



COORDINATED PRODUCTION  
FOR BETTER RESOURCE EFFICIENCY

# Digitalisation for Sustainability

**Dr. Stefan Krämer**

*Bayer AG – Leverkusen, Germany*



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Prof. Dr.

## Stefan Krämer

Head of Process Performance Improvement, Bayer AG  
Honorary Professor, Technical University of Dortmund

- Master in Chemical and Process Engineering  
University of Newcastle upon Tyne
- PhD in Process Control  
Technical University of Dortmund
- APC Engineer, DCS Team Leader, Energy  
Manager at INEOS in Cologne
- **Currently: Head of Process Performance  
Improvement, Bayer AG**

### Other activities

- Honorary Professor, Technical University of  
Dortmund
- Working Area Leader NAMUR AF2  
Automation Systems for Processes and Plants
- Active in regional and EU wide research projects  
(MORE, DYMASOS, CoPro, soptimo+, KEEN)
- Co-Editor of the book:  
“Resource Efficiency of Processing Plants”



Ministerialdirigent

## Karl-Uwe Bütöf

Ministry of Economic Affairs of North Rhine-Westphalia  
Head of Department “Innovation and Markets”

- Degree in engineering (Dipl.-Ing.)  
University of Dortmund  
Land-use Planning/Urban Development
- Head of the Regional Planning Section  
District Government of Düsseldorf
- Personal aide and press spokesman for  
Government President Dr. Fritz Behrens
- Ministry of Construction  
of North Rhine-Westphalia
- Ministry of Economic Affairs  
of North Rhine-Westphalia
  - Head of the office of  
Minister Peer Steinbrück
  - Head of Department “Industry and Technology  
Policy, Foreign Trade”
  - Head of Departments “State Economic Policy,  
Digitalization, Industry, Service Sector, Lead  
Markets, Foreign Economic Relations”



Dr.

## Klaus Schäfer

Chief Technology Officer of Covestro AG

- Dr. Klaus Schäfer is member of the Board of Management since 2015. He is Chief Technology Officer (CTO) at Covestro and responsible for production and technology as well as all chemical production sites.
- Previously, Schäfer was head of Production and Technology in the Polyurethanes segment, was the Country Representative in China for predecessor company Bayer MaterialScience, and Managing Director of German site operator Currenta, which provides services to Covestro at the Dormagen, Krefeld-Uerdingen and Leverkusen sites.
- Born in Bruehl, Germany, in 1962, Schäfer studied physics at university of Cologne. After obtaining his PhD, he worked for Erdölchemie and BP before joining the Bayer Group in 2001.
- Since Jun 2019, Schäfer is a member of the supervisory board of TÜV Rheinland AG.



Prof. Dr.

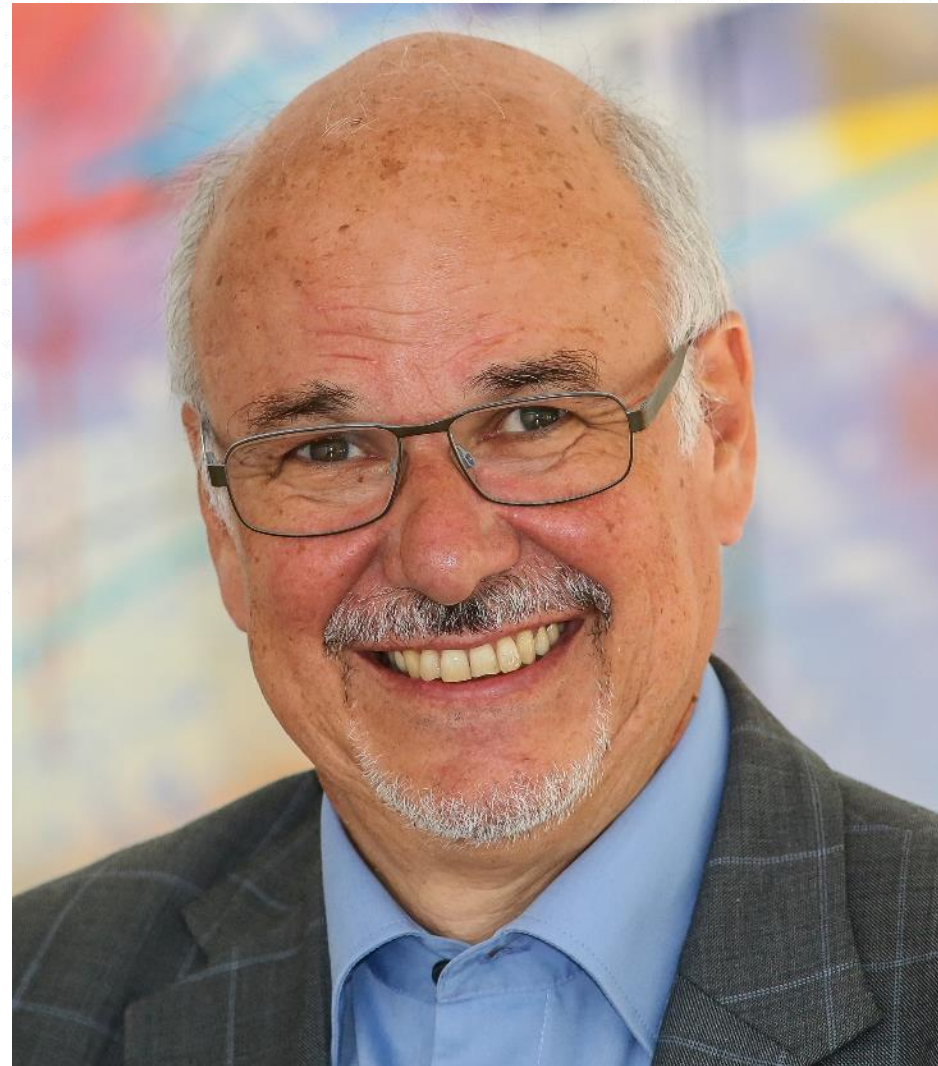
## Sebastian Engell

Professor of Process Dynamics and Operations

Coordinator of CoPro

TU Dortmund

- Dipl.-Ing. Degree in Electrical Engineering  
Ruhr-Universität Bochum, Germany
- Dr.-Ing. Degree and the *venia legendi* in  
Automatic Control, Universität Duisburg
- Head of an R&D group  
Fraunhofer Institut IITB in Karlsruhe, Germany
- Appointment of Full Professor of  
Process Dynamics and Operations at  
TU Dortmund in 1990
- European Advanced Investigator Grant for the  
Project MOBOCON in 2012
- He has led several EU projects, among others  
the Support Action CPSoS which developed a  
Roadmap on Research and Innovation in Cyber-  
physical Systems of Systems



Dr.

## Udo Enste

CEO, LeiKon, Herzogenrath

- Degree in engineering (Dipl.-Ing.) in 1995
- 1995-2000 Ph.D. student at the Institute of Process Control Engineering, RWTH Aachen
- 2000 granting of a doctorate in engineering science (Dr.-Ing.)
- since 2000 founder and managing director of LeiKon GmbH

### Additional activities:

- since 1997 member of the German normative DIN DKE committee K931 'System aspects in automation and process control'
- since 2011 chairman of the German working group in NAMUR 'MES' (Manufacturing Execution Systems)
- since 2013 lecturer at Rhine-Waal University of Applied Sciences, Kleve, Germany



## Jane Arnold

Head of Global Process Control Technology, Covestro AG

- Jane Arnold is the Head of Global Process Control Technology at Covestro since 2017.
- Arnold joined the Bayer group in 2005 at the Baytown, Texas production site.
- She has a degree in Mathematics from the University of Houston and 30 years of experience in Process Control Technology.
- Her responsibilities include all systems, instrumentation and electrical power that run Covestro production facilities at over 30 sites globally.
- Her major focus is to improve Digitalization in Manufacturing with a goal of developing a cognitive digital plant.





## → Coffee Break



## Jürgen Tiedje,

European Commission, DG Research & Innovation,  
Head of Unit “Sustainable Industry Systems”

- Heading the unit since 2017
- The unit in charge of developing work programmes under Horizon 2020 and Horizon Europe, in particular for process manufacturing.
- It works closely with industries in a contractual public private partnership (SPIRE).
- It is also managing more than 200 H2020 projects.



## Angels Orduna

Director of A.SPIRE

- A seasoned EU and international collaboration leader with proven track record championing success in technology and business development through multi-partner, multi-country and multidisciplinary collaboration.
- With an academic background in International Relations, she has managed and led a number of RDI projects in the EU and Canada in technology areas related to value chain productions and enabling technologies such as ICT, energy, renewables, environment, advanced materials or manufacturing.
- She now runs the SPIRE Association (A.SPIRE), representing the private side in the SPIRE Public Private Partnership (Sustainable Process Industry through Resource and Energy Efficiency).



Dr.

## Martin Winter

CEFIC

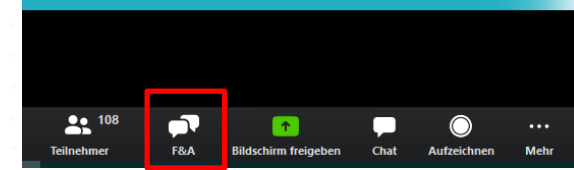
- PhD in chemistry 1998 from Max Planck Society, postdoctoral stay with Scripps Research Institute in the U.S./California
- Joined Swiss specialty chemical company Clariant in 1999 including functions in R&D, Marketing (electronic materials), New Business Development and Corporate Venturing
- Seconded to Japan/Tokyo to setting up Clariant incubator business and manage R&D collaborations
- Since 2015 seconded to Cefic, Brussels
- Member of the Industrial Research & Innovation Advisory Group IRIAG and the Partnership Board of A.SPIRE acting as the Chair of the Digital Technologies Working Group
- Member of the Industrial Advisory Committee IAC of the Partnership for Advanced Computing in Europe (PRACE)
- Drive discussion between stakeholders, e.g., innovators, policy makers, funding instruments, industry, SMEs, venture capital, entrepreneurs, academia, students and others teaming-up to support a sustainable chemical industry in Europe



# “Rules of Engagement” for the Panel Discussion



- Karl-Uwe Büttof
- Klaus Schäfer
- Sebastian Engell
- Jürgen Tiedje
- Martin Winter



- Auditorium
  - Please pose questions in the Q&A (F&A), we will try and answer them.
  - Please indicate the addressee of your question or whether it is general
  - We cannot guarantee that all questions are answered
- You can ask question directly, if you wish, please raise your hand, we will try and put you on
- *We not professional talk show hosts, so bear with us!  
There is always a first time!*