

JOKARUS payload: Used to demonstrate the first optical frequency standard based on molecular iodine in space. (© HU Berlin/Franz Gutsch)

# Frequency-stable laser systems for space

**JOKARUS experiment on sounding rocket successfully completed. Corner stone for laser ranging measurements with the highest precision and precursor for optical satellite navigation systems.**

For the first time a frequency reference based on molecular iodine was successfully demonstrated in space! What sounds a bit like science fiction is an important step towards laser interferometric distance measurements between satellites as well as for future global navigation satellite systems based on optical technologies. The frequency reference tests were carried out on 13 May on board the sounding rocket TE-

XUS54. The centerpiece of the payload, a compact laser system, which was primarily developed by HU Berlin and the Ferdinand-Braun-Institut, demonstrated its suitability for space.

In the JOKARUS experiment (German acronym for iodine comb resonator under weightlessness), an active optical frequency reference based on molecular iodine was qualified for the first time in space. The results

## Frequency-stable laser systems for space

are an important milestone towards using optical clocks in space. Such clocks are required, inter alia, for satellite-based navigation systems that provide data for accurate positioning. They are equally important for fundamental physics research, such as the detection of gravitational waves and measurements of the gravitational field of the Earth.

The experiment demonstrated the fully automated frequency stabilization of a

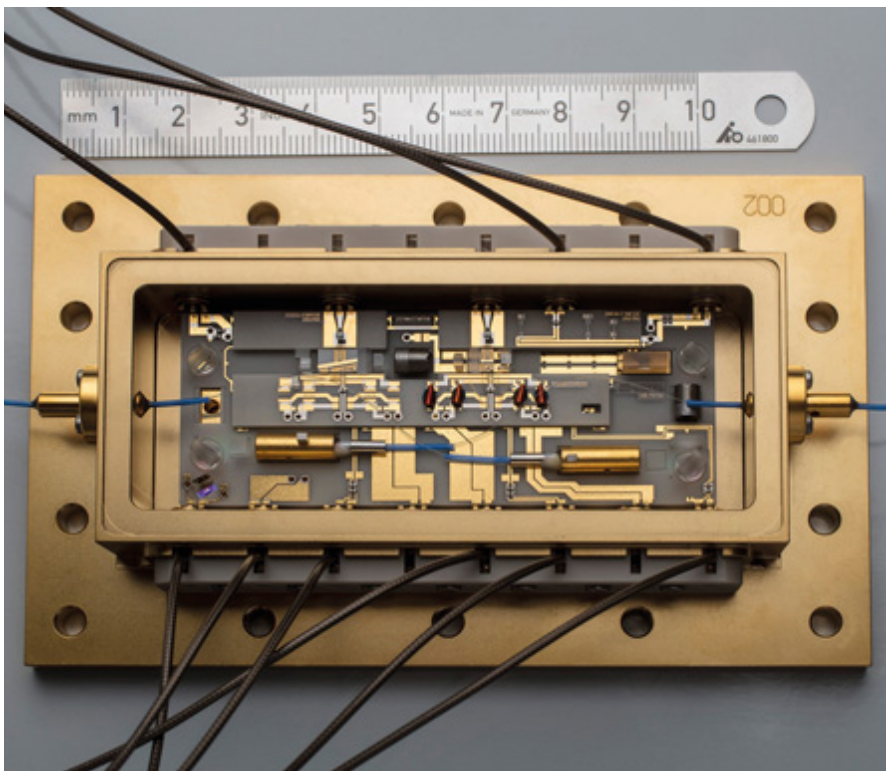
frequency-doubled 1064 nm extended cavity diode laser (ECDL) on a molecular transition in iodine. Thanks to integrated software and algorithms, the laser system worked completely independently. For the sake of comparison, a frequency measurement with an optical frequency comb in the separate FOKUS II experiment was carried out during the same space flight.

### Comprehensive know-how behind the compact

### diode laser system

The JOKARUS payload was developed and implemented under the direction of the Humboldt-Universität zu Berlin (HU Berlin) as part of the Joint Lab Laser Metrology. The lab, which is collectively operated by Ferdinand-Braun-Institut (FBH) and HU Berlin, combines the know-how of both institutions in the field of diode laser systems for space applications. A quasi-monolithic spectroscopy module was provided by the University of Bremen, the operating electronics came from Menlo Systems.

Centerpiece of the laser system is a micro-integrated ECDL MOPA that was developed and implemented by the FBH, with an ECDL acting as local oscillator (master oscillator, MO) and a ridge wave-guide semiconductor amplifier as power amplifier (PA). The 1064 nm diode laser module is completely encapsulated in a 125 x 75 x 22.5 mm small package and delivers an optical power of 570 mW within the linewidth of the free-running laser of 26 kHz (FWHM, 1 ms measurement time). By means of a polarization-maintaining, optical single-mode fiber, the laser light is first divided into two paths, modulated, frequency-doubled and processed for Doppler-free saturation spectroscopy. Technology developments within JOKARUS are funded by the German Aerospace Center (DLR) and build on the earlier FOKUS, FOKUS reflight, KALEXUS and MAIUS missions.



Centerpiece of the JOKARUS experiment: Successfully used in space: a micro-integrated diode laser module (ECDL-MOPA) from the Ferdinand-Braun-Institut emitting at a wavelength of 1064 nm. (@ FBH/schurian.com)

Ferdinand-Braun-Institut  
D12489 Berlin



Dear subscribers,

you will already know that there is always a lot to learn from our monthly newsletter. From June on, though, there seems to be a lot more to learn: We found 35 training events in our calendar. Even if some of them are already fully booked, you can still participate in others. So take advantage of all those brilliant learning opportunities.

While the year progresses and Analytica ended as a big success, we are heading for a „hot autumn“ in terms of fairs and congresses. Before that we will have ACHEMA from 11. to 15. June in Frankfurt.

We wish you many more nice summer days.  
Yours sincerely,

  
Reinhold Schuster

# Packaged well for better healthcare

## Gerresheimer has now added plastic eye dropper bottle systems and US solid dosage containers to its North American production lines

Gerresheimer's presence at CPhI North America focused on glass and plastic primary packaging for solid and liquid drugs. The company will manufacture its well-known US type "Triveni" solid dosage containers and US eye dropper bottle systems at Centor in Berlin, Ohio, in a very near future. Part of the Gerresheimer Group since 2015, Centor is a leading manufacturer of plastic containers for prescription-only drugs destined for end users in the U.S.

"From May, we will be making two products that are in high demand in the U.S. in North America itself. We have already installed and tested our production lines," said Franck Langet, Business Development Manager North America, who will be on hand at CPhI North America to advise customers and visitors together with his team. In future, eye-drop bottles will be manufac-

ured in Ohio under clean room conditions and with a fixed TE ring in accordance with the new FDA regulations, while Triveni dosing containers for tablets will also be produced there under the same conditions.

### Eye droppers with a fixed TE ring

The US Food and Drug Administration (FDA) now stipulates that the TE-ring must be firmly attached to the bottle to protect the original contents. Gerresheimer's US type drop bottle comes fitted with a TE-ring that is fixed in place on the bottle. The existing "European type" bottle system has been slightly modified to comply with the US market requirements. The dimensions, properties, and material remains however the same and minimize change control procedures. The bottle and the dropper are made from LDPE and the cap from HDPE. The US type dropper bottles can therefore

be used for stability tests.

### HDPE round containers for the U.S. market

Our "Triveni" containers have been specifically developed to meet the requirements of the U.S. market. The round HDPE containers are equipped with the tried-and-tested induction sealing liner to serve as TE protection and are available in among others 30, 50, 60, 75, and 100 ml sizes.

### Gx Elite vials made from glass

The Gx Elite vials' high quality standard hinges on the proprietary technology used to make them. The highly shatter-resistant vials are extremely durable and free of cosmetic defects.



The Gx Elite vials' high quality standard hinges on the proprietary technology used to make them.

Gerresheimer AG  
D 40468 Düsseldorf

## Accredited CO2 Calibration for Quality and Compliance

Accurate carbon dioxide measurement helps maintain correct pH-levels in cell cultivation and optimal indoor or process air in general. Accredited calibration helps you to prove continuous accuracy for the measurement.

Organizations working in the life science or FDA regulated industries now have the optimal calibration solution for their high quality CO2 measurement probes in Vaisala CARBOCAP® Carbon Dioxide GMP250 Series, namely accredited CO2 calibration.

Later during 2018, the service will be available for the GMP220 Series as well.

In addition to three preselected calibration points, it is possible to select up to six operationally critical calibration points within the

total range from 0...20% (200.000 ppm). Our calibration engineers optimize the calibration service ranges and default calibration points for each Vaisala instrument in question. The calibration includes as-found and as-left results as well as adjustment for the best accuracy.

Vaisala's accredited CO2 calibration service covers all the requirements set by the regulatory bodies, helping to ensure compliance and process quality. Finnish Accreditation Service (FINAS), a member of International Laboratory Accreditation Cooperation (ILAC), audits Vaisala calibration services regularly by assessing the quality and management systems and the technical capabilities to perform the service, like measurement traceability to the international SI-units and measurement uncertainty. You can be sure to get the best possible calibration for your Vaisala instruments at our service center.



Industrial Measurements Life Science

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# Schreiner MediPharm Equips Syringes for Pfizer Epoetin Product with Needle-Trap

## Reliable Protection Against Needlestick Injuries for the Treatment of Anemia

International pharmaceutical corporation Pfizer opted for Schreiner MediPharm's Needle-Trap needle protection label to equip the syringes for its epoetin biosimilar. This makes it the first medication for the treatment of anemia to be launched on the market with Needle-Trap—initially in Germany and Austria, to be followed by a successive rollout on the European market.

Pfizer, one of the world's largest pharmaceutical companies, develops innovative medicines and vaccines as well as some of the most popular over-the-counter products. For an epoetin product for the treatment of anemia, the company was looking for a reliable solution to protect healthcare personnel from needlestick injuries when injecting the drug – and decided for Schreiner MediPharm's Needle-Trap once again. Pfizer has already been successfully using this innovative label-based needle protection system on millions of syringes for a heparin drug since 2009.

Needle-Trap features a unique design: The plastic needle trap is an integral component of the label for prefilled syringes and serves to secure the needle after the injection has been performed. Due to its special design, it can be easily integrated into existing pharmaceutical manufacturing processes. Only minor modifications of the finishing and application equipment, no adaptation of secondary packaging and minimal space during shipping, storage and disposal are required.

Needle-Trap meets the requirements of EU Directive 2010/32/EU, U.S. NIOSH for safe instruments and DIN EN ISO 23908 for sharps injury protection. In addition, it has been cleared by an FDA 510(k) Premarket Notification in the United States. Healthcare personnel benefit from reliable protection against needlestick injuries that enables simple and irreversible activation. Use is intuitive and requires no changes to the user's injection technique as the needle protection is integrated into the syringe label.

Schreiner MediPharm  
D 85764 Oberschleissheim



Pfizer is now also using Needle-Trap for its epoetin product for the treatment of anemia.

# Phillips-Medisize Expands and adds drug handling capability at New Richmond facility

Latest advancements enable company to offer turnkey services for medical combination products

Phillips-Medisize, a Molex company, has announced the completion of another significant expansion to the company's New Richmond, Wisconsin medical facility. With this expansion, the New Richmond site will bring value-added capabilities in drug handling to serve its pharmaceutical customers with the complete manufacture of drug delivery devices and compliance to the FDA 21 CFR 210/211 requirements.

The New Richmond facility will add nearly 70,000 sq. ft. of additional space this year. This state-of-the-art expansion will accommodate significant automation, material handling, robotics and high-tech manufacturing to serve the diagnostics, drug delivery and medical device markets. Additionally, the facility offers services in molding, assembly, labeling, packaging, kitting, serialization, sterilization management and bulk distribution.

"This is the second expansion of our New Richmond facility in less than three years. We are excited about the continued growth we are experiencing and the addition of drug handling capabilities we are able to offer our customers at another facility. The expanded drug handling capability will allow Phillips-Medisize to further consolidate the supply chain for our customers," commented Matt Jennings, President Phillips-Medisize.

This expansion is a result of the continued business growth and acceleration as customers turn to Phillips-Medisize for complete design, development and manufacturing of combination products. The expansion and continued growth has also created a demand for more than 100 jobs in various departments, ranging from entry level positions to roles in automation, engineering and management.

Phillips-Medisize Corporation  
CH 8309 Nürensdorf

# For the Seventh Time in a Row, PaintExpo Closes with Record-Breaking Results

## 7th Edition of the World's Leading Trade Fair for Industrial Coating Technology in Karlsruhe (Germany) Inspires Visitors and Exhibitors

At its 7th edition, PaintExpo carried on with the success story it started in 2006. With 537 exhibitors from 29 countries, the world's leading trade fair for industrial coating technology not only set a new record for exhibitor numbers. Visitor numbers increased as well by roughly 12% for a total of 11,790. Visitors journeyed to Karlsruhe from 88 countries.

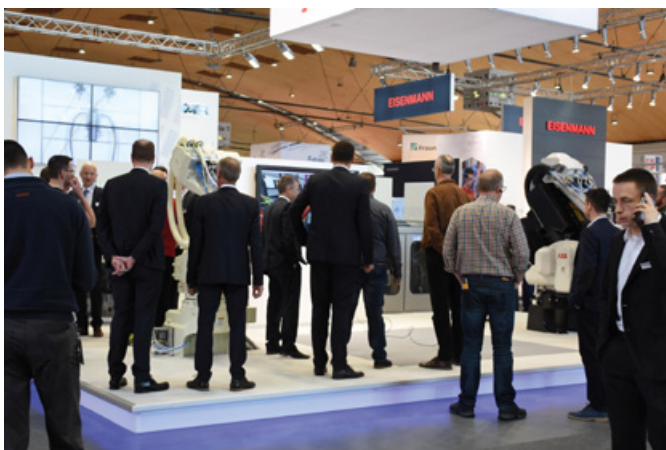
"The quality of the visitors is outstanding, which means that we've not only been able to establish very interesting contacts and get to know important people, we also received several good orders directly at the event. Beyond this, the trade fair is an excellent networking opportunity for us" reports John Richardson enthusiastically, Marketing Communications und PR Manager of British Carlisle Fluid Technologies. Nearly all 537 exhibitors (an increase of 7.2% as opposed to 2016) who participated at this year's world's leading trade fair for industrial coating technology from the 17th through 20th of April expressed similar levels of satisfaction. They came from 29 countries, and the proportion of companies from outside of Germany, namely 36.3%, was roughly 5% greater than in 2016.

The seventh PaintExpo also experienced a sharp rise in net exhibition floor space amounting to 16.6% for a total of 15,674 square metres (168,700 square feet). As a result, the industry meet was evenly distributed over three well-occupied halls for the first time ever at the Karlsruhe Exhibition Centre. "PaintExpo has developed very well in recent years. It's the industry sector's leading trade fair where people meet every second year, and PaintExpo is an essential constituent of our trade fair schedule. Expansion to three exhibition halls is also highly positive in our opinion. The number of leads generated at the event rose significantly once again this year as well", explains Martin Weidisch, Senior Marketing Specialist at J. Wagner GmbH. This is underscored by visitor numbers which increased by 12% to a total of 11,790. 35.4% of the visitors (plus 7.4%) travelled to Karlsruhe from outside of Germany. After Germany, the most well-represented visitor countries were Switzerland, Italy, France, Austria, Poland, the Czech Republic, the Netherlands and

Turkey. Expert visitors came to PaintExpo from a total of 88 countries (74 in 2016) around the globe. "The high level of internationalism and the distinctly positive atmosphere in the exhibition halls, as well as the satisfied faces at the trade fair booths are clear-cut indicators of the success of PaintExpo 2018 as the world's leading trade fair", comments Jürgen Haußmann, Managing Director of FairFair GmbH and promoter of PaintExpo. This is confirmed by Frank Berg, Managing Director of Caldan Service GmbH: "It was obvious that the visitors had become more international than at the last PaintExpo. The range of industry sectors from which the visitors originated was also very broad-based. We participate at numerous trade fairs, in Asia and America too, but where the quality and passion of the exhibitors and visitors are concerned, as well as the quality of the products, PaintExpo is the global leader. And that's why there's no doubt that we'll exhibit again in two years."

### High Levels of Expertise and a Strong Propensity to Invest

In addition to the number of attending visitors and their high levels of internationalism, their expertise and propensity to invest were also decisive for the success of the trade fair. This is confirmed by Daniela Nett from the marketing department at Dürr Systems GmbH: "Our second appearance at this trade fair has confirmed that PaintExpo is one of the most important trade fairs for us, and that this is precisely where we need to be. The visitors know exactly what they want, so that highly concrete discussions can take place based on actual projects. Furthermore, we meet up with visitors here from a great variety of industry sectors. This is also one of the reasons we like to exhibit here. Instead of running from one specialised trade fair to the next, all of the sectors relevant for us are represented here." Dr. Peter Dolscheid, Managing Director of DOK Chemie, reports similar experience: "Nearly all of our visitors came to us with concrete tasks. This made it possible for us to arrange for the processing of numerous samples and to schedule visits at various companies, which is ideal for initiating new business contacts. PaintExpo is the meeting place for our customers and they expect us to be here. And thus we have a duty to exhibit and will be here again in two years." Tiemo Sehon, Managing Director of Sehon Innovative Lackieranlagen GmbH, was also pleased with orders taken at the trade fair booth: "PaintExpo is the world's leading trade fair in the field of industrial coating, and we're certainly in good hands here. We are in the refinishing business and we have been able to greet many guests from the sector here, and we have even closed orders directly at the event. In light of our know-how and experience we see our long-term future in industrial painting,



## For the Seventh Time in a Row, PaintExpo Closes with Record-Breaking Results

and based on the leads we've fielded here, we assume that participation at PaintExpo will provide us with new thrust in this direction". "This is the fourth time we've exhibited at PaintExpo, and things go better for our company at the trade fair each and every time. We've been able to establish significantly more contacts to German companies this year, as well as to companies in France, Belgium, the Netherlands, from Northern Europe, from the Balkan States, from the Middle East and from Asia", reports Gökhan Bankoglu, Export Sales Officer at Turkish company Iba Kimya Sanayi ve Ticaret A.S.. Martina Orre, Marketing Manager at Swedish company HangOn AB, also confirms that PaintExpo is the platform at which numerous companies present new and further-developed solutions: "We've already exhibited several times at PaintExpo. This year we have nearly doubled our booth floor space because we are presenting our new handbook, which has been published in 21 languages and includes 240 new products. We have invited our distributors and customers from all over the world to this presentation. We feel that it's important to introduce our new products and the handbook at PaintExpo, because it's the most important trade fair for



our customers, and thus for us as well." Dr. Nils Reinke, Managing Director of Winterthur Instruments AG in Switzerland, also reports on successful participation at the trade fair: "We founded our company seven years ago and we've been exhibiting at PaintExpo ever since. We have been able to continuously increase booth floor space to a considerable extent. The trade fair is highly significant for the development of our company because it provides us with an ideal platform for presenting our products. Aside from this, we gain a great deal of input for the further development of our products thanks to the broad spectrum of visitors who come to our booth."

### Worldwide Information and Procurement Platform

One of the essential reasons for PaintExpo's strong appeal for users from all over the world is its unique concentration of companies from the field of industrial coating technology. This results in comprehensive and targeted product and service offerings ranging from pre-treatment, as well as painting, systems and applications technology, right on up to final inspection and packaging, the likes of which is unmatched by any other trade fair anywhere in the world. This makes it possible for job-shop coaters as well as companies with in-house painting operations from all industry sectors to gather information and procure solutions with minimal legwork.

The next PaintExpo, for which numerous exhibitors have already confirmed their participation, will take place at the Karlsruhe Exhibition Centre from the 21st through 24th of April, 2020.

21st - 24th April 2020: PaintExpo, Karlsruhe (D)

FairFair GmbH  
D 72644 Oberboihingen

## PROCESS EXPO 2019: exhibitor registration now available

All companies offering technologies and integrated solutions for the food and beverage industries with their sights on the US market are now able to register for PROCESS EXPO 2019. Forming part of the interpack alliance the US event will be held at the McCormick Place exhibition centre in Chicago from 8 to 11 October. Registrations will be accepted on a first come, first served basis - so interested companies should not wait for too long - all the more as a large proportion of the exhibition space has already been allocated to members of the organising Food Processing Suppliers Association (FPSA) as well as existing exhibitors in the run-up. At [www.myprocessexpo.com](http://www.myprocessexpo.com), interested firms can check out the stand places still available on a hall plan. Your contact for booking through Messe Düsseldorf is Malte Seifert, Senior Project Manager ([SeifertM@messe-duesseldorf.de](mailto:SeifertM@messe-duesseldorf.de), Tel.: +49 211 4560417).

Last year's PROCESS EXPO was very successful in terms of both exhibitor and visitor numbers and particularly scored points with its noticeably higher international attendance levels. The event with its horizontal line-up of technologies for processing and

packaging/filling all sorts of food and beverages was characterised by an extensive programme of supporting events, which was very well received by visitors. Under the label "PROCESS EXPO University" these events covered a wide range of topics - such as food safety, alternative manufacturing and automation methods as well as packaging-related subjects specific to the industry - in determined segments such as meat/poultry/seafood, dairy products, beverages etc.

For the coming PROCESS EXPO, the plan is to expand the programme even further. For this reason and due to the good exhibitor response the trade fair will be held in the bigger South Hall at McCormick Place in 2019.

08th - 10th November 2019: PROCESS EXPO, Chicago, IL (USA)

Messe Düsseldorf GmbH  
D 40001 Düsseldorf

# analytica closes with record-breaking visitor attendance



- analytica 2018 as the largest platform for digital transformation in the lab
- most international analytica in history
- analytica conference with new all-time highs

The 26th analytica met with overwhelming interest. In the past four days, some 35,800 visitors from all over the world came to the competitive exhibition of the industry on the Munich fairgrounds. They all wanted to know: Where is the laboratory industry heading? At the leading international trade fair for laboratory technology, analysis and biotechnology, 1,164 exhibitors from 49 countries gave impressive answers to this question.

The brilliant sunshine outside matched the bright mood in the exhibition halls. The throng of visitors from the field, of whom almost 40 percent had come from abroad, filled the halls and drove the number of visitors to a new record high. Dr. Reinhard Pfeiffer, Deputy CEO at Messe München, hence came to a decidedly positive conclusion: “Exactly 50 years ago, the analytica was launched. By now, it has developed into the world’s largest and most important meeting place for the laboratory industry—nowhere else is the laboratory reflected as comprehensively as it is at analytica. Anyone who made his or her way through the five exhibition halls can confirm this impression.”

Siegbert Holtermüller, Advisory Board Chairman of the analytica and Regional Division Manager of Olympus Germany, also sees this development and emphasizes the variety of topics and visitors at analytica: “We had even more visitors at the booth than we had at the analytica 2016, and from a huge variety of industries too. Of course, digitization and automation continue to become more and more important, but naturally visitors are still looking for individual solutions to challenges in analysis and diagnostics.”

Susanne Grödl, Exhibition Director at the analytica, adds: “The great interest in our smart laboratory program shows that digitization has definitely arrived in the lab. In 2020, we will put even more emphasis on this topic.”

## The analytica 2018 in figures

The strongest increases in visitor numbers came from China, Austria, Korea, Russia and Japan. The top visitor countries were, apart from Germany (in this order): Austria, Switzerland, Italy, China, Great Britain and the USA. Satisfaction among the visitors is very high, according to a survey by Gelszus-Messe-Marktfor-

schungsinstitut: 99 percent rate the event as good to excellent.

“Every second exhibitor at the analytica 2018 came from abroad. This number underscores the synergy effects in the direction of Munich that emanate from our foreign trade fairs. For international manufacturers who are interested in the European market, Munich is a ‘must see’ event”, emphasizes Claudia Sixl, Exhibition Group Director of the analytica network at Messe München.

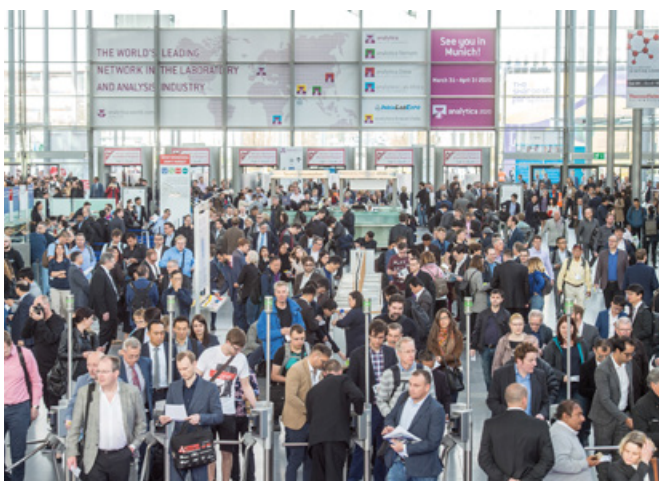
This high level of approval is also a sign that the industry is doing well. New developments in the health sector are driving growth in the IVD market. In 2017, for example, the Life Science Research department of the VDGH reported an increase of 1.4 percent in laboratory diagnostics.

The same applies to analysis, biotechnology and laboratory technology. “We are looking back at an outstanding year 2017 with a total growth of eleven percent”, said Mathis Kuchejda, president of the SPECTARIS Association for Analysis, Biotechnology and Laboratory Technology. From his point of view, one of the central challenges in digitization in the laboratory is “the uniform device interface, together with the consideration of which data ought to be transferred in the first place, and how data security can be ensured.”

## Variiegated supporting program with additional crowd puller

The issue of digital interfaces was put to the practical test at the new Forum Digital Transformation in Hall B2, for example in the practice lecture “Smart Laboratory—How does digital networking of laboratories with customers succeed?”

Product presentations were also an integral part of the program at the Forum: Eppendorf, Mettler-Toledo, Thermo Fisher and the members of Nexygen presented smart solutions for the futu-



## analytica closes with record-breaking visitor attendance

re. For example, Joe Arteaga, Director Connectivity—Laboratory Equipment Technologies at Thermo Fisher, showed how device networking helps to streamline workflows and drive research.

The visitors showed great interest in the individual program items; free seats were scarce. Thus, the premiere of the Forum Digital Transformation already was a great success.

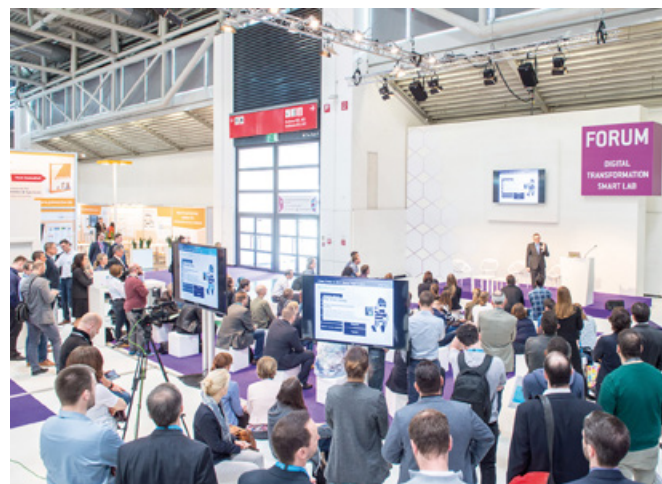
However, not only there was digitization on the agenda: With a total of 59 items on the supporting program, visitors from the field were able to gain such a comprehensive picture of digitization as they could at no other laboratory fair anywhere in the world. The analytica conference reflected this, just as the Personalized Medicine Focus Day did, where there was enormous visitor interest already at the opening discussion with Dr. Friedrich von Bohlen und Halbach, Managing Director and co-founder of dievini Hopp Bio-Tech holding, on Friday morning. This interest continued unabated up to the last discussion panel of the event: “One in a million—your data will be king”.

Karin Hofelich, Publishing Director Life Sciences at GoingPublic Media, organizer of the Finance Day and the Focus Day Personalized Medicine, looked back on two days full of positive impressions: “The Finance Day and the Focus Day Personalized Medicine at the analytica bring capital market and life sciences together. This year, the panel discussion ‘Current financing trends in biotechnology’, with the focus on crowdinvesting, attracted a particularly large number of visitors. The mood at both events was very good, and we are looking forward to the next analytica.”

At the two Live Labs, Food Analysis and Material Analysis, the visitors from the field were able to experience other big topics of the industry at close quarters—almost en passant—right in the thick of the exhibition: From detection of glyphosate in tomatoes to short-term or long-term weathering of various materials. Here, too, the visitors’ interest was appropriately high. The Forum Laboratory & Analysis and the Forum Biotech also guaranteed high-level knowledge transfer. Once again, visitors were enthusiastic about the special show Workplace Health and Safety with real-world scenarios on the dangers in the laboratory—including loud “bangs” as results of chemical reactions.

### Strong analytica conference

The analytica conference also contributes to the top result: 2,074 participants—an increase by 12.8 percent from 2016—learned



about the hottest scientific topics in the industry.

Professor Ralf Zimmermann from the University of Rostock commented on the analytica conference 2018: “The conference program is excellent. We were able to organize a nice international session on aerosol and health this year. The trade fair itself enabled us, as it always does, to meet our various cooperation partners very efficiently.”

Chairs and speakers from Europe, China, Korea and the USA gave lectures on such topics as the use of analytical methods in food chemistry and toxicology, the role of consumer health analysis, and the handling of big data. Here, too, the lectures were often filled to the very last seat.

The next analytica will take place from March 31 to April 03, 2020, on the fairgrounds of Messe München.

The industry will meet next from September 06 to 08 at the analytica Anacon India and India Lab Expo in Hyderabad. From October 31 to November 02, analytica China will then take place in Shanghai.

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**31st March - 03rd April 2020: analytica 2020, Munich (D)**

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Messe München GmbH  
D 81823 München





# Exhibitor Statements analytica 2018

**Thomas Brunner, Managing Director Bernd Kraft GmbH, Germany:**

“As a leading international trade fair, attendance at analytica is an absolute must in our trade fair calendar to maintain customer relationships and present new products. Every time we’re here we look forward to talking with our business partners. At analytica, we especially like the familiar atmosphere and the good organization beforehand. It goes without saying that we’ll be back again next time.”

**Thorsten Wagner, Head of Marketing at Carl Roth GmbH und Co. KG, Germany:**

“For us personally, the best thing about the trade fair was the sheer number of visitors from all over the world who left our stand with a huge smile of their faces. We were extremely pleased with how analytica 2018 went! We had some great conversations with existing clients and were also able to win some exciting new clients. We will definitely be there again in 2020!”

**Thomas Matheis, Regional Sales Manager, Düperthal, Germany:**

“In 2018, we welcomed customers from all over the world to our booth, including from the Czech Republic, Russia, and India. The international nature of the trade fair is growing. We will certainly be here again in 2020.”

**Ralf Claußen, Head of Global Events, Eppendorf, Germany:**

“In the 50 years it has existed, analytica has developed into a leading international trade fair for laboratories. Eppendorf AG has used analytica from the outset as a platform to present its latest developments in lab technology and, more recently, digitization.”

**Francis Pithon, Vice-President of FABRILABO and the European Federation of Precision Mechanical and Optical Industries, Organizer of the French Pavilion at analytica:**

“For FABRILABO members, Europe is the most sustainable market, which is a pertinent issue, especially in today’s environment. The analytica is a real opportuni-

ty to implement development in Europe.”

**Wolfgang Simon, Sales Manager Fritzsch GmbH, Germany:**

“We have been exhibiting at analytica for decades. In 2018, analytica once again exceeded our expectations as regards the quantity and, even more, the quality of the visitors. Of course, we will be coming again next time.”

**Karin Hofelich, Life Sciences Publishing Manager at GoingPublic Media, and Organizer of the Finance Day and the Focus Day Personalized Medicine:**

“The Finance Day and the Focus Day Personalized Medicine at the analytica bring capital market and life sciences together. This year, the panel discussion ‘Current financing trends in biotechnology’, with the focus on crowdinvesting, attracted a particularly large number of visitors. The mood at both events was very good, and we are looking forward to the next analytica.”

**HyunJung Lee, Marketing Manager, GT Scien Co., Ltd., Korea:**

“Our objective was to present the IT applications and smart technologies for laboratory equipment that we have developed and, at the same time to do market research. Thanks to the analytica 2018, we are a lot closer to achieving our objective. The main reason for this was the internationality of the visitors. We will be coming again in 2020 so that, as a Korean company, we can continue to develop our position in the international market.”

**Michael Dickescheid, Head of Marketing Communication LAUDA DR. R. WOBSE GMBH & CO. KG:**

“As the world’s leading supplier of solutions for precise temperature control with liquids, analytica is a very good platform to position our brand and present our new equipment innovations. This is where we meet our primary target group. These four days were a very important meeting place for the industry and, consequently. Our personal highlight at the fair was our new brand presence with an impressive booth. We were very satisfied with analytica 2018.”

**Dr. Peter Quick, Chairman of the Board of the Life**

**Science Research Department and Member of the Board of the German Diagnostics Industry Association:**

“With regard to market size, the life science research sector caught up with the diagnostics industry for the first time ever in 2017. The LSR and IVD industries are each turning over 2.2 billion euros in Germany, made possible on account of pioneering technology. This was also apparent at analytica.”

**Jochen Schäfer, Head of Division at Metrohm Deutschland, Germany:**

“analytica 2018 once again proved to be the leading analysis trade fair. Chemicals, pharmaceuticals, the environment and R&D at universities and in industry are our biggest areas, and so the type of visitors that analytica attracts is perfect for us.”

**Dr. Jürgen Blumm, Managing Director Netzsch-Gerätebau GmbH, Germany:**

“analytica was once again an absolute highlight for us in 2018. This was the first time that we have been able to present our innovations in the field of thermal analysis in combination with gas analysis. Further automation in hardware and software was also popular with our customers. We are extremely satisfied with the good feedback that we received at the booth.”

**Siegbert Holtermüller, Advisory Board Chairman of analytica and Regional Division Manager, Olympus Deutschland, Germany:**

“We had even more visitors at the booth than we had at the analytica 2016, and from a huge variety of industries too. Of course, digitization and automation continue to become more and more important, but naturally visitors are still looking for individual solutions to challenges in analysis and diagnostics.”

**Marco Buonaguidi, Director of Sales Discovery & Analytical Solutions, PerkinElmer, United States:**

“The analytica has evolved from a German exhibition to a truly international event that is of tremendous value to our team as we meet with customers and prospects from Western Europe, Central East-

## Exhibitor Statements analytica

tern Europe, the Middle East and Russia, along with additional regions around the world. With the ever-growing number of exhibitors and customers, our booth was overflowing during the show. The number of leads and quality of contacts we receive from this event was significant. The analytica provided the ideal platform for PerkinElmer to nurture existing customer relationships and generate future business opportunities. We anticipate maintaining our prominent presence at future analytica events.”

**Wolf-Henning Walther, Sales Director Central Europe, Sartorius, Germany:**

“As an international supplier to pharmaceutical companies and laboratories, the analytica 2018 was the first time that we were represented with all our divisions. The visitors were enthusiastic. The public

was especially attracted to our focal topics Molecule Development and Cell Line Development.”

**Nils Garnebode, Product Support & Marketing Manager, Shimadzu Deutschland GmbH, Germany:**

“The analytica is very focused on themes, which makes it a strong platform. Shimadzu has been a major exhibitor for decades now. Our company motto “Excellence in Science” is a perfect fit for the trade fair where industry professionals can gain a sound general overview of what is happening in the industry and can gather specific information before making their own purchases or implementing their own innovative developments. Our involvement in analytica is our biggest single marketing measure in the 2018 mix.”

**Mathis Kuchejda, President of the SPECTARIS Association Analysis, Biotechnology**

**and Laboratory Technology:**

“We are looking back at an outstanding year 2017 with a total growth of eleven percent. The central challenge in the digitization of the laboratory is the uniform device interface, together with the consideration of which data ought to be transferred in the first place, and how data security can be ensured.”

**Professor Ralf Zimmermann, the University of Rostock, and Session Chair at the analytica Conference:**

“The conference program is excellent. We were able to organize a nice international session on aerosol and health this year. The trade fair itself enabled us, as it always does, to meet our various cooperation partners very efficiently.”

Messe München GmbH  
D 81823 München

# Program plans are underway for MEDICA 2018 - Forums and conferences are top of the list for our specialist audience



## Digital transformation within the healthcare economy remains a hot topic and will be discussed from different viewpoints

Now that exhibitor registrations for MEDICA 2018 have opened in Düsseldorf, the program planning for the accompanying conferences and forums of the world’s biggest medical trade fair (12 - 15 November) has also been started immediately. “Digital transformation is shaping the health economy worldwide, and changing processes and business models, sometimes radically. We will pur-

sue this hot topic and investigate it from a range of viewpoints in our forums and accompanying conferences”, explained Horst Giesen, Global Portfolio Director for Health & Medical Technology at Messe Düsseldorf, and this is confirmed by the visitor interest. The communication and information platforms MEDICA HEALTH IT FORUM and MEDICA CONNECTED HEALTHCARE FORUM (including the MEDICA App COMPETITION) alone counted over 8,000 visitors last year.

The discussions, presentations and speeches in these forums will once again serve to update the visitors (to Hall 15) on essential digitalization and IT trends such as opportunities to implement artificial intelligence, big data analysis via algorithms or cyber security measures. Equally, innovative products and technology will be presented, from the wearable technology, telehealth and robotics and apps sectors, to name a few. “The main strength of MEDICA is that it does not limit itself solely to clinical and practice IT and the fairly rigid framework of the national telematics infrastructure. It shows us digital trends and best practices for connecting from stakeholders in the health industry that have swept across many nations”, emphasized Horst Giesen. Already, it has become apparent that the theme of “Patient Empowerment”, i.e. the management of healthcare data being considered the responsibility of the patient, is becoming more significant this year.



## Program plans are underway for MEDICA 2018

Following the enactment of the E-Health Act, applications for electronic patient files are being planned in Germany, in conjunction with an electronic health card; however, the first solutions developed by health insurance agencies, namely the electronic health records (eGA) for use on smartphones or PC, should be available much earlier in the year. At the same time, leading technology and software groups in the smartphone sector are chomping at the bit. They want to expand the health apps in their operating systems by adding health record applications (for example, the Health Records app in iOS). "At MEDICA 2018, lively discussions will be had on topics, and this should result in an answer to the question of how available the service providers in the health industry will make these types of digital solutions to patients", continued Horst Giesen. Aspects which are linked to this, such as the new HL7 FHIR - the standard for mobile communication in healthcare, or the economy platform's attack on healthcare data, will thus be dealt with in the MEDICA HEALTH IT FORUM, for example.

### MEDICA START-UP PARK – A platform for creatives

The premier of the MEDICA START-UP PARK met with approval from our professional audience in 2017, and this is why this new platform for the creative start-up scene has been made a firm fixture in MEDICA's program. Here (in Hall 15), young companies can present their ideas, primarily those for the digital health sector, and meet potential business partners. Magosco from Berlin will be among the attendees this year. The development team will present an application for early detection of skin cancer which uses a combination of laser technology and artificial intelligence. "As a new participant in the market, we want to get the word out on our unique methods for painless, non-invasive diagnostics. MEDICA offers us an excellent opportunity to meet different target groups within medicine as well as strategic partners and potential investors all under one roof", said Larissa Middendorf, Marketing & Communications Manager at Magosco, who is looking forward to MEDICA 2018.

NUVOAIR from Stockholm has also already registered as a participant at the MEDICA START-UP PARK. They want to use their presence to introduce their Air Smart Spirometer. Last year, they laid excellent foundations at MEDICA by participating in the MEDICA App COMPETITION, and coming away with a respectable se-

cond place. "Using our hardware and app, users can measure their lung capacity themselves at home. We hope that we will be able to get more business partners excited about our project at MEDICA 2018", explained Max Ladow, Product Manager at NUVOAIR, delimiting their objective.

### Blockbuster themes in medical practices

The MEDICA ACADEMY sets its course for blockbuster topics in medical practice once more. Following its premier in 2017, it will be held again this year, as a certified further education event for doctors from various specialities. In addition to practical courses "on devices" (e.g. ultrasound) and updates on general medical diagnostics and therapeutic issues, digital topics are also on the program, in the form of sessions on cyber security in medical practices and best practices for telemedicine.

Other program highlights at MEDICA 2018 include the DiMiMED conference for disaster and military medicine and the MEDICA MEDICINE + SPORTS CONFERENCE (respectively on 13 and 14 November 2018 / Congress Center Düsseldorf South) that will be focusing on prevention and sports medical treatment concepts. The conferences will be held in English and are geared towards an international audience.

The 41st German Hospital Conference (12 - 15 November), a leading communication platform for decision makers from hospitals, primarily seeks to address a German specialist audience, as does the MEDICA PHYSIO CONFERENCE. With its treatment-oriented presentations, it is directed towards the professional scene of physiotherapists, sports medicine specialists and orthopaedists and is taking place this year on 14 and 15 November (Congress Center Düsseldorf South).

Other forums that are integrated into the MEDICA trade fair include the MEDICA LABMED FORUM (trends from the medical laboratory sector), the MEDICA ECON FORUM for discussions on healthcare policy and the MEDICA TECH FORUM, for market-relevant topics ranging from technology to science and legal conditions.

The MEDICA trade fair will receive over 5,000 exhibitors from at least 70 countries once again this year, and will include the following focal points, which are clearly structured into categories: Electromedicine / medical technology (approx. 2,500 exhibitors), laboratory technology / diagnostics, physiotherapy / orthopaedic technology, commodities and consumables, information and communication technology, medical furniture and specialist furnishings for hospitals and practices.

COMPAMED 2018 will also take place alongside MEDICA 2018, on all four days (12 to 15 November) in Halls 8a and 8b. With around 800 exhibitors, COMPAMED is the leading international market platform for suppliers of the medical technology industry.

Last year's MEDICA and COMPAMED counted 123,500 trade visitors from 130 countries.



12th - 15th November 2018: MEDICA + COMPAMED, Duesseldorf (D)



Bosch presents new freeze dryer: The newly developed freeze dryer by Bosch can be used to stabilize thermolabile and delicate active ingredients, like oncological medications, vaccines or antibodies. (Picture: Bosch)

# Premiere at Achema: new freeze dryer from Bosch



## Modular design for flexible output rates

- **Optimal shelf design ensures uniform temperatures and rapid cleaning due to a patented tilting shelf mechanism**
- **Variable container size thanks to double shelf interdistance**
- **Harmonized interfaces for upstream and downstream line components provide efficient processes**

At Achema 2018, Bosch Packaging Technology presents its newly developed freeze dryer. The lyophilization system can be used to stabilize thermolabile and delicate active ingredients, like oncological medications, vaccines or antibodies. The system, which was developed at the company's Austrian subsidiary Schoeller-Bleckmann Medizintechnik (SBM), rounds out Bosch's portfolio for pharmaceutical liquids. "Short time-to-market, high quality and cost efficiency are key for pharmaceutical manufacturers. Our new freeze dryer is not only energy efficient, but also offers short cycle times together with reliable product quality in large batches," explains Annabel Madero, product manager at SBM. Its modular design makes the GMP-compliant freeze dryer suitable for the production of small batches for clinical trials, as well as for medium and large production batches.

### Reliable stabilization of pharmaceuticals

During the freeze drying process, water is extracted from the drugs by means of sublimation without affecting its properties. Depending on the individual product, the shelf life can be extended many times over. The dry, porous lyo cake can be quickly and easily reconstituted shortly before use by adding sterile water. "Compared to powder filling, liquid filling is significantly more precise, and achieves more exact dosing," Madero says.

### Optimum shelf design

"During the development of the system, we attached particu-

lar importance to optimum space design to make processing and cleaning times as effective as possible. At the same time, energy efficiency was also a high priority," Madero explains. As a result, the shelves were produced using laser welding technology, which ensures a 100 percent controlled, automated and reproducible manufacturing process. This in turn is essential for consistent and reliable product quality. Moreover, by using thinner sheets, the weight of the shelves has been significantly reduced compared to alternative production processes. Thanks to this weight reduction, less mass has to be cooled and heated, which has a positive effect on energy consumption. "With such large temperature differences, every gram counts," Madero says.

Another advantage of the system is the homogenous temperature distribution in the shelves. The internal channeling and flow velocity were optimized on the especially developed test bed to ensure consistent heat exchange. "This means that all containers in the freeze dryer are exposed to the same temperature. This offers customers optimal cycles with consistent product quality," says Madero. The tilting shelves ensure rapid cleaning: the slight tilt enables water droplets to quickly drain from the surface, shortening the cleaning and drying time. The tilt angle also improves the performance of the CIP nozzles, reducing water consumption.

### High flexibility

The new freeze dryer is designed so that customers can use different container sizes and formats. "The distance between the shelves can be varied. Thanks to our patented Double Shelf Inter-

## Premiere at Achema: new freeze dryer

distance technology, customers are able to switch between single or double shelf spacing to avoid wasting space. This means that the space in the freeze dryer is always optimally used – whether tall or small vessels are employed.” To respond quickly to customers’ individual layout requirements, the various components, such as the vacuum unit and the cooling system, have been divided into modules. “Due to the modular system, the freeze dryer can be adapted to fit the available space and customer requirements,” Madero adds.



Bosch freeze dryer with tilting shelves: Fast cleaning: the slight tilt enables water droplets to quickly drain from the surface, shortening the cleaning and drying time. (Picture: Bosch)

The freeze dryer was developed based on the user-experience approach, taking know-how gained from customer projects and discussions with equipment producers and pharmaceutical manufacturers into account. The robust system meets Bosch’s high quality and safety standards and fits seamlessly into the company’s comprehensive pharma portfolio. The matching interfaces ensure rapid and seamless connection to the upstream filling machine with isolator technology, the downstream capping machine, inspection system and secondary packaging station. “Customers benefit from smooth processes with significantly reduced risk of downtimes,” Madero says. “What’s more, standardized control and documentation, as well as rapid validation shortens time-to-market.” Bosch’s offer is rounded off by the global service network, which offers customers quick support with maintenance and process optimization all over the world.

11th - 15th June 2018: ACHEMA 2018, Frankfurt am Main (D)



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# Cherwell to attend two events in May focused on the revision of EU GMP Annex 1

## How Cherwell can help customers to improve their environmental monitoring

Cherwell Laboratories, will be offering expert knowledge and demonstrating their comprehensive range of specialist environmental monitoring and process validation products at two events focused on the revision of EU GMP Annex 1 in May 2018. At both events, Cherwell can advise visitors on how to improve environmental monitoring following the eventual publication of this significant amendment in guidelines for the manufacture of sterile medicinal products.

The first event, which takes place on the 16th and 17th May, is the Cleanroom Technology Conference, which will be held at the National Conference Centre in Birmingham. The conference aims to help delegates keep up to date with cleanroom standards and ensure compliance. The two-day event will focus on best practice and regulations affecting both cleanroom design and cleanroom operation. Day one concentrates on Regulations and Standards and will start with a keynote presentation on the 2017 Draft revision Annex 1 of the EU GMP / ISO 14644. Day two focuses on cleanroom design and operations.

The second event, the Parenteral Drug Association Annex 1 – Revision of the EU GMP Guideline, will be held on 17th May the Crowne Plaza Dublin – Blanchardstown, Ireland. The conference has been set up by PDA Europe to consider the impact of the proposed revisions to Annex 1 on both the industry and manufacturers. The conference will cover the intended amendments from a

regulator’s perspective – covering important improvements and developments; as well as from an industry perspective – reporting on the comments submitted by the PDA task force to the EMA.

Representatives from Cherwell will be on hand at both events to discuss and highlight how their products for environmental monitoring applications can help to maintain future good manufacturing practice (GMP) in line with EU-GMP Annex 1. They will also be demonstrating Cherwell’s product range and offering delegates practical advice and solutions tailored to customer-specific requirements. The Cherwell range includes Redipor® prepared media, stainless steel accessories, and SAS microbial air samplers.

Andrew Barrow, Sales Manager at Cherwell Laboratories, comments, “We are aiming to attend as many events as possible that are focusing on the revision on EU GMP Annex 1. As always, we like to attend these events to keep up to date with industry trends and regulatory changes, and we are particularly keen to listen to the industry’s reaction to the draft. We want to be available to discuss how we can help customers to maintain compliance once the revisions have been approved and published. Events like these are the ideal platform to enable us to do this.”

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# Tailwind for ACHEMA 2018 from upbeat industry mood

ACHEMA 2018 is entering the home stretch: On 11 June 2018, the doors of the exhibition and presentation halls will open. Around 3,800 exhibitors and 167,000 participants from more than 100 countries will turn Frankfurt once again into the global center of the process industries. ACHEMA receives a positive momentum from the optimistic near-term outlook of its core industries despite all imponderabilia. The organizers expect that ACHEMA will benefit from these effects and might even slightly surpass the numbers of former events.

“VDMA Process plant and equipment association expects respectable increase for 2017” – “Suppliers of process automation optimistic for 2018” – “Further strong growth of the chemical industry in 2018” – The last weeks have been characterized by positive news from the ACHEMA industries. Thus the organizers are going into the last preparations with optimism. “We are usually reluctant about forecasts”, said Dr. Thomas Scheuring, CEO of DECHEMA Ausstellungs-GmbH. “However, we see significant growth in some exhibition fields such as automation, pharmaceutical, packaging and storage technologies, but also in the mechanical processes group, and this certainly gives reason to positive expectations.”

At the ACHEMA Press Preview mid-March it became apparent that all industries and exhibition groups are preoccupied with the “megatrend” digitalization, whether it’s laboratory equipment, plant engineering or packaging and logistics. Exhibitors have many innovations up their sleeve that are based on digital methods: Thanks to digital interfaces, pumps can be integrated via “plug and play” into a plant and monitor themselves. Control and operation centers are designed to redefine the collaboration between humans and machines. Especially the focal topics “Flexible production” and “Chemicals and pharma logistics” benefit from this trend as modular plants or integrated supply chains are inconceivable without

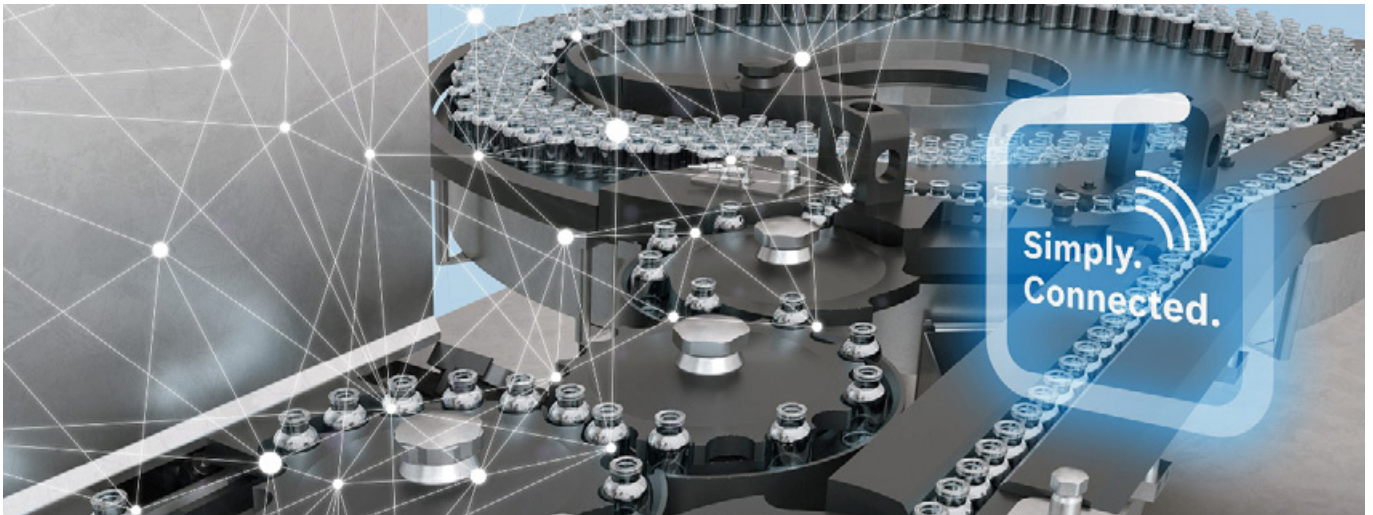
data integration.

In addition, “conventional” topics such as components for increased process efficiency or new materials are also on the agenda of companies offering products and technologies for the chemical, pharmaceutical and food industry. And the focal topic “Biotech for Chemistry” does not only concern biopharmaceutical producers, but also “classical” players in the chemical industry: Increasingly they combine chemical and biotechnological steps especially in the production of fine chemicals.

Follow link for ACHEMA Press Preview: Recordings and further information <https://www.achema.de/en/press/service-for-journalists/press-events/achema-2015-press-events/achema-press-preview/recordings-of-the-achema-press-preview-and-additional-information.html>

ACHEMA is the world forum for chemical engineering, process engineering and biotechnology. Every three years the world’s major fair for the process industry attracts around 4,000 exhibitors from over 50 different countries to present new products, processes and services to 170,000 professionals from all over the world. The spectrum ranges from laboratory equipment, pumps and analytical devices to packaging machinery, boilers and stirrers through to safety technology, materials and software, thus covering the entire needs of the chemical, pharmaceutical and food production industries. The accompanying congress, featuring 800 scientific lectures and numerous guest and partner events, complements the wide range of themes of the exhibition.

11th - 15th June 2018: ACHEMA, Frankfurt am Main (D)



# Keeping a close eye on processes and lines

Industry 4.0 solutions for more data transparency: The Industry 4.0 solutions from Bosch visualize and analyse machine data and ensure a transparent production. (Picture: Bosch)



## New Industry 4.0 solutions from Bosch for more transparency

- **Pharma MES Starter Edition visualizes production data in real time**
- **Higher productivity thanks to monitoring of OEE, status and events**
- **Data Services help to identify hidden correlations and optimization potential**

High productivity and line availability are central priorities for pharmaceutical manufacturers. To provide more transparency and a better overview in production, Bosch showcases its latest Industry 4.0 solutions for visualizing and analyzing machine data at Achema 2018. Several machines and systems show how customers can use the Starter Edition of the Pharma Manufacturing Execution System (MES) to easily monitor machine status and process parameters. In addition, downstream Data Services make it possible to troubleshoot error causes more quickly, and to ensure more consistent product quality. "Bosch's Industry 4.0 solutions are tailored to the special requirements of the pharmaceutical industry and deliver full transparency for all process and machine data," explains Dr. Christian Hanisch, project manager Industry 4.0 for pharma at Bosch Packaging Technology. "The ability to record and evaluate essential machine and process data helps our customers maintain

high machine availability and performance – and to make real-time decisions based on hard facts." Bosch also shows how augmented reality specifically supports machine operators during commissioning or maintenance.

### Real-time visualization with the Pharma MES Starter Edition

The Pharma MES Starter Edition with browser-based user interface consists of three main components: plant operators receive essential data on their overall equipment effectiveness (OEE), for condition monitoring of plant status or processes, and on important events like alarms or downtimes, simply and in real time. Visitors to Achema 2018 can experience the functions of the new Pharma MES Starter Edition firsthand on three machines: the new capsule filling machine GKF 720 and the new processing system SVP250 LF, combined with the filling and closing machine ALF 5000. Using a clearly structured and intuitive dashboard view on the respective machines, the system displays information on essential machine and production data, such as number of filled containers or OEE. The data is made available on the customer's network via a web service and can be viewed on mobile devices or desktop PCs. This offers users maximum flexibility.

"Apart from individual machines, the Pharma MES Starter Edition can also monitor several lines simultaneously, and provides an important basis for optimum productivity," Hanisch says. To do so, the system records information from various production units and stores it centrally. "To transfer data seamlessly, the Pharma MES Starter Edition is ideally calibrated for use with Bosch machines. However, with a suitable electronic interface, the solution can also be used with third-party production equipment," he adds.



Real-time visualization and maximum flexibility: With the Pharma MES Starter Edition from Bosch, plant operators receive data for condition monitoring, event tracking and OEE on their mobile devices or desktop PCs. (Picture: Bosch)

## Keeping a close eye on processes and lines

The data gathered by the software can be subsequently analyzed to lay the groundwork for process optimizations, for instance to enhance plant availability or performance. In addition, the Pharma MES Starter Edition provides operators access to historical data, allowing them to compare past and present data sets and gain valuable insights into the development of central parameters like OEE within a specific timeframe.

### Data Services: identifying hidden correlations

Bosch also offers extensive data analysis services. The portfolio includes data mining, which Bosch has recently begun providing as part of the Pharma Service for solid dosage forms. With Bosch's data mining tool, large amounts of data can be examined for the smallest effects using statistical methods. "Data mining makes it possible to assess information more effectively to identify and remedy the root causes of faults," Hanisch says. In general, the data from two production batches is already sufficient to draw first conclusions. The more data is available for evaluation over a longer period, the more details will come to light.

### Easy training thanks to AR technology

Bosch will demonstrate how commissioning and maintenance can be implemented more easily in future with its first augmented

reality (AR) based instruction manual in the field of pharmaceutical development. Operators are guided step by step through the Solidlab 1 laboratory system, from setup to process control. Additional information, such as calibration instructions and spare parts are displayed so that employees can quickly work with the system without the need for extensive training. The AR instruction manual is suitable for training new colleagues or for refreshing knowledge. If there are any remaining questions, customers can use the remote function to connect directly with Bosch experts who provide live support.

11th - 15th June 2018: ACHEMA 2018, Frankfurt am Main (D)



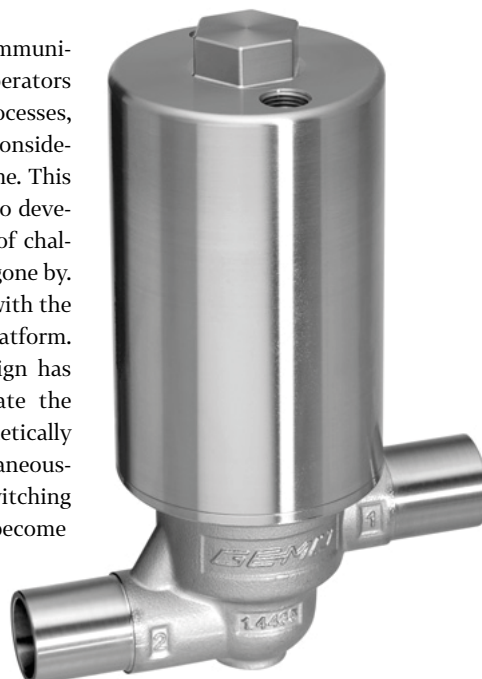
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# New filling valve platform with innovative PD design

**Valve specialist GEMÜ based in Ingelfingen, Germany is laying the cornerstone for the latest generation of filling valves with the F40 and F60 valve types.**

Thanks to close contact and communication with plant engineers and operators working in the area of filling processes, GEMÜ has been able to build up considerable expertise in this field over time. This has meant that we have been able to develop solutions to the widest variety of challenges relating to this area in years gone by. GEMÜ is continuing this tradition with the introduction of a new filling valve platform.

The use of the GEMÜ PD design has made it possible to securely isolate the moving parts of the actuator hermetically from the product area while simultaneously achieving a high number of switching cycles. This means that what has become known as the lift effect, in which the remains of the product are transported through the inserted spindle into areas in the actuator which are not to be cleaned, is ex-



cluded. In addition to the improved ease of cleaning of the media-wetted area, the valve stands out thanks to its extremely compact design and the ability to quickly and easily replace worn parts. Besides the conventional pneumatic variants, a motorized version with an innovative generation of drives is also available.

Both the GEMÜ F40 and GEMÜ F60 valves have a number of areas of application in virtually all filling processes in the hygienic and aseptic sector. Due to the one-piece PTFE seal that is used, the two valve types are also suitable for media containing oil or fat.

Both of the first valve types of the new filling valve platform will be presented to the public later in the year, at the ACHEMA trade fair in June.



GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG  
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# Endress+Hauser strengthens its position in Portugal

## Sales center increases customer proximity with new building

To improve customer support for the Portuguese market, Endress+Hauser has invested 800,000 euros in the construction of a sales office building near the capital city of Lisbon. The Group has been present in Portugal since 2002 through its own sales subsidiary.

Endress+Hauser acquired a two-story building in Palmela and extensively modernized it. The new facilities offer a total floor space of 820 square meters. The building was enhanced with modern meeting rooms and a new auditorium, including an exhibit reflecting Endress+Hauser's comprehensive offering. A new annex houses a calibration center and a warehouse. Customers will also benefit from the transparency provided through full integration into the Group's enterprise software network.

The new building was dedicated on 20 April 2018 in the presence of numerous guests and customers. "We have operated successfully in Portugal for almost two decades. The investment in new facilities demonstrates our ongoing commitment and belief in the Portuguese market," said Corporate Sales Director John Salusbury. Also in attendance were Klaus Endress, President of the Supervisory Board, and Matthias Altendorf, CEO of the Endress+Hauser Group.

The 19 employees at Endress+Hauser Portugal, who possess comprehensive expertise in measurement and automation technology, provide sales and support to customers across the country. The key industries are food & beverage, chemical and water & wastewater, in addition to the growing life sciences sector. "We have recently gotten closer to our customers, expanded our service offerings and reorganized the team corresponding to skills and knowledge," explained Managing Director Paulo Loureiro.

The realignment has been positively received by the market. Endress+Hauser Portugal has enjoyed a 40 percent increase in sales over the past five years. "We want to take this momentum into the future," underlines Paulo Loureiro. "The new facilities will allow us to improve customer support for all industries, thus providing a basis for the continuation of our growth strategy."

Endress+Hauser AG CH 4153 Reinach BL 1



Opening ceremony: Supervisory Board President Klaus Endress, Corporate Sales Director John Salusbury, Managing Director Paulo Loureiro, Deputy State Secretary Carla Campos Tavares and CEO Matthias Altendorf (from left) cut the ribbon.



Dedication of Endress+Hauser's new building in Portugal.



The team of Endress+Hauser's sales center in Portugal in the entrance hall of the new building.

### Impressum:

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