Seminar content consistently tailored to customer needs: „Our goal is to consistently adapt the trainings to participants' needs,“ explains Dr Marcus Knöll, head of the pharma service department of the Bosch subsidiary Hüttlin GmbH in Schopfheim.

Seminar schedule 2016 at a glance:

- 01 - 03 March:
Granulation: from powder to tablet,
Schopfheim (held in English)**
- 16 - 18 March:
Capsule school, Waiblingen (DE)**
- 19 - 21 April:
Tabletting compression technology, location tbd. (EN)**
- 26 - 28 April:
Coating: particles, granules, pellets, tablets,
Schopfheim (EN)**
- 17 - 19 May:
Tablet coating techniques, location tbd. (EN)**
- 07 - 09 June:
Scale-up: transferring products to production,
Schopfheim (DE)**
- 27 - 28 September:
User training high-shear and fluid bed,
Schopfheim (DE)**
- 18 - 20 October:
Tabletting compression technology, location tbd. (EN)**
- 25 - 26 October:
Operator training high-shear and fluid bed,
Schopfheim (EN)**
- 08 - 10 November:
Tablet coating techniques, location tbd. (EN)**
- 09 - 11 November:
Capsule school, Waiblingen (DE)**
- 29 November - 1 December:
Granulation: from powder to tablet,
Schopfheim (EN)**

Extended range of pharma solid seminars



From specialist of operation to master of solid: The structure of the seminars offers flexible possibilities to obtain the title „Specialist of Operation“, „Expert of Solid“, or “Master of Solid”. In addition to the seminar certificate, the competence centers award credit points.



Practical training on site: Participants of the pharma solid seminars from Bosch Packaging Technology benefit from a mix of theoretical industry knowledge, long-term experience, and practical training in the local laboratories.

Seminars on capsules and tablets

The site in Waiblingen, Germany, offers several capsule school workshops. The seminar series provides information about the production and pharmaceutical application of hard capsules, the development of formulations, as well as different filling technologies. Further seminars from Bosch include processes, current trends and developments in tablet pressing and coating for different therapeutic areas.

The structure of the seminars offers flexible possibilities to obtain the title „Specialist of Operation“, „Expert of Solid“, or “Master of Solid”. In addition to the seminar certificate, the competence centers award credit points in three different categories. Depending on the difficulty level, participants receive one, two or three credit points per completed training course.



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Arburg at the Medtec Europe 2016



Electric machine for medical technology

- **Complex production: Y-shaped connectors for use in intravenous drip therapy**
- **Electric injection moulding machine: Allrounder 470 A in clean room version**
- **Arburg: Broad range of medical technology products**

Arburg will present a complex medical technology application at the Medtec Europe 2016 in Stuttgart from 12 to 14 April 2016. On Stand 7B03 in Hall 7, a clean room version of an electric Allrounder 470 A will be used to produce Y-connectors made from PMMA for use in intravenous drip therapy. One of the highlights will be lateral injection by means of a needle-type shut-off nozzle to produce a high surface quality on the part.

12th - 14th April 2016: Medtech Europe, Stuttgart (D)

„Based on the example of the production of Y-connectors for use in intravenous drip therapy, we will be demonstrating a production-efficient clean room concept,“ explains Sven Kitzlinger, Application Engineering Medical Technology at Arburg. „The electric machine and the complex mould are perfectly matched to one another. The production cell can be docked with a clean room with ease. This saves space and costs in comparison with clean room production.“

Technically complex part

At the Medtec Europe 2016, an electric Allrounder 470 A with a clamping force of 1,000 kN and a size 170 injection unit will use an 8-cavity mould from company Männer to demonstrate the production of Y-connectors for infusion therapy in a cycle time of around twelve seconds. The highlight of this application is the lateral injection via a hot runner using a needle-type shut-off nozzle and the demoulding of the PMMA parts, each weighing 0.8 grams, from three sides. This enables a better surface finish and therefore better part quality to be achieved.

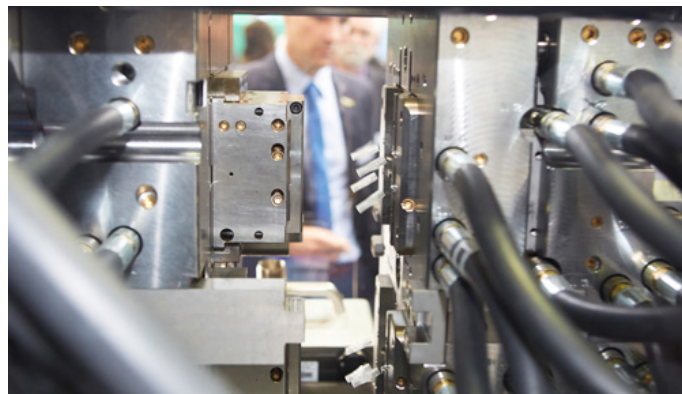
Machine in clean room version

The exhibit will feature an extended conveyor belt with a tunnel cover for docking with the clean room. By placing the machine and extensive peripheral equipment outside and only transporting the clean, produced parts inside, the clean room can be operated with a high level of cost-effectiveness. A clean-room module with ionisation above the clamping unit ensures the required clean atmosphere during running production.

Customised turnkey systems

The specifications provided by OEMs and users must be precisely met in the medical technology sector. There is a trend towards automated production processes and the integration of downstream processing steps. Here too, Arburg has decades of expertise. The modular structure of the machines and production cells means that they can be tailored very precisely to the needs of customers.

Arburg, for example, can supply a stainless steel version of the Allrounder that meets the highest hygiene requirements in accordance with ISO 13485, as well as the specifications of the FDA and the GMP directives. Moreover, Arburg has a number of clean room concepts and extensive expertise in the areas of automation and LSR processing, as well as collaborating with expert cooperation partners.



The Allrounder 470 A in clean room version will feature a clean-room module with ionization above the clamping unit and an extended conveyor belt with a tunnel cover for docking with the clean room. (Photo: ARBURG)



The Y-connectors made from PMMA produced on an electric Allrounder 470 A are used in intravenous drip therapy. (Photo: ARBURG)



At the Medtec Europe 2016, an electric Allrounder 470 A will use a Männer mould to produce eight Y-connectors for use in intravenous drip therapy in a cycle time of around 12 seconds. (Photo: ARBURG)

motan-colortronic shows the latest developments in the medical area during MEDTEC

Clinically clean

motan-colortronic gmbh, Friedrichsdorf, Germany, a producer of systems for sustainable raw materials handling in the areas of injection moulding, blow moulding, extrusion, compounding and in the chemicals industry, will show the latest developments of the pharmaceutical and medical area during MEDTEC, Stuttgart, Germany, 12th to 14th april 2016.



LUXOR CA S (Photo: motan-colortronic)

LUXOR CA S

Injection moulders producing very small parts are faced with the unique challenge of being able to dry just the right amount of material for their process. Operating in extremely critical production conditions, these smaller throughputs can present considerable problems. Consequently, it is important to scale the drying to the size of the moulding machine. The new LUXOR CA S range of dryers fits perfectly into this concept. It is also suited for cleanroom applications.

The LUXOR CA S range with hopper volumes of 0.75 / 1.5 / 3 and 5 litres has been conceived especially for the production of small and micro parts. The range is comprised of a modular line of correctly sized drying equipment helping moulders to meet the small tolerances without waste or contamination. On account of their light and compact construction, the dryers can be simply mounted on all processing machines, also when space is highly restricted. The LUXOR CA S compressed air dryers take factory supplied compressed air which is expanded to atmospheric pressure. This pro-



Membran valve for clean room applications (Photo: motan-colortronic)

duces dry process air – with a very low dew point – which is then heated to the required drying temperature. No desiccant is necessary making the dryer perfect for clean room conditions. All models are equipped with a thermostat and low air flow safety switch to prevent overheating of the material in the event of insufficient air throughput.

Due to the wide temperature range (30 - 180°C) the LUXOR CA S micro dryers can be used for many different materials. A pre-filter cleans the compressed air. This feature prevents contamination of high-quality materials and provides optimum drying conditions. The complete drying bin body is made from a single piece of special glass – ideal for contamination critical process applications. An additional benefit of the all glass construction is its transparency. The operator can always see the actual status of material in the bin. Constant and stable conditions in the entire drying hopper are an essential prerequisite. Therefore, the complete drying hopper right down to the material discharge is heat insulated because of a double glass wall construction. This design is an important energy saving advantage. The expertly designed air diffuser provides uniform distribution of the dry air ensuring that the material – even at the material bin outlet – is



ULTRABLEND (Photo: motan-colortronic)

kept at a constant temperature and in the required dry condition.

METRO G

motan-colortronic's spotlight this year will be focused on its innovative METRO G range of material loaders. This development by motan engineers combines the latest technologies from colortronic and motan and also enhances those systems with a number of new features. METRO G's modular building block system allows users to configure and create the optimal material loader for any application. For example, a standard material loader unit can be expanded into a clean room version just by adding special vacuum diaphragm valve. A dust removal module provides for fine dust removal at the material loader, essential for some critical engineering plastics where absolutely no dust is allowed to enter the process. The system can also be fitted with modules with a tangential material inlet to provide a cyclone effect for processing those materials where a more coarse dust separation is required. METRO G allows users to configure the right material loader for their specific application.

ULTRABLEND

ULTRABLEND offers clear advantages to manufacturers of thermoplastic medical

Clinically clean

devices. The processing of raw material compounds that are sometimes extremely expensive in hygienically clean operations into medical primary packaging, components, implants, instruments and equipment requires the highest levels of cleanliness, precision and cost discipline.

The gravimetric ULTRABLEND blender has been developed for consistently precise dosing and mixing of free-flowing raw materials – plastic granulates and additives. It improves process quality and stability and makes its own contribution towards minimising production costs. With the design in electro-polished stainless steel, motan has placed great emphasis on clear functions, minimum maintenance and easy operation in a hygienically clean production environment. All material hoppers and mixing chambers have been designed without any “dead zones”. All seams are fully welded. As a result, no residual amounts of material can

build up and contamination of subsequent batches is therefore eliminated.

The ULTRABLEND is especially suitable for precise dosing of extremely small amounts of material directly into the injection moulding, extrusion or blow moulding machine. A maximum of four raw material components can be dosed by weight, one after the other, precisely as required by the recipe. They are then mixed together homogeneously in the downstream mixing chamber (4.5 litres volume) and fed into the feed throat of the processing machine. The minimum dosing amount is 3 g per component (900 g lot size). When two components are used a maximum throughput of 260 kg/h can be achieved.

motan-colortronic gmbh
D 61381 Friedrichsdorf



METRO G loader range (Photo: motan-colortronic)

**12th - 14th April 2016:
Medtech Europe,
Stuttgart (D)**

AUTOMATICA 2016: Innovations for the Food Industry

The future is called automation

The food and beverage industry is subject to immense cost pressure. To remain competitive, producers are looking for powerful automation solutions with reasonable investment costs at the same time. AUTOMATICA 2016, which will take place in Munich from June 21 to 24, presents suitable solutions for the industry.



The encapsulated Stäubli robots in HE design have no problems dealing with crumbly fish sticks and daily cleaning cycles. (Photo: Winkler)



Delta robots such as the legendary ABB FlexPicker have proven themselves both in secondary and primary food packaging. (Photo: ABB)

**21st - 24th June 2016:
AUTOMATICA 2016, München (D)**

Automation providers know the needs of the food industry precisely. High-output solutions are required with output rates that can

be well over 100,000 units per hour depending on the application. For secondary packaging, most manufacturers offer powerful robots in all possible payload and range classes. The same applies to industrial machine vision, which plays a key role in many applications. The offer ranges there from intelligent smart cameras to complex, comprehensive machine vision solutions for line tracking.

The future is called automation



Thomas Kröning, Owner of Kröning (Photo: Kröning)

Although it is largely irrelevant for machine vision solutions whether they are used in the primary or secondary packaging, the situation is different for robots. Compliance with strict hygiene regulations in the handling of open food is a priority for them. Thomas Kröning, owner of the plant manufacturer and specialist in the area of primary packaging of the same name, explains what this means specifically: „Ultra-fast robots in clean room design with minimal particulate emissions are needed. At the same time, the machines must cope with industry-standard cleaning procedures and guarantee the exclusion of food contamination, which requires the use of food grade lubricants in the NSF H1 class.“

Robots are still limited to a greater extent by these requirements than in the area of secondary packaging. However, the market is developing dynamically. The World Robotics statistics of IFR show a growth of 14 percent in the beverage and food industries worldwide in 2014.

High-speed kinematics with 200 picks per minute

The high demand is fueling the innovative power of robot manufacturers. As a result, many innovations are expected at AUTOMATICA 2016 in the field of high-speed kinematics. Delta robots are the focal point here. The granddaddy of these kinematics, the ABB FlexPicker, wrote robot history. Today, the IRB 360 product family covers almost every need with its many variants. Important for food applications: All FlexPickers are perfect for harsh wet environments in the processing of meat and dairy products with their hygiene design. Even a version in complete stainless steel design with protection class IP69K is available, which is especially suitable for wet cleaning with industrial detergents and high pressure hot water.



Dr. Klaus Kluger, Managing Director of Adept (Photo: Adept)

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Adept will also be at AUTOMATICA 2016 and present its Hornet 565 with newly developed delta kinematics, which masters pick & place at top speed. „We developed the Hornet 565 to increase product throughput and efficiency and to reduce production costs,“ Dr. Klaus Kluger, Managing Director of Adept, explained.

Fanuc is moving forward with particularly creative delta kinematics. The Japanese equip their robots with triaxial hand

joints, which produce six-axis kinematics. Three axes suffice as long as it is “only” a matter of picking. If inspection tasks are added or picked products must be rotated around an axis, the robot needs an increased degree of freedom.

You can also see another development at AUTOMATICA 2016. In the high speed area, delta robots have to compete against robots such as the revolutionary Epson Spider and the super-fast Stäubli almost TP80 picker. Both robots will not be in Munich for the first time, but Stäubli is going to present the fast picker in new versions specifically for use on open food. The four-axis robots are available both in splash-proof HE design and with H1 food grade oil. In this configuration, they achieve peak values up to 200 picks per minute.

New applications in focus

Not only robot manufacturers, plant engineering companies and food producers will benefit from the advances in automation technology, but also consumers and the labor market. Example: If North Sea shrimp were automatically peeled in Germany, their 6,000-kilometer transport to distant Morocco would no longer be necessary, new jobs would be created in Germany, and consumers would get a fresher product. They would be just as fresh as the fish sticks, which are quickly packed with six-axis robots at TST located near Emden. Each of the four Stäubli six-axis robots in HE design on a fish sticks and a gourmet fillet line handle packing up to 300 tons of fish per day in three-shift operation. This is quite an achievement, because the crumbly cargo is anything but easy to handle. Positive side effect: Thanks to this investment, 160 jobs have been created in a production facility newly built in 2011.

In addition, new automation solutions are at the point of being put into practice every day. Regardless of whether it concerns the new tomato harvesting robot from Panasonic or cutting dough into pieces with jet of water, there are few limits to the innovative power of the automation industry or to potential projects in the food industry.

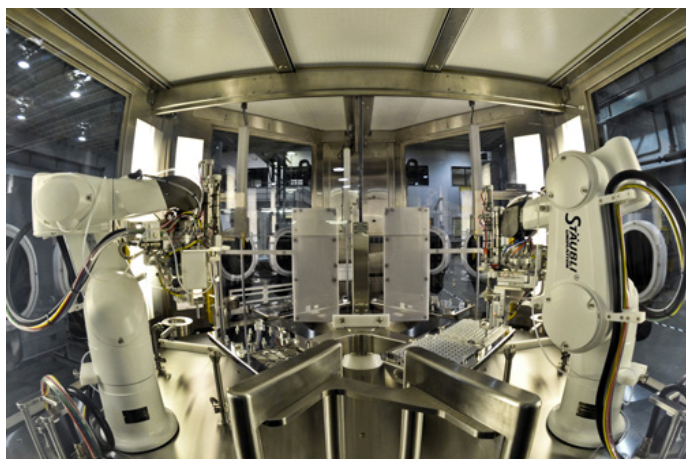
Messe München GmbH
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AUTOMATICA 2016: Focusing on Life Science Solutions

Man-Robot Success Stories

In the burgeoning life science, medical and pharmaceuticals markets, robots are breaking into new task areas. In the process not only are they working for man but also, and increasingly commonly, directly with him. More than 200 companies will be showcasing their pioneering developments in this innovative industry at AUTOMATICA 2016, from 21-24 June in Munich.



Stäubli six-axis robots are proving themselves in many life science uses. The spectrum ranges from drug manufacturing (depicted here) to automated hair transplantation. (Photo: Stäubli)



The Yaskawa dual-arm robot, shown here in action in the laboratory, is now revolutionizing the testing of medical diagnostic devices. (Photo: Yaskawa)

21st - 24th June 2016: AUTOMATICA, Munich (D)

It is not just their market potential that impresses but the applications themselves. For example, special surgical robots are behind minimally invasive procedures introducing new quality standards to operating theaters. In automatic mode, and according to meticulous programming, the robot can function of its own accord. In the case of telemanipulation, on the other hand, the operator uses joysticks to control the robotic arms by means of an endoscopic camera image – a prime example of man-robot collaboration, only just now making its way into industrial robotics.

Hair transplantation by industrial robot



Dipl.-Ing. Gerald Vogt, General Manager Stäubli Robotics. (Photo: Stäubli)

These very cost intensive, special operating systems inspired the development of assistance systems for medical procedures, based on classical industrial robots. The best example: ARTAS. The innovative robotic, minimally invasive hair transplant system features a standard Stäubli TX60 industrial robot. The highly accurate six-axis machine removes individual hair roots, which are then reinserted in the places affected by hair loss.

Conventionally, the removal of thousands of hair follicles was a time-consuming and arduous process for the patient. With the robotic assistance system, doctors can work incomparably faster and more accurately, treat patients more gently and guaran-

tee superior growth rates. “Thanks to their unique performance in terms of path characteristics, accuracy, positional stability and cleanroom suitability, the fully encapsulated Stäubli TX series robot sets the standard for medical applications. The six-axis TX60 robots can be integrated directly with the ARTAS system with no modification worth mentioning. As hair loss is very common we already have almost 100 robots in operation for this application alone”, says Stäubli Robotics General Manager Gerald Vogt.

Dual-arm robot revolutionizing the testing of diagnostic devices



Dr. Michael Klos, General Manager at Yaskawa. (Photo: Yaskawa)

Yaskawa unveiled the CSDA10F dual-arm robot back at AUTOMATICA 2014. “Our dual-arm robot is from the industrial automation stable and was modified for laboratory use. With its total of 15 servo-controlled axes, including a monumental axis and seven axes per arm, the robotic system is more flexible than any human, but above all streets ahead in terms of precision”, according to Dr. Michael Klos, General Manager at Yaskawa.

In a pilot project that is unique in the world the CSDA10F is now taking on the testing of medical diagnostic devices – a highly responsible task, on the correct performance of which human lives depend.

The equipment is superior to manual inspection and scores in terms of unlimited reproducibility of the test scenarios, exemplary process reliability as well as previously unachievable efficiency, thereby eliminating the human component as a source of error.

Man-Robot Success Stories

Standard robots in the Champions League as well

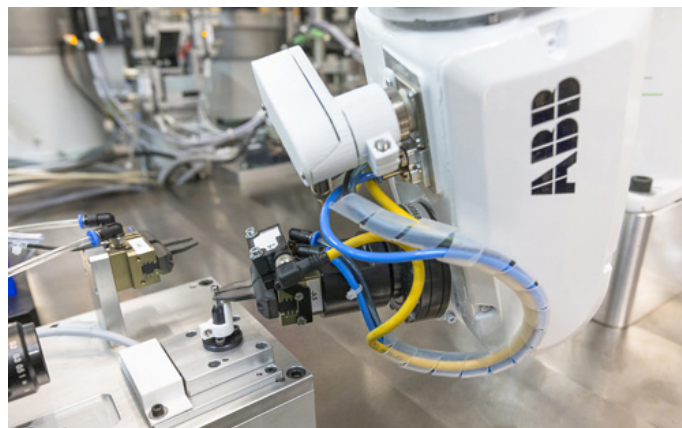
Although the hygiene standards for equipment, components and robots in medicine and pharmaceuticals are particularly high there is also a whole string of applications in the Champions League of automation for which no special clean-room robots are required. The fact that the latter are not confined solely to end-of-the-line packaging activities is demonstrated by a standard six-axis ABB robot in the assembly of delicate components for turbine drills in dentistry. Precision of the highest order is required when assembling a delicate shaft complete with collet to accommodate dental tools such as drills, milling cutters or polishing instruments. This is the only way to ensure that the tools run perfectly true. The compact ABB IRB 120 is of proven worth in this precision engineering assembly thanks to its repeat accuracy of one hundredth of a millimeter, thereby satisfying all quality requirements. But the user is not just taken with the accuracy of the robot solution but also by its productivity, which should therefore lead to further automation solutions.

Complex solutions thanks to Machine Vision

Whether in the operating theater, hair transplantation or the testing of diagnostic devices – machine vision plays a key role in each case. The dual-arm robot application uses three camera systems in all, one apiece on each of the two robot arms, the third one housed statically within the cell. The cameras are not just used for controlling the robot but in point of fact are responsible for the actual quality control, recording and documenting the readings appearing on the diagnostic device display.

Machine Vision is tremendously important for many automation projects. This is borne out by the double-digit growth in this industry. AUTOMATICA 2016 affords the perfect opportunity for a birds-eye view of what's on offer in this innovative sector.

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The compact ABB IRB 120 is of proven worth when it comes to assembling delicate components for dental turbine drills. (Photo: ABB)

Vaisala Receives Johnson Controls Leadership Innovation Award



A long-time customer of Vaisala, Johnson Controls, has awarded Vaisala for being one of their best suppliers. Our world-renown CARBOCAP® Carbon Dioxide Transmitters are used, for example, in demand controlled ventilation for maintaining fresh air and good indoor air quality.

Vaisala was awarded the Johnson Controls annual Leadership Innovation Award thanks to our years-long high performance in regards to quality, service, supply chain management, sustainability, and commercial appeal.

„In addition to on-time deliveries and outstanding quality of our current products, our next generation CARBOCAP® Carbon Dioxide Transmitters provide Johnson Controls with a new family of products, incorporating improved performance and reliability“, says Gerald Ducharme, Director for Vaisala's Americas Region.

The successful cooperation of the two companies started for over 15 years ago, when Johnson Controls needed a reliable carbon dioxide transmitter for demand controlled ventilation applications. At that time, building owners and managers realized that considerable energy savings could be gained through demand controlled ventilation, and the market was emerging.

After passing a rigorous technology, design quality and innova-

tion evaluation, Johnson Controls selected Vaisala. Since then, the companies' engineering, purchasing, and business leaders have worked jointly to address market demands.

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Spectris PLC, owner of Particle Measuring Systems, Acquires CAS Clean Air Service AG (CAS) **CAS to become part of Particle Measuring Systems**

Autor: Nina Morton

Spectris plc, ein sehr angesehener und seit langem etablierter Anbieter von produktivitätssteigernden Produkten für die Mess- und Regelungstechnik, hat heute bestätigt, dass es die CAS Clean Air Service AG (CAS), einer der führenden Service-Anbieter von Reinraum-Messsystemen mit starker Kundenbasis in der Schweiz und der DACH Region erworben hat. CAS hat seinen Hauptsitz in Wattwil, Schweiz, und fünf weitere Standorte in Stein (Schweiz), Wien und Innsbruck (Österreich) und zwei Standorte in Deutschland. CAS wird vollständig in Particle Measuring Systems (eine Tochtergesellschaft von Spectris) integriert werden. Particle Measuring Systems (PMS) ist ein globaler Technologieführer in der Kontaminationsüberwachung für die Industrie und der größte Hersteller von Partikelzählern weltweit. Die CAS Gruppe wird eine Produktlinie innerhalb von PMS werden.

Gegründet im Jahr 1989 in Wattwil, Schweiz, ist CAS ein in Privatbesitz befindliches schweizerisches Unternehmen welches ein führender Anbieter von Reinraumtechnik geworden ist. Die Überwachung & Beratungsdienste von CAS haben ein starkes Wachstum in der pharmazeutischen Fertigung, Medizintechnik, Kunststofftechnik und optischen Märkten generiert. Zusammen mit dem starken Industrierwissen von PMS, existierenden Verkaufspartnern für die Kontaminationsüberwachung und der Erweiterung des GMP- Service wird ein weiteres starkes europäisches und weltweites Wachstum von CAS erwartet.

„Dies ist ein strategischer Schritt für Particle Measuring Systems“, sagt John Mitchell, Präsident von PMS. „Die Übernahme von CAS passt perfekt zu unserer Strategie des Ausbaus unserer Präsenz zu Pharmaherstellern; insbesondere mit aseptischen Herstellern. CAS stellt eine starke Präsenz in der Schweiz zur Verfügung, erweitert unsere Basis in der DACH-Region, bietet eine Grundlage um unser GMP Service-Geschäft außerhalb der DACH Region zu erweitern und es ergibt sich die gemeinsame Möglichkeit für die CAS Organisation mit der Marke PMS zu wachsen.“

Informationen zu PMS

Particle Measuring Systems (PMS), eine Tochtergesellschaft von Spectris plc, ist ein globaler Technologieführer im Bereich der Kontaminationsüberwachung wie auch der Erfinder der laserbasierenden Partikelzählung und ist heute der führende Anbieter von Lösungen für die Überwachung und Kontrolle von verschiedenen Formen von Kontamination, welche Auswirkungen auf die Herstellung von Produkten in ultra-reinen Umgebungen ist.

Die Produkte und Technologien von Spectris Tochtergesellschaften helfen Kunden Ihre Produktqualität und Leistung zu verbessern wie auch bei der Optimierung von Fertigungsprozessen, Reduzierung von Ausfallzeiten und Minimierung des Produktionsausschuss und die Reduzierung der Markteinführungszeit von Produkten. Der globale Kundenstamm erstreckt sich über ein breites Spektrum von Kundenmärkten. Spectris arbeitet in vier Geschäftsfeldern: Materialanalyse, Testmessungen, on-line Messtechnik und Industriesteuerungen. Mit dem Hauptsitz in Egham, Surrey, Großbritannien, beschäftigt das Unternehmen mehr als 8.000 Mitarbeiter in mehr als 30 Ländern.



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