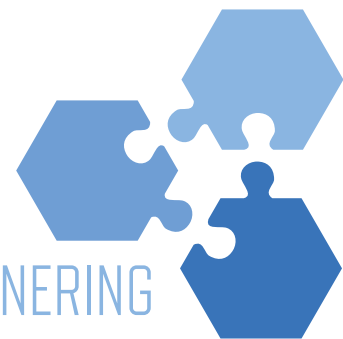


VOLUME 2 ISSUE 1

# eCP-journal

EUROPEAN CHEMISTRY PARTNERING



## A FRESH THING FOR A CLASSICAL INDUSTRY

### 2<sup>ND</sup> EUROPEAN CHEMISTRY PARTNERING



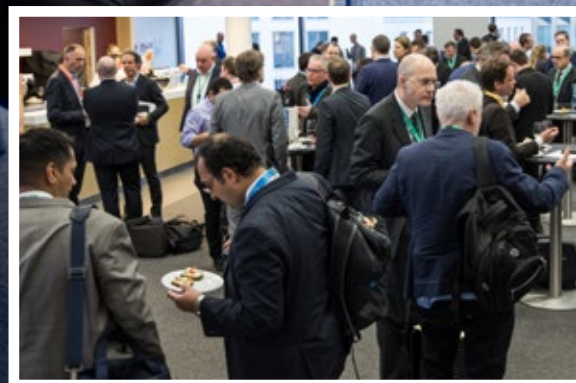
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INTERVIEWS, STATISTICS, IMPRESSIONS



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Voices from Participants



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## A BIG THANK YOU - AND A LOOK AHEAD



### Dr. Holger Bengs

Initiator and Organizer of the European Chemistry Partnering and CEO and Managing Partner of BCNP Consultants GmbH, Frankfurt am Main and Cologne, Germany

Please allow me, as the organizer, to say one thing: The 2<sup>nd</sup> European Chemistry Partnering was great!

But it's not just me, as the organizer, saying that, many of you have said it too. Said it and written it to my team and to myself both on February 23<sup>rd</sup> and subsequently. The idea and the organization is just one part of the story, but all of you were actually there; and that is the second and much more decisive part of a story about innovative people from all around the chemical production chain coming together.

Two things have been fed-back to me time after time: The first is the open mindedness of all participants, people were very open to entering into discussions and making contacts, an essential element in the joint success of the 2<sup>nd</sup> ECP, and secondly, the Start-up entrepreneurs brought with them a very special spirit, a new agility and liveliness to the ECP.

The figures speak for themselves: More than 500 participants from 31 countries, 106 Pitches, 53 Exhibitors and, please join me in being amazed...1,208 pre-arranged Partnering Meetings.

### 25<sup>th</sup> September 2018 – ECP Summer Summit

Many people have said to us "So much is happening in our industry. Please hold the ECP twice a year". So

that is precisely what we now plan to do. We will meet again on the 25<sup>th</sup> of September at Henkel KGaA in Dusseldorf. Read about how this all came about in an interview with Paolo Bavaj from Henkel on page 15.

Let the contents of this 2<sup>nd</sup> edition of the ECP Journal convey you to a world of innovation and inspiration. In addition to a report on the 2<sup>nd</sup> ECP on page 7, you can gain insights into the worlds and key topics of our ECP GOLD sponsors: Capgemini (17), Covestro (33), Sanofi (26), furthermore, you will find other articles well worth reading as well as all the facts, figures and Statistics pertaining to the 2<sup>nd</sup> ECP.

We will meet again soon. I am already looking forward to it.

Sincerely

Dr. Holger Bengs

P.S. ... and please make a note of the 26<sup>th</sup> February 2019, the 3<sup>rd</sup> ECP should go into your Calendar right away.

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# Voices of 2<sup>nd</sup> ECP (I)

“The setup of this event is really unique and I was quite surprised how efficient such a system could be. The planning of the individual meeting by the IT-solution is really surprising easy and efficient. I had eight face to face partnering meetings with clearly substantial content.”

Achim Kohler, Head Open Innovation, Achroma, Reinach, Switzerland

“This event is done very German: High Quality and High Efficiency combined. When I attend other chemicals conferences you typically meet greyish white males that view innovation as a high risk part of the chemicals business. The ECP is vibrant, with a very diverse audience - in all dimensions - only forward looking and is all about innovation, not just technologies, but also business models, enabling functions and interactions.”

Rob van der Meij, Investment Manager, Capricorn Venture Partners, Leuven, Belgium

“The European Chemistry Partnering Event 2018 was a great opportunity for us to meet start-up companies as well as medium-sized businesses. We were impressed by the high density and diversity of technological know-how, but also of the innovative capacity and the entrepreneurial spirit. The format was extraordinarily efficient, because of the large number of very interesting pitches together with partnering events, workshops and an exhibition. Even though, we are attending with 3 colleagues, we were not able to get everything we were interested in. There were so many interesting new technologies, raw materials, innovative ideas. Especially to listen to all of the very interesting pitches, where start-up companies could present their message in 6 minutes and we might find by chance fruitful synergies with our company, two colleagues would be needed, only.

We were pleased to see that via the online platform provided, it was rather straightforward to evaluate and contact interesting companies in advance. This way, we were able to set up 15-20 partnering events, all of which resulted in interesting discussions. In particular, we have already received samples from participating companies and at the moment, we are negotiating further collaboration with a number of other representatives. Moreover, we have received excellent internal feedback, so we will consider visiting the ECP 2019 with even more than 3 colleagues.”

Dr. Stephan Zöllner, Executive Manager, Acrylic Adhesive Research & Development, tesa AG, Hamburg, Germany

“One of the best chemistry partnering events I've been to. The event setup was well thought out and provided excellent opportunity for networking.”

Alex Michine, CEO, MetGen Oy, Kaarina, Finland

“I cannot disclose any closer details, but yes it was a very successful event with lot of interesting meetings, meeting old friends and meeting new friends. I think this is exactly the format that chemistry needs now. It is an old practice in biotech, now chemistry is catching up. That is a good thing. I totally like it. It was much better than I thought. This event now has evolved in something that is very strong and will hopefully evolve further in the future. I have a lot of work to take home. So it was very successful for us.”

Dr. Christoph Hüls, Head of Merck Group Innovation Strategy, Merck KGaA, Darmstadt, Germany

“The dynamics of this day were incredibly good. We thought that we already know all the startups in chemistry, but my colleague and I met five young entrepreneurs with whom we will now have serious investment discussions. European Chemistry Partnering is a milestone for our industry in Europe.”

Dr. Michael Brandkamp, General Manager, High-Tech Gründerfonds Management GmbH, Bonn, Germany

MORE VOICES ON PAGE 24 AND 25

# “A FRESH THING FOR A CLASSICAL INDUSTRY”

**More than 500 participants from 31 nations were attracted by the 2<sup>nd</sup> European Chemistry Partnering Meeting**

**By Joachim Pietzsch**

“This is a fresh thing for a classical industry where people normally are so stuck in their specific processes” said Janne Hulkko, research team leader for chemical and polymer technologies at Finland’s VTT Technical Research Centre. “Here they get a wealth of innovative impulses as the key-note lecture has perfectly anticipated”, he added. “This conference is ideal for us who are scouting the markets for new opportunities. Here, we get clear signals.”

Together with his colleague Jonas Hartman, Hulkko had scheduled eight meetings at the 2<sup>nd</sup> European Chemistry Partnering Meeting. “We wanted more, but many companies were very well sought after.” So, both used the time between their meetings to attend several of the 106 company pitches, get involved in discussions with some of the 53 exhibitors, or informally network at one of the cocktail tables in the light-flooded lobby with participants from 31 countries who had come to Frankfurt on this cold and sunny winter day on 23 February 2018.

The key-note lecture, which was praised not only by the Finnish participants, dealt with the story of Adhesys Medical. From there it deduced three basic principles of true innovation. It was given by Marius Rosenberg, an economist by training, who had



From left: Dr. Holger Bengs (BCNP Consultants GmbH), Josefina Jernberg (Hulteberg Chemistry & Engineering AB), Dr. Moayyed Al-Qurtas (Gulf Petrochemicals & Chemicals Association), Josko Bobanovic (Sofinnova Partners)

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bought a chemical patent from Bayer Material Science to found Adhesys in 2013. The patent referred to a high-strength biodegradable polyurethane-based glue. Together with a dedicated team, Rosenberg succeeded in developing this glue as an adhesive to close wounds in surgery. In April 2017, the German pharmaceutical company Grünenthal acquired Adhesys as a wholly-owned subsidiary.



Marius Rosenberg  
(Adhesys Medical GmbH)

## Principles of true innovation

“To be a successful innovator, you have to effectively manage uncertainty”, Rosenberg emphasized. A normal company would have started with the output in mind: We want to develop a biodegradable adhesive, which resources do we need for this purpose and so forth. “As soon as something unexpected happens, however, they have



He gave an inspiring Key note: Co-Founder and CEO of Adhesys Medical GmbH, Marius Rosenberg



a problem." Innovative entrepreneurs did it exactly the other way around, Rosenberg introduced his first principle: "They start with their input in mind and then incrementally move forward. As soon as they find themselves in the next position, new options are opening. This is not an erratic process, but a concept of constant re-evaluation to leverage your opportunities as they arise."

Secondly, innovative start-ups developed their products differently: "They do not write a comprehensive user specification that needs to be realized but rather seek the advice of their customers along the entire way to the market." Thirdly, innovative teams applied different project management methods than the classical "Gantt chart approach". "At Adhesys we did an iterative planning of tasks. We had a long list of things to do, prioritized them constantly and then

created discrete work packages that could be delivered in a very short time of two to three weeks. After this time, you had to be done, otherwise you could not show up." Due to this kind of "scrum project management" the overall velocity had increased dramatically, Rosenberg said. This approach also worked in complex industries. "Just break your tasks down in smaller pieces and always come up with a finished deliverable."







Philipp Bürling (NUMAFERM GmbH)



From left: Arno Fuchs (FCF Fox Corporate Finance GmbH) and Dr. Bernhard Mohr (Evonik Venture)

### Praise for an effective concept

"Chemistry is a source of great ideas," Rosenberg concluded his inspiring talk. "You are all in a very good position to bring great innovation forward." As if they had

decided to confirm Rosenberg's remark up front, more than 500 participants had registered for the 2<sup>nd</sup> European Chemistry Partnering Meeting, four times as much as last year. To meet this immensely increased demand, the meeting had been relocated from the premises of Frankfurt's chamber of

commerce to the spacious conference center "Kap Europa" (nomen est omen) adjacent to Frankfurt's fair grounds. For a whole productive day, the venue was buzzing and brimming with the exchange of research results, business ideas and innovation plans. 1,208 partnering meetings had been scheduled by the participants in ad-

Check out the 2<sup>nd</sup> ECP onsite reportage:  
[www.european-chemistry-partnering.com/gallery/#video](http://www.european-chemistry-partnering.com/gallery/#video)

Continued on page 11



From left: Dr. Olof Sterner and Dr. Christian Mathis (both SuSoS AG, Switzerland) and in the background Dr. Frauke Hangen (BioRiver, Germany)

# Supporter of 2<sup>nd</sup> European Chemistry Partnering



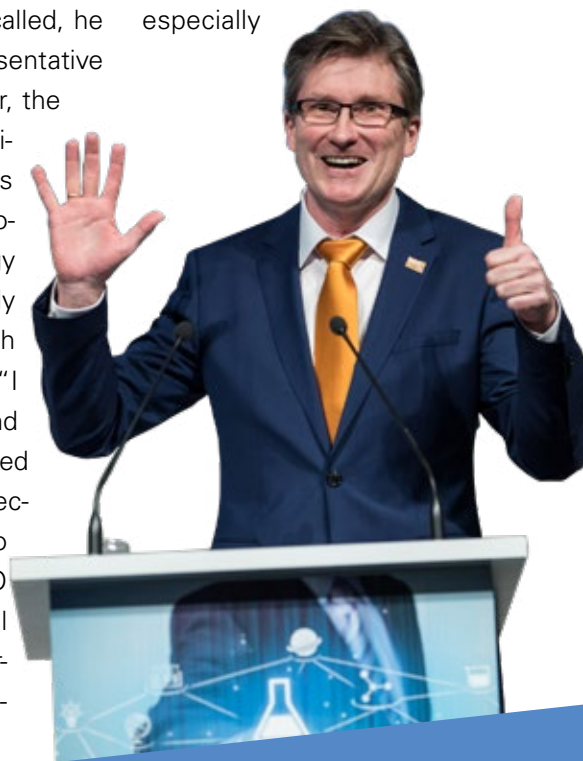


vance. On top of that, many spontaneous meetings were sparked by the presentations, which ran in three parallel rooms. "For an innovative enterprise like us, this is a worthwhile event," said Cord Matthies, head of business development at the medium-sized Stahl Holdings BV in the Netherlands – certainly a representative statement for many well established medium-sized chemical companies such as Devinochem, Goldmann, Hemmelrath, Polyoptics or Topas. Driven by their continuous quest for innovation, a lot of these champions in their area of business intensively engaged in the partnering meetings. Their participants were as content with the results of these meetings as representatives from start-ups, big companies and investors. "At the end of that day, we are on the way to due diligence with five new companies," Michael Brandkamp of Germany's Hightech-Gründerfonds summed up, for example.

"It was a very colorful event with a wide range of topics," said Stefan Buchholz of Evonik's strategic innovation unit Creavis. "I've been continuously engaged in meetings for six hours now." Last year, he recalled, he had been Evonik's only representative at the ECP meeting. This year, the company had sent five participants. Brain AG, twenty years ago Germany's start-up pioneer in industrial biotechnology and meanwhile successfully grown up, was present with three top representatives. "I complement Holger Bengs and his team for having transferred the partnering format so effectively from biotechnology to chemistry," said Brain's CEO Jürgen Eck. "It is a wonderful concept to open up new perspectives and forge new partnerships."

### Pledge to accelerate digitalization

The range of topics spanned from catalysis over nanomaterials and renewable resources to analytics and digitalization. The latter was an especially



Dr. Jürgen Eck, CEO of Brain Biotech, Germany



From left: Christian Sonntag (INOSIM Consulting GmbH) and Dr. Daniel Klier (tesa SE)

From left: Dr. Gunter Steinfeld (Crysallise! AG), Dr. Holger Bengs (BCNP Consultants GmbH) and Ralph Wintermantel (WINKAP)





Dr. Sophie Roelants  
(Bio Base Europe  
Pilot Plant, Belgium)



Dr. Sami Sekälä  
(Innomost Oy, Finland)



Christiane Wedler  
(ASCA GmbH Angewandte Synthese-  
chemie Adlershof, Germany)



Rune Koehn  
(chembid GmbH & Co. KG,  
Germany)



Paulius Jovaisas  
(Silica Biotech, Lithuania)



From left: David Levinger, Snædís Flosadóttir and  
Dr. Helga Dögg Flosadóttir (all Atmonia ehf, Iceland)

prominent topic, including a workshop presentation on “Digitalization in the chemical industry” given by Capgemini’s consultant Marcel Müller. He discussed results of his company’s recent respective study and urged the chemical industry to catch up in this field: “Presently, only five percent of chemical companies are future-oriented in terms of digitalization.”

To stay competitive, however, digital processes quickly needed to be implemented both in R&D departments and supply chain management and production and sales. It was a well-planned coincidence therefore, that 17 pitches of the ECP meeting dealt with digitalization, offering participants an excellent opportunity to get or stay tuned in this field. In a second workshop presentation, Hubert A. M. Moik explained how business accelerators can dramatically improve chemical innovation. Both vividly and profoundly, he based his talk on his own experiences as a manager of such accelerators in Silicon Valley.

### **“A place where all important players meet”**

Despite of the plethora of possibilities the 2<sup>nd</sup> ECP meeting offered, participants did not feel overwhelmed. The atmosphere was relaxed and joyful. “There’s no information overflow here like in traditional ‘next-slide-please’-conferences”, Martin Bellof and Eva Kranen from Autodisplay Biotech said. “You have the freedom to choose between information and communication and to individually combine both.” Cornelia Gärtner from the German association of medium-sized businesses (BVMW) pointed out how important this



meeting was to unleash the creative potential of small and medium-sized chemical companies.

"I am thrilled by the immense partnering opportunities", Cornelia Gärtner said. "I appreciate that this meeting places its emphasis on practitioners who are looking for both solutions and investors rather than on consultants who are consulting each other". Gärtner applauded the "perfect organization and time management" of the event. BVMW member Christian Römlein, CEO of Intelligent Fluids GmbH, underlined the conference's uniqueness within the chemical industry: "It has an outstanding focus. You can hardly go wrong here and will score much more hits than usually."

The Belgian investor Rob van der Meij of Capricorn Venture Partners stressed a further distinctive feature of the European Chemistry Partnering Meeting when he said that he was attending many conferences where "the audience is more male, greyer and not

talking about early-stage innovation". Such a potential breakthrough innovation was, for example, presented both in a pitch, in partnering meetings and at an exhibition booth by the start-up Atmonia from Iceland.

As an alternative to the conventional Haber-Bosch process, Atmonia has invented a novel electrochemical catalyst for the synthesis of ammonia from water and air at ambient temperature and pressure. "We have been carefully screening possible conferences, which we could attend to find strategic partners or venture capitalists", Atmonia's CEO Helga Dögg Flossadóttir explained. "We have chosen only this one, because here we can meet the most important players in our field on one day", she said. "And indeed, our expectations have been fulfilled."



Dr. Thomas Stöhr  
(DEVINOCHEM GmbH & Co. KG)

Dr. Helga Dögg Flossadóttir  
(Atmonia ehf)





# Media Partner of 2<sup>nd</sup> European Chemistry Partnering



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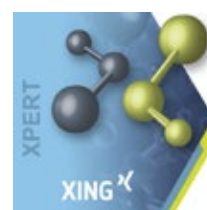


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# „WE ARE HAPPY TO SUPPORT THE ECP AND TO HOST THE FIRST ECP SUMMER SUMMIT.”

**Interview with Dr. Paolo Bavaj, Henkel AG & Co. KGaA**

From now on, the European Chemistry Partnering will take place twice a year. The next date is 25 September, 2018, i.e. in late summer and the second ECP this year is aptly named: “ECP Summer Summit”. The format remains the same: Keynote, Pitches, Partnering and Exhibition. ECP-Journal spoke with Dr. Paolo Bavaj, he is Head of Corporate Venturing at Henkel Adhesive Technologies and the host of this year’s first ECP Summer Summit.

**ECP-Journal:** Dr. Bavaj, you participated in the inaugural European Chemistry Partnering in 2017 along with four colleagues from Henkel. Since the ECP had no track record at that time, what was it that convinced you in advance to attend?

It is very rare to find a Start-up event related to the chemical industry with such an impressive number of exciting young companies ... on top of which I really like pioneering and trying something new.

**ECP-Journal:** This year number of participants at the ECP quadrupled and over 1,200 partnering talks took place. How many conversations did you personally take part in and how do you measure the success of such an event for yourself and for Henkel?

I filled all 18 available timeslots this year - as did my colleagues. We met with a large number of relevant Start-up companies as well as medium-sized companies offering many different exciting

technologies and applications as well as meeting some of the great people behind them. The personal contacts and the number of insights on ideas and technological developments you are exposed to are the direct key benefits of this event. In the end success must always be measured by concrete results: Do we find something, which would extend or improve the technology or application portfolio of our operating business?

**ECP-Journal:** And now comes the ECP Summer Summit on September 25, 2018 at the headquarters of Henkel in Düsseldorf, with the same partnering format but in a late summer setting: how did it come about and what is your motivation?

We thought it might be a good idea to move the event even closer to the chemical industry to reduce the geographical distance between Start-ups and the chemistry corporates. Henkel in Düsseldorf is an ideal location since many chemical companies are located close by in the Rhein-Ruhr area allowing more people from these companies to attend the ECP and to directly contribute to and benefit from the event. At the same time we are happy to support the ECP and to host the first ECP Summer Summit as those events always depend on the support of larger corporations.

*The interview was conducted by James Bryant*



Dr. Paolo Bavaj,  
Head of Corporate Venturing at  
Henkel Adhesive Technologies

**ECP  
Summer Summit 2018**  
European Chemistry Partnering



**25 September 2018**  
Düsseldorf, Germany  
Henkel Headquarters



# WINNERS

Among all participants who signed up for the ECP Newsletter by throwing their business card into the boxes, BCNP Consultants gave away 10 tickets for the 3<sup>rd</sup> European Chemistry Partnering 2019. Here are the winners:



Helge Adleff

Dr. Andreas Hahn

Dr. Alireza Haji-Begli

Jonas Hartman

Dr. Dan Kramer

Dr. Sebastian Kunz

Stefan Liphardt

Dr. Patrick Prühs

Oliver Rhode

Dr. Adrian Stelzer

CellIDEG GmbH

ZetA Partikelanalytik GmbH

Südzucker AG

VTT Technical Research Centre Of Finland Ltd

Cyano Biotech GmbH

Co4Cat

SL Tech2 GmbH

Chemie-Cluster Bayern GmbH

XENOPS Chemicals GmbH & Co. KG

Nano-Join GmbH c/o Green Garage





# SUCCESS COMES WITH A CLEAR DEFINED ROADMAP

## Digitization in the Chemical Industry

By Marcel Müller

Managing the digital transformation from today's best practice to a well-tailored digital ecosystem is challenging. This especially seems to apply for the chemical industries where digital maturity level shows further improvement potential. To drive the digital game-change pro-actively global chemical industry requires to clearly define a digital end-to-end roadmap.

However, most Chief Information Officers (CIO) in this industry field assume digitization as key element for further progress, mayor hurdles such as lack of digital education among employees, inflexible business processes and organizational structures depict a difficult digitization framework.

To meet these challenges, companies should draw on external expertise and jointly develop a digital end-to-end roadmap that structures and weights all key points. Capgemini has a proven track of records in the digitization and in effectively introducing IT-solutions into diverse business areas to increase effectiveness as well as labor standards and costs savings. Managers who want to promote digitization in their company should focus on the critical points in the production process.

### From R&D to supply-chain – Roadmaps guide through digitization

Roadmap definition starts with research and development (R&D). R&D not only requires high-performance IT systems for digitization and to stay ahead of competition. Companies need to start implementing efficiency drivers like natural language processing (NLP) and collaborative information platforms to foster collaborations, achieve costs reduction through prediction, speed up time-to-market and improve R&D success rate.

In regard to Product lifecycle management, which is at the heart chemical and pharmaceutical industry, is the next crucial passage. Companies need to make sure that their product lifecycle management (PLM) is founded on a system-based integration along central interfaces and central hub implementation, where relevant product-related data can be managed in real-time. As a result companies benefit from reduced locked-in costs and an improved product matching on the production and procurement network.

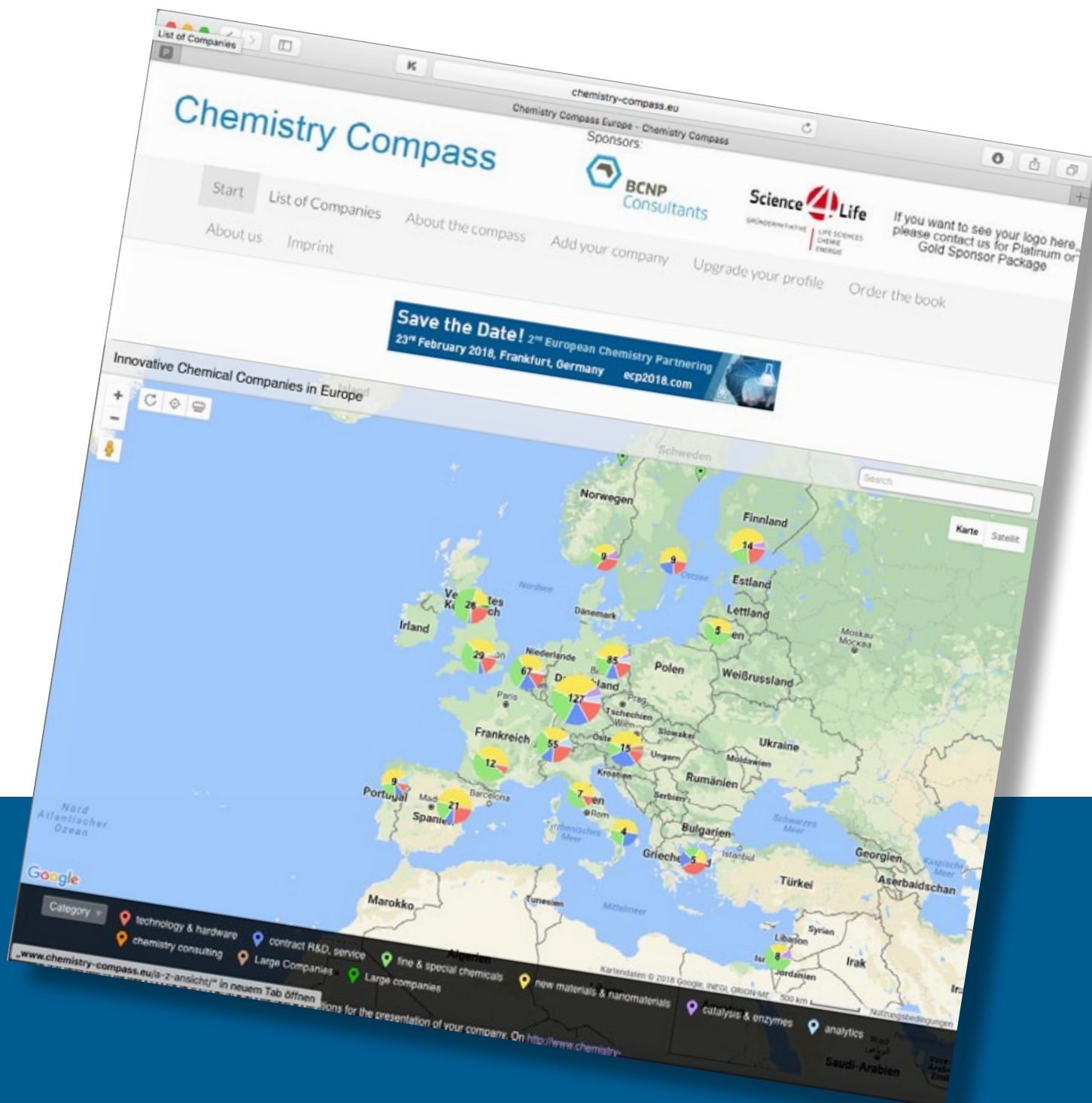
Digitizing the laboratory environment is a further milestone that should be defined within the road-

map and cover the implementation of tools simplifying laboratory processes such as sample handling, accelerating release processes and standardizing master data management. This transformation towards the digital lab also involves tools like laboratory integrated management systems (LIMS), electronic lab notebooks (ELN), Track'n'Trace technology and integrated mobile device solutions, which all are part of the dedicated Life Sciences Capgemini portfolio.

Life Science industry furthermore should focus on the Digital factory and supply chain optimization. Virtualization enhances process control by integration between plants, manufacturing execution systems (MES) and enter-

Continued on page 19

# The whole world of innovative Chemical Companies in Europe on one website.



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prise resource planning (ERP) systems. Production accompanying documentation flow (EBR) leads to significant improvement in plant capacity utilization by up to 30% and increases production speed due to real time data. Serialization, integration of regulatory requirements standards, implementation of cloud platforms and structured connection of suppliers and service providers are suitable approaches for supply chain optimization. At the same time they support an increase of transparency as well as data and knowledge sharing, accompanied with a significant overall reduction of transaction costs.

### Start your road to digitization now

Digitization is not just a trend but an evolutionary change that will affect all business areas. However, life science companies who clearly define a roadmap that covers all neuralgic points and refer to external expertise in planning and implementation can gain a decisive competitive advantage through digitization. So no need to wait any longer starting your roadmap through digitization.



Marcel Müller

Principal  
Head of Business Technology Chemicals &  
Life Sciences

# ECP Summer Summit 2018

## European Chemistry Partnering

**25 September 2018**  
**Düsseldorf, Germany**  
**Henkel Headquarters**



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CIEX will feature exciting case-studies and discuss the latest strategies to drive productive innovation and maximize ROI. Interactive panel discussions, focused round tables, and of course plenty of top-level networking complete your experience!

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***Don't Miss CIEX 2018***

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# ADVISING START-UPS: FROM UNIVERSITY TO INDUSTRIAL PARK

By Michael Strack und Gordana Hofmann-Jović

What worked on a laboratory scale often causes difficulties on a larger scale. Especially Start-ups are facing this problem while trying to upscale their developed process in a large-scale process. A crucial factor in the success is not only good engineering but also choosing the right location.

For many start-up companies the dream of success comes to an end within just a few years. Besides problems with financing and wrongly combined teams a frequent cause for failure is the challenge of industrial scale implementation. "On laboratory scale, many aspects which are relevant to the economic success of a plant operator can be disregarded" says Gordana Hofmann-Jović, engineer with Infracerv Knapsack. This service provider and chemical park operator advises start-up companies which have already provided the Proof of Concept on a laboratory scale and are working on the commercial launch of their concept.

ty, possible process alternatives, compliance with product specifications, restrictions on the upscaling, supply of energy, and legal requirement have to be considered.

It usually makes sense to seek the advice of an external specialist for the technical realization of a process. "In order to optimise cost-efficiency the work packages relevant to the industrial scale implementation should be defined beforehand" says Hofmann-Jović. Normally, a selective placing of consultancy engagements to external consultants is far more efficient than handling by the start-up itself. Even in the beginning phase not only the personnel resources but also the necessary tools and methods are lacking.

Due to the numerous requirements of the operation of an industrial plant, start-ups should already begin to

"At the same time, they are not able to weigh-up the advantages and disadvantages of a location adequately." Whether, for example, it is cost-efficient to create the required structures on a greenfield-site or to start a production within a chemical park, depends entirely on the process.

It has to be clarified whether steam, natural gas, compressed air, nitrogen, oxygen, or cooling water are required and which emissions should be expected. Furthermore, it has to be considered if the plant should be linked by road or rail and whether unloading points

and room for expansions are needed. Also a safety aspect regarding adjacent productions must be observed.

## Chemical parks facilitate the authorisation

There is a long list of possible pitfalls in the course of the exact design of the process and the planning of single elements of equipment. Infrastructure, logistics, supply and waste management, safe-

address the site selection during the concept phase. Many company founders only pay attention to these issues only late or make the mistake to consider only aspects for their analyses which are rather simple to quantify. "Because many companies act schematically the planning is too imprecise," says Pierre Kramer, head of location development department with Infracerv Knapsack.

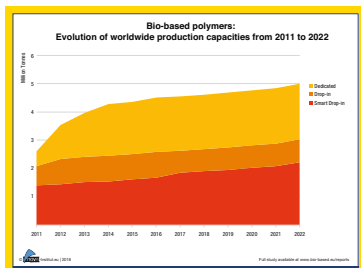
Chemical parks often provide interesting concepts for start-up companies. They can profit from the infrastructure which is aligned to the requirements and from the chemical park management providing advice on issues of safety, logistics, energy supply, and permit management. Especially companies establishing a process up to production stage which are subject to the Federal Commission Control

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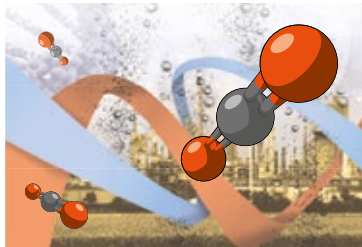


Authors: Raj Chinthapalli, Michael Carus, Wolfgang Baltus, Doris de Guzman, Harald Kaeb, Achim Raschka, Jan Ravenstijn, April 2018

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Authors: Achim Raschka, Barbara Dommermuth, Jan Ravenstijn and Michael Carus, nova-Institut GmbH, Germany

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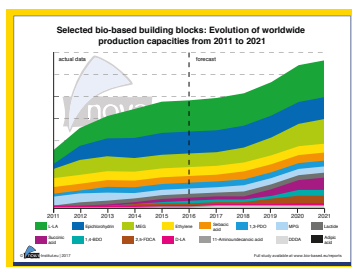
Pharmaceutical/Cosmetic	Industrial
<ul style="list-style-type: none"> <li>Acids: ingredient for denture cleaner/footpaste</li> <li>Antidote</li> <li>Calcium succinate is anticarcinogenic</li> <li>Effervescent tablets</li> <li>Intermediate for perfumes</li> <li>Pharmaceutical intermediates (sedatives, antipsychotics, antiepileptics, antineoplastic, disinfectant)</li> <li>Preservative for vaccines</li> <li>Removes fish odour</li> <li>Used in the preparation of vitamin A</li> </ul>	<ul style="list-style-type: none"> <li>De-icer</li> <li>Engineering plastics and epoxy curing agents/hardeners</li> <li>Herbicides, fungicides, regulators of plant growth</li> <li>Intermediate for lacquers + photographic chemicals</li> <li>Plasticizer (polyurethane, polyurethane, adipic acid)</li> <li>Polymers</li> <li>Solvents, lubricants</li> <li>Surface cleaning agent (metal-electronic/semiconductor industry)</li> </ul>
Food	Other
<ul style="list-style-type: none"> <li>Bread-outletting agent</li> <li>Flavour-enhancer</li> <li>Flavouring agent and acidic seasoning in beverages/food</li> <li>Microencapsulation of flavouring oils</li> <li>Preservative (chicken, dog food)</li> <li>Protein gelatinisation and in dry gelatine emulsifier/flavouring</li> <li>Used in synthesis of modified starch</li> </ul>	<ul style="list-style-type: none"> <li>Anodizing Aluminium</li> <li>Chemical metal plating, electroplating bath</li> <li>Coatings, inks, pigments, powder-injection curable coating, resins for water-based paint, dye intermediate, photoconductor ink, toners</li> <li>Fabric finish, dyeing aid for fibres</li> <li>Part of animal treatment for barley seeds</li> <li>Preservative for cut flowers</li> <li>Salt-chelating agent</li> </ul>

Authors: Raj Chinthapalli, Kerstin Ilffand, Florence Aeschelmann, Achim Raschka, Michael Carus, nova-Institut GmbH, Germany

February 2018  
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### Commercialisation updates on bio-based building blocks



Author: Doris de Guzman, Tecnon Orbis/Chem, United Kingdom

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### Standards and labels for bio-based products



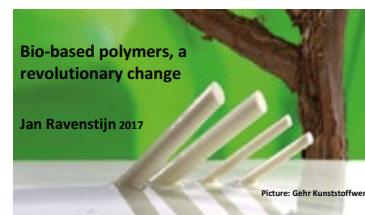
Authors: Lara Dammer, Michael Carus and Dr. Asta Partanen, nova-Institut GmbH, Germany

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### Bio-based polymers, a revolutionary change

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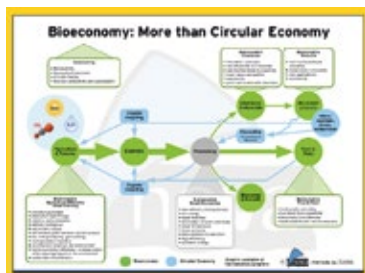
Mobile: +31 6 2247 8593

Author: Jan Ravenstijn, Jan Ravenstijn Consulting, the Netherlands

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### Policies impacting bio-based plastics market development and plastic bags legislation in Europe

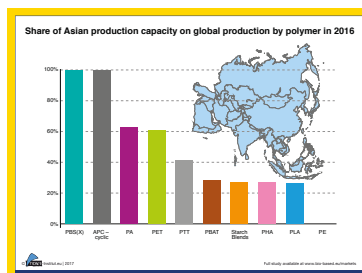


Authors: Dirk Carrez, Clever Consult, Belgium  
Jim Philip, OECD, France  
Dr. Harald Kaeb, naroon Innovation Consulting, Germany  
Lara Dammer & Michael Carus, nova-Institut, Germany

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### Asian markets for bio-based chemical building blocks and polymers



Author: Wolfgang Baltus, Wobalt Expedition Consultancy, Thailand

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#### Bestsellers



Authors: Harald Kaeb (naroon, lead), Florence Aeschelmann, Lara Dammer, Michael Carus (nova-Institut)

April 2016  
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Act (Bundesimmissionsschutzgesetz) or the Hazardous Incident Ordinance (Störfallverordnung) could benefit from the expertise of chemical park operators. „Since the requirements are quite complex even well-established operators of large plants use the support of our approval management“ reports Kramer.

The various chemical parks in Germany have each a different focus. Beside the customary questions regarding infrastructure, energy supply, and waste disposal companies should determine whether particular materials from adjacent production plants or feedstock integrations could simplify the operating of their own plant. For instance, if a start-up company needs sodium hydroxide solution, which accrues as a by-product in a plant within the same chemical park, this will facilitate logistics and necessary approval procedures immensely and will in addition reduce the production costs. Therefore, start-up companies should map out in time which media and energy types must be available on their site to operate efficiently.

These requirements also affect the plant design. Committing to a production site without diligent examination can be costly: with a given manufacturing hall, a number of factors have to be taken into account, e.g. spatial characteristics, statics of the building, connection to energy supply, and room height. Those responsible should also think about possibly necessary rehabilitations. „This means that the layout concept of a plant should be explicitly customized to the hall. It may be found that an existing hall is less suitable than originally assumed“, says Hofmann-Jović.

The large number of topics to be considered shows that choice of location and engineering are difficult to separate. Clear and proper planning is the basis for further financing and successful production. Making use of professional advice already within the concept phase can uncover obstacles before they let fail the complete realization. „It takes time, money, and experience, to develop economic procedures for new technologies. Therefore, it is important to find experts to help with solving these problems already at the beginning of the development. Based on our experience start-up companies within the process industry are more successful if they have in-house engineers or use external support for particular implementation issues“ says Michael Strack, Head of Engineering with Infracerv Knapsack.

### Engineering as finance engine

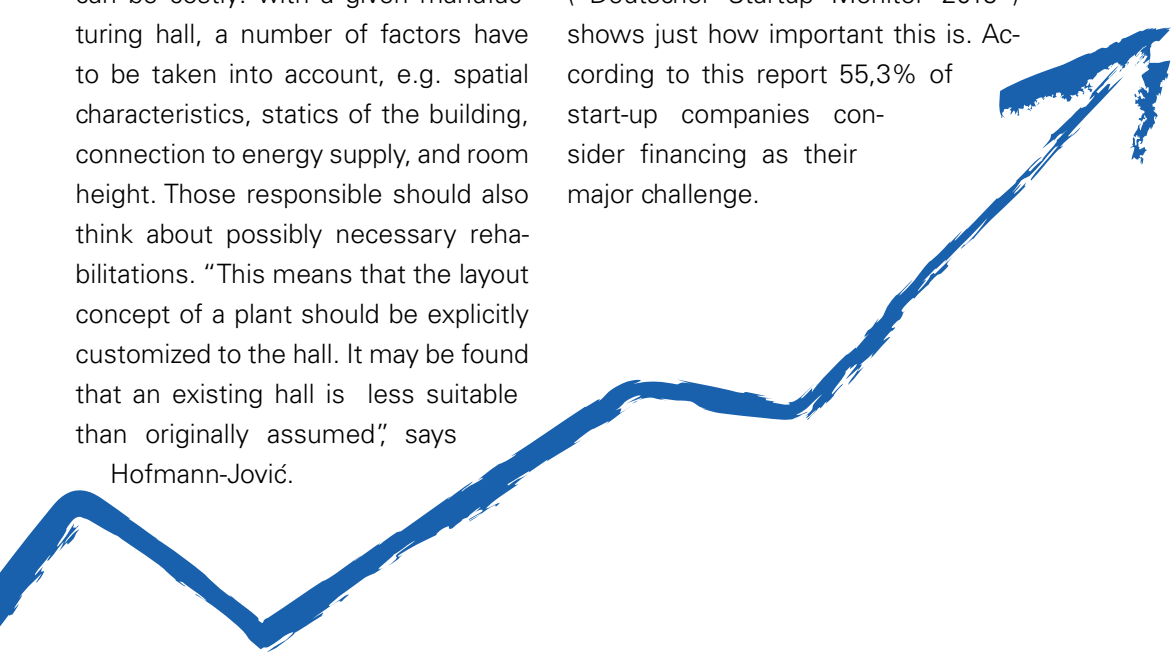
Externally created calculations may also enhance the credibility in the search for investors or negotiations with other financial backers. „With well-founded engineering concepts entrepreneurs will not only reduce their own risk but can also demonstrate a manageable investment-risk to possible investors“, explains engineer Hofmann-Jović. The „German Start-up Monitor 2015“ („Deutscher Startup Monitor 2015“) shows just how important this is. According to this report 55,3% of start-up companies consider financing as their major challenge.



Gordana Hofmann-Jović, Head of Process Development and Engineering, Infracerv Knapsack



Michael Strack, Head of Engineering, Infracerv Knapsack



# Voices of 2<sup>nd</sup> ECP (II)

“I am really impressed how much experts I could meet during one evening and one working day. ECP being a short event brings as many professional contacts as several months of daily separate business trips. Sibur, as many big companies, searches for new technologies and products, we are interested to build good relations with innovative centers, startups and spinoffs, and collaborate with them. Sibur focuses on optimizing current processes for polymer materials and petrochemical products, as well as making a step into new trendy areas. My biggest surprise is that it was just the second European Chemistry Partnering. Chemistry looks to have followed fast moving IT innovators. So it would require lots of efforts from the organizers and all participants to create more value, to build more chemical ventures, to design best products for future. And I am grateful to Dr. Holger Bengs and his wonderful team for this event and wish all of us big success with next ECP events.”

Dr. Alexander Litvinov, Senior expert Corporate R&D, SIBUR LLC, Moscow, Russia

“It was interesting. It was intense. We made very good contacts. We build a basis for business. We will come again.”

Dr. Jörg Ohl, Senior Business Development Manager, Cordem Biochem GmbH, Frankfurt am Main, Germany

“Perfect opportunity to get an overview in technology developments, getting to know the companies right on site and deck for opportunities in an extremely concentrated fashion.”

Dr. Ulf Stalmach, Self-employed, Lack-Digitzer, Leonberg, Germany

“It was a great platform to showcase services of my organization in various forms of communication! Kudos to ECP team.”

Dr. Yogesh Shinde, Assistant General Manager-Business Development, Syngene International Ltd., Bangalore, India

“Holger and Tobias simply did a great job organizing such a big meeting! This also applies to the rest of the team! Thanks a lot!”

Dr. Frank Schäfer, Managing Director, BioEcho Life Sciences GmbH, Cologne, Germany

“Who calls chemistry old economy should visit ECP - the history has just started. Chemistry will create further solutions for all of our lives in Future.”

Dr. Thomas Renner, VP Consortium Corporate R&D, Wacker Chemie AG, Munich, Germany

“Outstanding idea, event and organization. The First and Only chemistry industry partnering event.”

Dr. Julia Schüler, Company-owner, Biomedservices, Darmstadt, Germany

“I found that the 2<sup>nd</sup> ECP was very interesting - surprisingly diverse and I did not believe in advance that the talks would yield so many starting points for my daily work.”

Dr. Klemens Minn, Manager R&D, Crop Science, Bayer AG, Frankfurt, Germany

“I am looking for companies just like us who are strongly innovative in chemistry and technology and I am really so smashed by seeing how many of them around here. It is extremely impressing, it is really dynamic, it is very good interaction here, I really enjoy it. Absolutely, it started actually before the meeting started and we had already a first discussion at the stands and it was already some link to have a follow up meeting and have interaction and it didn't stop afterwards. All the discussions we had, all the talks we had, it always ended up with 'we need a next meeting'. I love it because I do everything what I do with passion and I see a lot of passion around from the people around here. So if I am looking for passionate people, they are here, absolutely.”

Peter Flippo, Manager Business Development, Bioprocess Pilot Facility, Eindhoven, The Netherlands

“Great opportunity to make new personal contacts beyond your normal channels. Excellent for efficient partner dating/meeting.”

Jeff Landau, Digital Strategist, Evonik Industries AG, Essen, Germany

“As CEO of the technology start-up Aquarray the ECP2018 was an unprecedentedly effective and efficient networking event. The event allowed our project to gain awareness in the pitching session and to initiate collaborations with decision makers in one-on-one meetings. We gained several high-impact contacts to lead customers and investors within just one day.”

Simon Widmaier, CEO, Aquarray GmbH, Egenstein-Leopoldshafen, Germany



# Voices of 2<sup>nd</sup> ECP (III)

“The great implementation has been recognized in many little things - just because the organizer himself was a participant in events for years and as a chemist knows the needs of entrepreneurs. So clearly both thumbs up. The ECP was perfectly organized and we had very good discussions. Being the sponsor of the partnering resulted in a great visibility for c-LEcta.”

Dr. Andreas Buthe, Head of Innovation, c-LEcta GmbH, Leipzig, Germany

“Great organization! Best possibilities to have meetings and the length of the meeting slots of 20 minutes are ideal.”

Dr. Uwe Müller, CEO, Hapila AG, Gera, Germany

“That is a tough call, because I really appreciate the courage it takes to make a good pitch, to stand up in front of the crowd and talk about the technology. Not everybody is made for that, I knew. On the other hand partnering is as much of importance for me, so I have been with pitches and start-ups, for me today the partnering was more important, yet there are equal in value. Well, I love it, Holger is so much energetic and I think this is really what is needed combining a network with a personal initiative to drive that. This is what makes this event nice. I felt indeed very comfortable all the time, like with friends. Thank you for that.”

Dr. Andreas Worberg, CEO, Novo Nordisk Foundation Center for Biosustainability, Kongens Lyngby, Denmark

“I was able to convince my supervisor that it is important to sharpen his eye for new technologies in chemistry. And the participation in the 2<sup>nd</sup> ECP was a complete success. Very many impulses and an incredible variety. Renewable resources, digitization, new monomers ... I hope I can convince colleagues that we will participate in a group in 2019.”

Simon Ansorge, Laboratory Leader, European Technology Center, Braskem Europe GmbH, Wessling, Germany

“So, I really liked it. It was very efficient. It was very efficient for me and I had maybe ten meetings today. I am happy.”

Simon Trancart, CEO, Altar, Paris, France

“Yes, my expectation has definitely been fulfilled. I registered to this event on Monday this week. I expected two or three meetings, in fact I had eight. So that were very good meetings, I learned a lot and it was really an enrichment of my network. I love it, I will definitely come back next year, no doubt.”

Ralf Münster, Managing Director, Rianlon GmbH, Bergisch Gladbach, Germany

“The European Chemistry Partnering is something I think was desperately needed by the chemistry industry itself. The industry is quite conservative in itself and this partnering, bring together start-ups, investors, well known SMEs and big companies. I have to say I love it, we are one of the sponsors of the event and I am convinced that we will continue our partnership with BCNP Consultants to further bring this support and to further bring this success to the market of this great conference. It is very impressive, what happened in the last two years from 2017 with 150 people to now more than 500 people with 1,200 partnerings, it is amazing.”

David Eckensberger, Director Industrial Technologies, Hessen Trade & Invest GmbH, Wiesbaden, Germany

“Something special, this is really focusing on the networking, so there was not that much of keynote speaker, so that is really focusing on networking and having the context, so that is very good.”

Stefan Ruyters, Multidisciplinary, Innovation & Technology Emerging Industries, Gensotec hvba, Leuven, Belgium

“The European Chemistry Partnering is the best startup event for the chemical industry allowing to connect international investor, like Henkel, with a large number of exciting technologies and great entrepreneurs. I am very happy that we are hosting the ECP Summer Summit at Henkel in Düsseldorf supporting this great format and providing a stage for material science related startups.”

Paolo Bavaj, Head of Corporate Venturing, Henkel Adhesive Technologies, Düsseldorf, Germany

“Everybody I talked to was open to exchange experience and to find business opportunities. Great mixture of young innovative and experienced attendees makes partnering fun.”

Gordana Hofmann-Jovic, Leitung der Prozess- und Verfahrenstechnik, InfraServ GmbH & Co. Knapsack KG, Hürth, Germany

# START-UPS: THE VALUE OF BUSINESS PLAN COMPETITIONS

By Dr. Peter Wonerow

A solid and well defined business plan is the basis for the successful realization of business ideas. Particularly for start-ups a good business case is essential to convince important stakeholders such as investors and potential collaborators. In addition, the preparation of the business plan often reveals critical areas which need to be improved or have not at all been thought at. Thus, it's absolutely essential to develop a viable business plan before starting an enterprise and this is where business plan competitions come into play.

A major advantage of such competitions is the free and sometimes very comprehensive feedback from experts from different specialist fields such as law, patent, finance or marketing. This is particularly important since these fields are very often not among the core competencies of founders and advice in these areas is typically not without charge. Therefore, even start-ups which are not among

the winners can benefit significantly from participation if the particular competition provides such a sophisticated review and feedback process. Besides the actual work on the business plan, there are other upsides of being part of a business plan competition.

There is of course the prize money, which can be, depending on the type of competition, in the range of several 10.000 Euros. Also, if the proposal performs well in the competition there can be a lot of publicity which of course is a good advertisement of the





project most importantly for potential investors and collaborators. Finally, many business plan competitions are supported by a big underlying network consisting of experts from different specialist fields but also of established enterprises. Access to this network can be highly valuable for different aspects such as financing, collaborations or customer access.

Participation on a business plan competition can be very beneficial for start-ups for several reasons. Selection of an adequate competition (e.g. lines of business, region, feedback system) is important to get the most out of the invested time.

### Business plan competitions: clues from the Science4Life experts

- Careful preparations is needed and takes time
- Assessment criteria give guidance about essential points to be addressed
- Adapt documents to the requirements of the respective competition
- Be broad but focused: discuss competition, team, finance, marketing and so on
- Submit high quality records
- Comprehensible facts and data are decisive
- Understandable by non-expert



Dr. Peter Wonerow is biologist and since the beginning of 2017 project leader of the founder initiative Science4Life e.V. which organizes the annual business plan competition Science4Life Venture Cup. He has several years of research experience in academia (University of Oxford, UK) and pharmaceutical industry (Sanofi).





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# “INTERDISCIPLINARY CO-OPERATION ARE FAR BETTER IMPLEMENTED IN EUROPE”

**Interview with Dr. Jürgen Stebani, Polymaterials AG**

During the recent 2<sup>nd</sup> European Chemistry Partnering, ECP-Journal met with Jürgen Stebani of Polymaterials, a 35 employee-strong company that focuses on polymer innovations, i.e. on new polymers and polymer compounds, and offers its services as a technology provider to companies of all sizes. ECP-Journal asked Jürgen Stebani about the capacity for innovation within Europe and that of large companies. Furthermore, we of course wanted to know what benefits he personally derives from participation at the European Chemistry Partnering.

**ECP-Journal:** What for you was the highlight of the 2<sup>nd</sup> European Chemistry Partnering?

**Dr. Jürgen Stebani:** The intense concentration of innovative SMEs and innovation-interested corporations was already impressive at the 1<sup>st</sup> ECP, but this year with a quadrupling of the number of participants to over 500 the concentration was all the more noteworthy; and that with a consistently high ratio of industry representatives.

**ECP-Journal:** Do you consider that the format of short presentations combined with partnering meetings is one that works well for the industry?

**Stebani:** The combination is excellent, but the two different activities should not be run together at the same time. My suggestion is that for example, the morning be dedicated to presentations and that the partnering discussions take place in the afternoon - alternatively, if even more participants are present this could be spread over two days. But maybe next time we'll just have to come along with more than just two people. Europe has so many innovative companies all along the chemical production chain; It will be difficult to reconcile all wishes and not everyone will be able to experience everything in one day; you have to plan to visit the ECP in a team.

*Continued on page 31*

Dr. Peter Fröhlich (PARFORCE)



Moritz Thiel (rise technologies GmbH)



From left:  
Seyed Schwan  
Hosseiny (CEN-Mat)  
and (Javier Grávalos  
(TOLSA S.A.)

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European Chemistry Partnering



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**ECP-Journal:** What are your reasons for thinking that chemistry in general and big companies in particular still have some catching up to do when it comes to innovation?

**Stebani:** Although large corporations enjoy financial and organizational strength, they often struggle with fundamental innovation. That doesn't have to be innovation of a "disruptive" character. "Innovation Tandems" consisting of corporations and innovative SMEs – not necessarily pure Start-ups, that is, completely new companies – can come up with much more elegant and targeted approaches to chemical innovation than always trying to accomplish this with "in-house" resources.

**ECP-Journal:** Do you think that Europe is in danger of losing touch with the rest of the world in the field of chemistry?

**Stebani:** In the area of basic chemistry that is already happening. Here the combination of energy costs, raw material costs and labor costs are the main drivers. Specialty chemicals and in particular interdisciplinary co-operation are far better implemented in Europe. To remain ahead it is no longer enough to be "just as much better as the others are cheap". New forms of co-operation are called for between agile individuals like the innovative SMEs and the well-established traditional concerns. In its latest publication the German R&D Association makes reference to the

percentage of outsourced R&D in the Chemical Industry. At ten percent this lies far behind the figures for the Automotive and Pharmaceutical industries at over 30 percent and the average for "R&D intensive industries" at 25 percent. This shows that there is enormous room for improvement.

**ECP-Journal:** If you were asked to make three recommendations regarding the ECP what would they be?

**Stebani:** I would encourage the team to continue to develop the breadth of participating companies, for example in the area of the large user industries of chemical products. In any case, the industry ratio should be maintained because this is where the ECP clearly differentiates itself from other events. And of course, Frankfurt as a venue is unbeatable, because of the city's highly international character and because Frankfurt is a wonderful logistics hub, not only for chemical products, but also for all of us people from everywhere in Europe and the around world.

*The interview was conducted by James Bryant*



Dr. Jürgen Stebani is the founder and CEO of Polymaterials AG in Kaufbeuren, Germany. Launched in 2000, the award-winning company is an innovation service provider specializing in new polymers and polymer compounds.



# EXHIBITORS OF THE 2<sup>ND</sup> ECP

**On the 2<sup>nd</sup> European Chemistry Partnering 53 Companies were represented with an exhibition booth. The exhibitors were offered a high visibility for their products and technologies.**

AnalytiCon Discovery GmbH  
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ASCA GmbH Angewandte Synthesechemie Adlershof  
Atmonia ehf.  
BCNP Consultants GmbH  
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# WANTED: RESOURCE INNOVATORS 2018

The Technical University of Berlin, Dechema, and Covestro are searching for ideas for alternative raw materials in the chemical industry.

**APPLICATIONS ACCEPTED UNTIL THE MID OF MAY**

By Covestro

**The winners of the Raw Materials Summit 2017 highlight new business opportunities for alternative raw materials.**

Who will be this year's resource innovators of the chemical industry? The second Berlin Raw Materials Summit on June 25 will honor the best business ideas for the use of sustainable sources such as plants and CO<sub>2</sub> instead of oil. The event, which will take place at the Technical University of Berlin, sends a signal inviting more entrepreneurial spirit in the chemical industry and increased joint efforts to promote the use of non-fossil raw materials. The organizers of this year's Raw Materials Summit are once again the TU Berlin, DECHEMA Gesellschaft für Chemische Technik und Biotechnologie, and the globally active materials manufacturer Covestro.

The sector already offers numerous promising approaches for the virtually oil-free production of chemical products and for their economical use. Germany can claim a pioneering role in this. The Raw Materials Summit makes a contri-

bution to the rapid realization of the interaction between many players in their respective business ideas and projects.

Start-ups concerned with the marketable use of alternative raw materials may apply online until May 11. An expert jury led by DECHEMA CEO Professor Kurt Wagemann and Professor Reinhard Schomäcker from the Institute of Chemistry at the TU Berlin will select the most promising business ideas. Last year, five young companies from the USA, Great Britain, and the Netherlands competed against each other in an ideas contest during the Raw Materials Summit and presented their projects. The top three winners received prize money donated by Covestro.

The top ranking company was LXP Group from Berlin, to which Dr. Markus Steilemann, Covestro Board of Management member responsible for innovation, sales, and marketing, presented a check for € 5,000. The company develops technical solutions for recycling plant remains without interrupting carbon and mineral cycles. Its procedure significantly increases the efficiency of biogas production facilities.



**Apply today!**  
Start-ups may apply for the Berlin Raw Materials Summit on June 25.  
Application deadline: May 11  
More information: [rohstoffgipfel.de](http://rohstoffgipfel.de)



## Farewell Oil

### New Resources – New Opportunities





# Participants of the 2<sup>nd</sup> ECP (I)

## Participants of the 2<sup>nd</sup> European Chemistry Partnering

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# „OUR PROSPERITY IS LARGELY DEPENDENT ON CHEMICAL PRODUCTION”

**Interview with Dr. Holger Bengs, Managing Director, BCNP Consultants GmbH and Initiator of the European Chemistry Partnering (June 2017)**

On the occasion of the successful launch of European Chemistry Partnering (1st ECP), the Platform Life Sciences spoke with Dr. Ing. Holger Bengs, CEO and founder of BCNP Consultants GmbH, on chemistry and imagination, reputation and vocation as well as business cards and ventures.

**Platform Life Sciences:** Dr. Bengs, you are, so to speak, the creator of European Chemistry Partnering, ECP for short. Does something like this not already exist elsewhere?

Bengs: Not to my knowledge. The European Chemistry Partnering is unique. This assessment is not just mine. Some of my network partners came up to me and said, “At first we thought you were crazy: Yet another event; but you have identified a gap in the market.”

**Please tell us a little more about the hype that surrounds “Good old Chemistry”.**

The time has come for the chemical industry and all of its user industries to generate new, fresh self-confidence. After all, 97% of the products surrounding us contain at least one chemical reaction step. Chemistry’s poor reputation is completely unjustified. Our prosperity is largely dependent on chemical production. What’s more, chemistry today is more diverse.

**Chemistry has become more diverse? But the periodic table has hardly changed,**

**except for some newly discovered things, which usually only shine for a short time - in a sense like models.**

(Laughs) That’s true to a certain extent. Some new radioactive elements have only just been given a name. But that’s not what I mean. I am talking about value chains, which are very much in the focus of European Chemistry Partnering. Classical chemistry, if you like, as we know it from school with the periodic table system is today complemented by new, sophisticated technologies: industrial biotechnology clearly belongs in this category.

**I have just learned that 97% of all products are actually chemically - industrially manufactured.**

Enzymes for example are changing chemical production. But also even companies that offer software or Internet technologies can be, for us, chemical companies. In the age of dig-

itization, new production channels are being forged out of the analysis of big data, thus saving on raw materials and, with the appropriate Apps are creating new purchasing and sales logistics. Not to mention new molecules that are physically, chemically or biologically developed from renewable raw materials or waste and waste flows.

**So, put another way, that means that a Biotech company is always a Chemical company too?**

Different strokes for different folks. I don’t want to haggle about definitions. It’s the market view that helps make the ECP event. What is the point of a Biotech company comparing its technology with other technologies? It’s not about Nobel Prizes, it’s about business. Take a look at the German market leader in industrial biotechnology, Brain AG. The company boasts BASF,

*Continued on page 39*



Dr. Holger Bengs in discussion with Platform Life Sciences Reporter Falko Bozicevic

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Clariant, Evonik and Henkel among its customers and partners, a veritable Who's Who of the chemical industry. We had 30 large companies on site, including many from the user industries. Please tell me an event where you can also find Beiersdorf, Celanese, Lubrizol, Wacker, Merz, Merck, Sanofi, Roche Diagnostics, Brenntag, Sibelco, Bayer Cropscience, Tolsa, DSM, Steel, Kuraray, Mitsui, Mitsui Chemicals, Covestro, Mitsubishi International. These are the customers and partners of the biotech companies, the nano-tech companies and so on.

**Dare I ask you this: Was there a highlight related to the event, be it in personal or official?**

The biggest compliment that we are really on the right track, I received just recently. One participating mid-sized company told me that now, four months after the event, they have closed deals with two major chemical companies. There had been no contact with either before. All in all, we had over 200 partnering meetings right from the start. From the ranks of the almost 40 chemistry Start-ups and medium-sized companies there were more than 20 Pitches. Ten Corporate Ventures and investors enriched the event. All in all, I would be very happy if a large number of the 140 participants from 15 nations have made similar great contacts - because in fact we do not receive such feedback from everyone retrospectively. But at the end the participants with their stacks of collected business cards all seemed very grateful and very satisfied.

**After the show is before the show: You were so visionary, as to provide your first event with the label "1st". So what's comes next?**

Perhaps that was a little intuitive, yes. But in truth we will continue next year:

On February 23<sup>rd</sup>, 2018, we anticipate well over 500 participants. Whereby, we will continue to pay attention to maintaining the high industry quota. After all, more than 90 companies in the chemical industry and their user industries were in attendance. Consultants pay a slightly higher entrance fee. The direct exchange of views with the aim of driving innovation will also be the core of the 2<sup>nd</sup> European Chemistry Partnering: discussions between entrepreneurs, innovation managers, investors, decision makers.

**You deliberately provoke a little with the statement "Chemistry makes the world go round", that could be understood by some as a kind of intellectual challenge.**

That's very clear - but again it's provocation and truth at the same time. The chemistry has to work - just like in this interview.

**Dr. Bengs, we will speak again in a year, but for now thank you for your stimulating insights.**

*The interview was conducted by Falko Bozicevic, Editor of GoingPublic Magazin.*

Dr. Holger Bengs is a chemist and entrepreneur. He supports his customers in the implementation of technologies and teaches Net-working ([www.netzwerken-mit-koepfchen.de](http://www.netzwerken-mit-koepfchen.de)). Bringing people together in an interdisciplinary fashion is his passion. He was a researcher with Hoechst and Aventis for seven years, as well as Managing Director of GoingPublic and, in 1999, co-initiator of today's Life Sciences Series.



# Statistics of the 2<sup>nd</sup> ECP (I)

## PARTNERING

At the 2<sup>nd</sup> European Chemistry Partnering 1,208 Partnering Meetings were confirmed. Participants from all over the world came in contact to make business. The following map shows an overview which countries partnered together.



## Be up to date

Don't miss any information about the 3<sup>rd</sup> European Chemistry Partnering on 26<sup>th</sup> February 2019.

Receive all important information such as registration deadlines, new participants, information about the partnering tool and usefull tips about the event.



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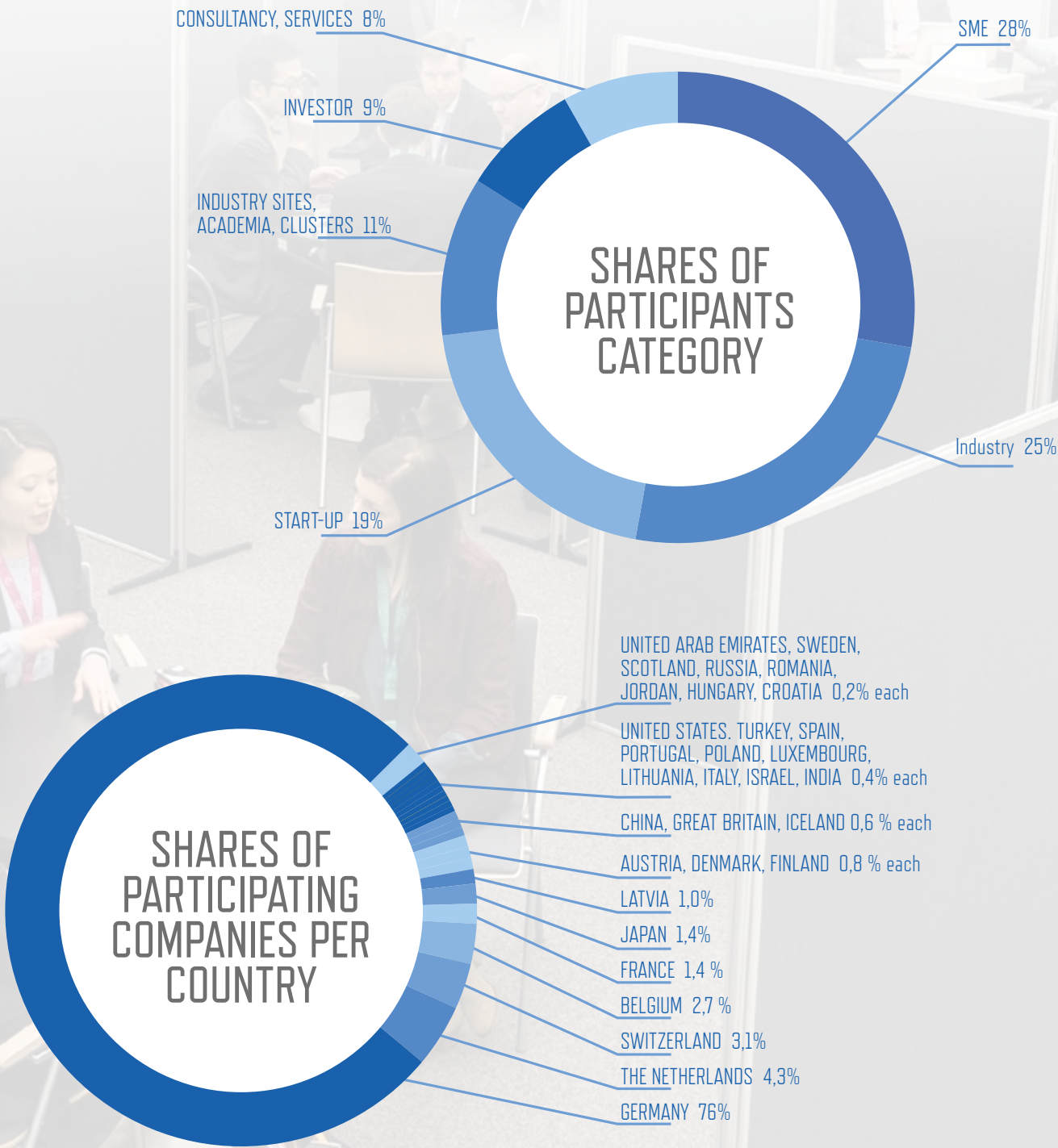


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# Statistics of the 2<sup>nd</sup> ECP (II)

## PARTICIPANTS



# ECP-Friends

"I felt at home"... that is what Daniela Ribezzo said last year about the 1<sup>st</sup> European Chemistry Partnering.

Organizer Holger Bengs and his team did their best to enable people to find each other and to do business. This year there were much more companies and much more participants at the 2<sup>nd</sup> European Chemistry Partnering.

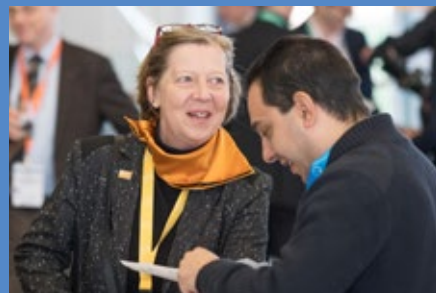
So you could feel at home among a whole group of friends – and what's more Holger has also asked some friends to help him to bring people together.

Karin Cabrera, Julia Schüler, Claus Nielutz and Matthias Poschmann were there to talk about any of the different topics shown on the displays.

You could easily recognize the four of them – they wore orange ties and scarves.



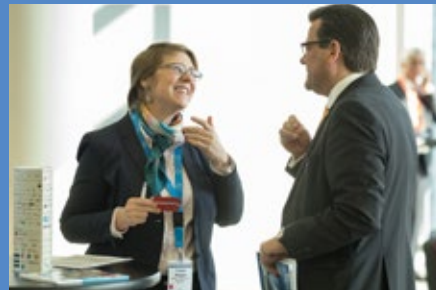
Dr. Karin Cabrera (Merck KGaA and ECP friend) and Dr. Gustavo Santiso-Quinones (Crystallise! AG)



From left: Dr. Dirk Rosencrantz (MK-Versuchsanlagen und Laborbedarf), Dr. Thomas Beck (Infraserv GmbH & Co. Höchst KG) and Matthias Poschmann (Polyoptics GmbH and ECP friend)



From left: Dr. Frauke Hangen (BioRiver - Life Science im Rheinland e.V.) and Claus Nielutz (Yinglian Health Pharmaceutical GmbH and ECP friend)



From left: Dr. Thomas Niemann (IHK Hessen innovativ) and Dr. Julia Schüler (BioMedServices and ECP friend)





# A FEW THOUGHTS ON LEGISLATION, INNOVATION AND SPATIAL ECONOMICS

By Dr. Rolf Albach

**Globalization:** The number of people that socially connect in global innovation increases dramatically. In the 1980s there were two networks in „East“ and „West“ that competed in space and propaganda but hardly interacted. „Globalization“ was at a low pace.

Now these networks merged. The output of this global network increases faster than linear. There are many proxies to illustrate this: Patents are one of them.

## 30 years rise and globalization of intellectual property

The world intellectual property organization (WIPO) supplies related data. It would be easy to criticize this approach. Only a few segments of the industries and services use patents. Patent strategies and the hurdles of inventiveness vary from country to country, from industry to industry and

property (IP) as an asset, drive patent applications differently from country to country. Only very few of the ideas expressed in patents will materialize. The Gartner „hype cycle“<sup>1</sup> applies for all types of innovation also beyond IT<sup>2</sup> and most inventions will not only see the „peak of inflated expectations“ but also the „through of disillusionment“. Few will make it up the „slope of enlightenment“ to the „plateau of productivity“.

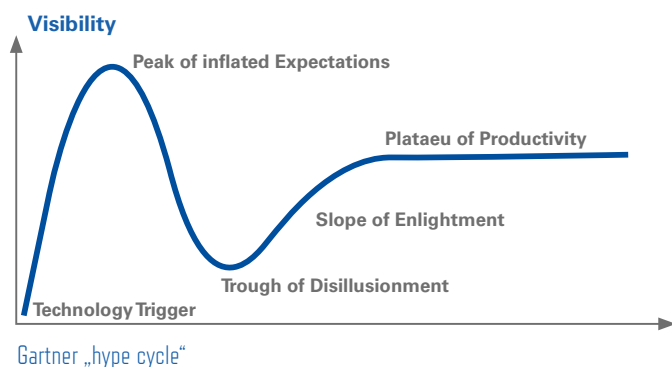
Despite all potential criticism the WIPO-data serve reasonably well to illustrate what happened in the last 30 years in the informal social and economic networks that drive global technologies.

The growth of IP in digital technologies is hardly a surprise, but even in chemistry the number of annual patents quadrupled. The WIPO statistics suggest two factors. First there is

the growth in the number of people involved. The size of the network that contributes to the generation of patents expands and intensifies and the output increases accordingly. The WIPO

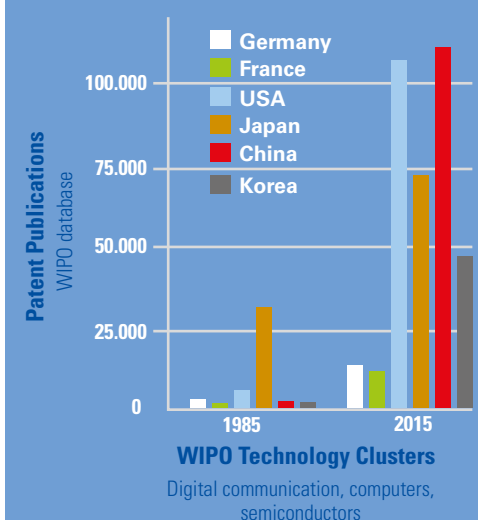
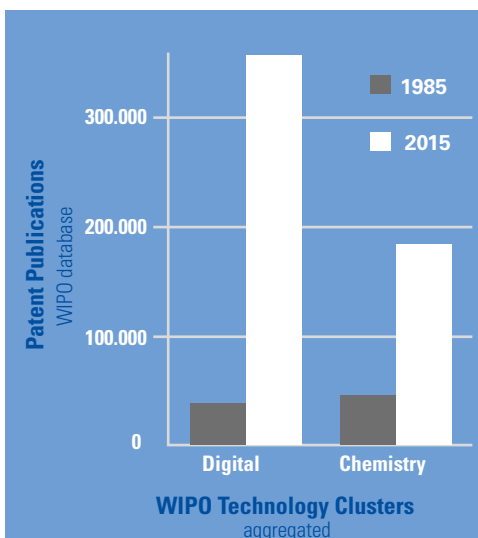
Some<sup>4</sup> call this equalization of access to education and change of location of economic power centers „Globalization 2.0“.

The average annual growth rates for patents in fine chemicals and polymers are about 2% in France, USA and Japan. Germany lags with only 1%. The mayor additional contribution to the global know-how comes from Asia.



from company to company. Bookkeeping rules like IFRS, that allow activating in-house generated intellectual

statistics for fine chemicals and polymers illustrate the dominant effect of the growth of contributors in Asia.



### Innovation: the scene in pharmaceuticals is different from chemistry

In Germany, Japan and France the annual number of patents grew by 1–2% per year similarly to the other categories of the chemical industry. The growth rate in the US was 21% per year. China caught up and outpaced the US. Korea is now on a level with France. Again, the number does not say anything about the value. It is shown here to illustrate the change of intensity of the output of R&D-networks.

### Start-ups are part of the difference between Chemistry and Pharmaceuticals

One quarter of the active pharmaceu-

tical ingredients API registered in the US in 2016 stems from start-ups less than 15 years old. 25% stem from the start-ups from the 1970s and 1980s. Here chemistry and biochemistry merged. It is a beautiful illustration for the possibilities that open when mashing up faculties. None of those API is registered by a company incorporated in Germany. IDEA Pharma<sup>3</sup> regularly publishes a scoring of the pharmaceutical industries ability for innovation. In 2017 the German companies ranked 18<sup>th</sup>, 25<sup>th</sup> and 28<sup>th</sup>. The deliberate waiving of support for biotechnology in Germany 30 years ago was not encouraging young Germans to go for a career in that technology – at least not at home. Universities in Germany, France and Japan do not support start-ups the same way in the past as Anglo-Saxon universities did. The connection between the academic and the industrial networks varies over the globe. My own analyses from 1998 relating polyurethanes showed that industrial scientists in US published significantly more in academic journals than their counterparts in continental Europe. This was independent of the location of the company's headquarters: the trend was similar for DOW and BASF. There is a tradition of political resistance against a deep co-operation of industry and universities in Europe although such cooperation exists in large numbers. Experience in the industrial part of the global scientific network adds to the competence of a scientist but, in some countries, jeopardizes his credibility in politics.

### Legislation fuels Innovation

The impact of these culturally related differences in the speed of innovation should be a concern of legislation.

Today the networks of Science and Innovation are hardly connected to the

legislative networks unless for regulation of chemicals.

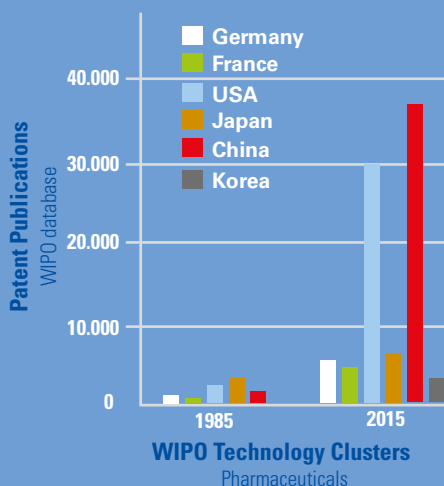
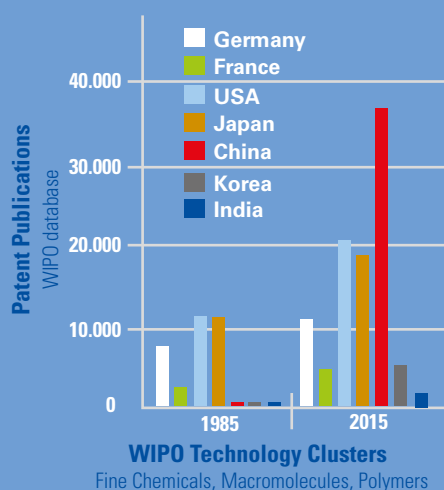
The distribution of public funds within German science is highly autonomous. Looking to other countries this freedom of science is of high value and needs to be vigorously defended. The number of scientists from industry that participated in the 2017 “March for Science” was extremely low compared to academic scientist – why? Who will be the contributors to the ongoing public consultation of the EU regarding the 9<sup>th</sup> framework program?

The links between science and legislation are loose in Germany. Politicians hardly go to networking events where scientists meet. There are very few Scientists that engage successfully in Politics. The German chancellor is one of the few exceptions.

### Politics initiate networks – but hardly participates yet

Networks, platforms and clusters have been a typical instrument for politics to strengthen regions in increasing spatial economic competition<sup>5</sup>. In the German state of Northrhine-Westfalia the association „Bioriver“ promotes the biotechnology business, others care for nanotechnology and photonics<sup>6</sup> or plastics<sup>7</sup>. Many of these associations enclose only one or two steps in the value chain. This is probably insufficient for a sustainably productive business ecosystem.

The industry association ChemCologne, the association of German engineers VDI and the association of German chemists GDCh organize networking between the established industry and newly founded enterprises. Even if politicians go to such meetings for a keynote speech they usually meet scientist in advocacy roles. They wouldn't understand research any-





ways – wouldn't they? If more scientists would engage they would.

The former president of the HHL, one of the top East-German business school and now minister of economy and digitization in Northrhine-Westfalia, Prof. Dr. Andreas Pinkwart (FDP), commented in a recent interview<sup>7</sup>: „Only those networks will have a future that live up to the diversity of future customer needs and work as a really effective hinge between science and economy“. Shouldn't we add that they need to include politics and society? Pinkwart concluded „Clusters and platforms are indispensable for the future of our business if they pay into innovation and digitization“. The platform "Researchgate" tried to do just this on a global scale. It is now jeopardized because legislation has not solved conflicts related to changing attitudes about intellectual property.

Innovation networks need clarity on IP. If public administration and politics initiate clusters they are well advised to set encouraging and reassuring rules regarding IP. A supportive and clear legal framework is the prime task of politics.

### **Innovation to drive legislation: the case of authenticity**

We observe that many companies are concerned about intellectual property and the impact on public support if open questions were openly discussed. Isn't the lack of discussion a threat, too? Bookkeeping rules are not aligned with the rules of bootstrapping, some legislation has provisions for experiments, some doesn't.

Autonomous driving or biomedicine are typical issues where legislation is an integral part of innovation. They are not the only ones. Legislation and R&D

have to talk about simplifying growth - not only through dedicated departments and associations but through those who are authentically working in R&D or business development.

### **"Partnership for the goals"**

Science is about change. Politics is about change. When both talk to each other they often address, what they don't want the other to change. This is not sustainable. The last and most important of the 17 "sustainable development goals" of the United Nations is "partnership of the goals". We need more politicians from R&D, more people from corporate R&D regularly teaching in universities, students in innovation clusters, innovation networks along longer and broader parts of the value chain.

Couldn't we, by contrast, just slow down? The network of R&D and innovation is moving and accelerating. The WIPO statistics speak a clear language. Most of us want to be part of the global society and have an impact. "Entschleunigung" ("deceleration") is a popular political claim in Germany but no good advice. Let's keep up with the global network, gain pace in our special economies and societies. Let's have an impact to the global society through sustainable products, services, invention, innovation, culture and people.



Dr. Rolf Albach holds a PhD in chemistry from the Technical University of Munich and an MBA from a joint program of WHU and Kellogg. He is working for more than 20 years for a multinational chemicals group and in regional politics in Cologne and Leverkusen. He is member of the working group „Science and Education“ of the council of the Metropolregion Rheinland (rhenanian metropolitan region). He is building up rowial intermaterials for concept design and communication between chemistry and politics.

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# WANTED! NEW INNOVATION STRATEGIES.

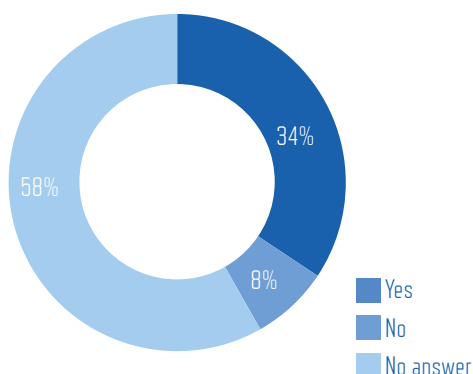
By **Stephan Haubold**

The chemical industry is thought to be one of the most innovative and productive industries not just in Germany but throughout the world. Thus we performed a survey to evaluate our assumption, that there is much more potential for new business models and start-ups in the chemical industry, than we currently observe in Germany.

The 2<sup>nd</sup> European Chemistry Partnering in Frankfurt was the perfect opportunity to personally meet decision makers of the chemical industry. Supplemented by a mailing to companies across several industries in the state of Hesse, we were able to collect 67 completed forms of which 41 described themselves as Chemical Industry. We asked the companies representatives how many of the organizations' ideas and inventive potential they believe is currently transformed into new business models.

We then asked them whether there are ideas within their organization that they see great potential in but are rejected without evaluation. 34% participants answered with „yes“ and only 8% with „no“. 58% participants could not tell. (Figure 1)

Figure 1: „Are there ideas within your organization that you see great potential in that are rejected without evaluation?“

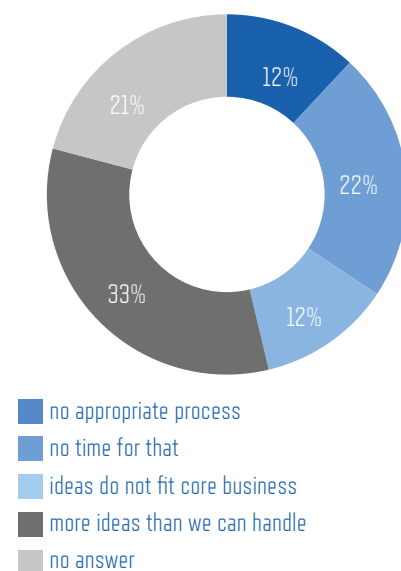


We then asked why ideas are being rejected without evaluation. 12% participants answered „because we don't have an appropriate process“, 22% said to have no time for that, 12% „because these ideas do not fit our core business“ and 33% „because we have more ideas than we can handle“. (Figure 2)

The results suggest that a third of the companies have more innovative ideas than they can evaluate regarding their potential market value. We also found that more than a third of the companies reject ideas, even though they are thought to have great potential. 12% of the participants pointed out, that cross border innovations are especially often rejected unevaluated.

Chemical industry has significantly more potential for innovations especially for cross border innovations 23% of the participants confirmed our assumption that a great amount of innovative potential is left unevaluated because they have either not the resources, nor the process nor the political will

Figure 2: „Why does your organization reject ideas unevaluated?“



to go after them. However, 58% of the participants didn't answer this question, and we will look into this cohort in more detail in surveys to come. Over all we feel reassured in our goal to develop and test alternative innovation strategies for an industry that leaves a big part of their innovation potential to their competitors.

More results, in more depth and detail will be published, soon.



Dr. Stephan Haubold studied chemistry at the university of Hamburg and started his first chemistry start up in 2000. He joined the Fresenius University of Applied Sciences in Idstein where he became Dean of Business Chemistry and MINTrepreneurship in March 2018. Besides teaching he is currently establishing the Institute of MINTrepreneurship where he offers his new innovation strategy "innovation as a start up" to SMEs of the chemical industry.  
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