

## Tackling the Future of Plant Operation

Jointly towards a digital process industry

The final project event of CONSENS took place in Barcelona, Spain, on 13-14 December 2017. Pursuant to the title 'Tackling the Future of Plant Operation – Jointly Towards a Digital Process Industry', it was organized jointly by CONSENS and four other EU-funded research projects as an interactive workshop. The participants complimented the projects for the great results and the trendsetting format of the event.



More than 100 participants attended the event. They were experts and managers from process and life science industry, technology providers, research organizations and academia. The attendees learned about numerous promising technologies that were developed for optimal process and plant operation: novel online sensing equipment, flexible control methods, and data-based technologies.

In interactive parallel workshop sessions, the participants discussed how to continue with the development and the cross-sectorial exploitation of these technologies. The next steps towards the digital manufacturing in process industry were considered, and plans were made for future collaborations.

The participants, including the EU programme officer Ivan Scannapiecoro, were enthusiastic regarding the new technologies and the format of the event. It was very much appreciated that the five EU research projects CONSENS, DISIRE, iCspec, ProPAT, and RECOBA presented and discussed their results in a joint event. All five projects are funded in the H2020 programme under the call SPIRE-01-2014 on "Integrated Process Control".

The coordinator, Manuel Pereira Remelhe from Bayer, presented an overview on the CONSENS project including many outstanding highlights from various CONSENS partners. Michael Maiwald from BAM covered in his presentation the spectrum from Industry 4.0, to smart sensor technologies, and to the unique explosion-proof and fully automated online NMR sensor. And Sebastian Engell from TU Dortmund gave a brilliant talk starting from current trends in chemical industry, motivating the need for modular plants, and explaining the differences of central and modular MPC for plantwide control of modular plants. These contributions were definitely highlights of the first day of the event.

In the second day, the good impression was then consolidated in the parallel interactive workshop sessions: The CONSENS partners provided many high-quality posters which were discussed in small groups of participants focussing on potential applications and future exploitation.



The CONSENS Project Partners are proudly looking back on the big success of this event!

**“** The event in Barcelona was very well organized and offered a clear picture of some key technology trends in the chemical industry, as well as occasions for networking and finding opportunities for further exchange of ideas. The development of new sensing technologies is fundamental for the optimization of complex processes, and the oil industry is no exception. The outcomes of CONSENS create opportunities for collaborations on research projects that our Company has been developing over last years. CONSENS provides also an insight into different approaches to advanced process control: we are carefully monitoring these developments, as digitization is unlocking new and better ways to use available data for performance improvement. **”**

Francesco Mura, Digital Platform Manager - Technology & Process,  
Saras S.p.A – CONSENS Cross-sectorial Advisory Board member



The contributions from the CONSENS project were quite impressive: Andre Convents from Procter & Gamble provided an inspiring keynote speech on digitalisation strategies.



## About the project

- **Start Date:** 1st January 2015
- **Duration:** 36 Months, until 31<sup>st</sup> December 2017
- **Budget:** 6 million €
- **Project web site:** [www.consens-spire.eu](http://www.consens-spire.eu)
- **Coordinator:** Manuel A. Pereira Remelhe, BAYER

## CONSENS consortium members



**Bayer AG** - a Life Science company with a more than 150-year history and core competencies in the areas of health care and agriculture.



**Arkema, France** – a global chemical company in the area of specialty chemicals and advanced materials holding leadership positions in all its markets, and with a portfolio of internationally recognized brands.



**TECHNISCHE UNIVERSITÄT DORTMUND, Germany** – a leading German technically oriented research university with strengths in chemical engineering and in the operation of chemical processes.



**Nederlandse Organisatie voor toegepast natuurwetenschappelijk onderzoek TNO, Netherlands** – TNO connects people and knowledge to create innovations that boost the competitive strength of industry and the well-being of society in a sustainable way.



**Procter & Gamble Services Company NV, Belgium** – an innovative multinational consumer goods company of leading brands for personal care products, baby care products, fabric and home care products and perfumes.



**Clariant Produkte (Deutschland) GmbH, Germany** – a leading specialty chemical company contributing to value creation with innovative and sustainable solutions for customers from many industries.



**Invite GmbH, Germany** – a research joint venture between TU Dortmund University, Heinrich-Heine-University Düsseldorf and BAYER AG, delivering powerful ideas for the chemical, pharmaceutical and biotechnology industries.



**BASF SE, Germany** – the largest chemical producer in the world with a portfolio ranging from chemicals, plastics, performance products, and crop protection products to oil and gas.



**BAM Bundesanstalt für Materialforschung und -prüfung, Germany** – a Federal Institute for Materials Research and Testing ensuring ongoing safety in technology and chemistry by innovative measurement and testing technology.



**Università degli Studi di Cagliari, Italy** – a university established in 1606 with cutting edge research and multi-discipline education and with strengths in chemical engineering and data-analysis.



**Krohne Messtechnik GmbH, Germany** – a world-leading manufacturer and supplier of solutions in industrial process instrumentation.



**Rhodia Operations, France** – part of Solvay, a global chemical group assisting industries in implementing ever more responsible and value-creating solutions in many markets, from energy and the environment to automotive and aeronautics or electricity and electronics.



**inno TSD, France** – one of Europe's leading innovation management consultancy firms, specialised in helping major private and public stakeholders design and implement R&D and innovation projects.



**Coatex SAS, France** – a world leading designer and producer of water-based rheology additives. Coatex deploys its expertise on multiple markets.



**atlan-tec Systems GmbH, Germany** – a solution provider for process data analysis and process optimization with an experience of more than 20 years.