The final presentation program will be available on our website www.hosokawa-alpine.com/AlpineExpo2015 before the exhibition. All presentations will be held in English only.

**Presentations:**

**Increasing the Energy Efficiency of Milling Processes**  
*Prof. Dr.-Ing. Arno Kwade, Institute for Particle Technology, Technische Universität Braunschweig*

The challenge is to develop a strategy to maximize the energy efficiency based on an objective efficiency number. The overall energy dissipation is determined by the energy transfer from the mill drive to the product particles including the material transport inside the mill and due to the breakage of the particles itself. Strategies are shown how different mills offer different energy efficiencies and how by adjusting the operating parameters the efficiency can be increased.

**Coating of Ultrafine GCC Fillers – How to achieve Top Quality**  
*Mr. Charles Vergé, FMPC - Fillers & Minerals Process Consulting, Perpignan, France*

The quality criteria for coated calcium carbonate fillers, over the years, became higher and higher. Any standard coating process is often no more sufficient. Therefore a new coating process was developed, which assures top coated GCC quality, at high capacity at much lower energy demand.

**Hygienic Design – Requirements for powder handling**  
*Dr.-Ing. Franz Mader, Hygienic Design Weihenstephan*

The presentation gives an overview of the topics: Principles of Hygienic Design, Legal Framework; Wet versus Dry Cleaning in the food industry, EHEDG-Design criteria; Hygienic Design Certified System.

**Explosion protection of milling plants - the state of the art**  
*Dr. Bernd Broeckmann, INBUREX CONSULTING GmbH - Fire and Explosion Protection*

Milling plants - usually consisting of a mill, a filter and auxiliary equipment for feeding and discharge - have to be protected against the consequences of explosions for a variety of products. Possible combinations of protective systems will be presented and the limitations of their applications due to the dynamics of the explosion will be explained.

**Waxes, wax mixtures and natural waxes for grinding**  
*Dr. Ernst Krendlinger, Head of R&D, DEUREX AG*

Waxes are difficult to grind and more difficult to micronize. But if you have the correct wax mixture, then you can well micronize these waxes. The new natural wax (Sugar Cane Wax from DEUREX) may be good milled and micronized, but you have to know how to do that.

**Analysis of the dynamic comminution process in fluidized bed opposed jet mills**  
*Mr. Benedikt Köninger, M. Sc., Institute of Particle Technology (LFG) – Friedrich-Alexander Universität Erlangen (FAU)*

The talk is about the dynamic process behavior of fluidized bed opposed jet mills. It includes the investigation of the fluid dynamics in the multiphase flow. Additionally the influence of start-up and shut-down processes on the comminution kinetics is analyzed. The goal of the project is to develop a dynamic process model for a flow sheet simulation tool.

**Celitement - Reducing the CO₂ Footprint of Cement**  
*Dr. Peter Stemmermann, Karlsruhe Institute of Technology*

Celitement, a novel cementitious binder with high-performance is scheduled to enter the market in 2019. Celitement and its production process are proprietary inventions of the Karlsruhe Institute of Technology. An exclusive license has been issued to Celitement GmbH, a spin-off of the Karlsruhe Institute of Technology and the industrial partner, the SCHWENK group. Preparation, properties and current status are presented.
Pigments in Papermaking  
**Dipl. Ing. (FH) Olaf Tamms, UPM GmbH Augsburg**

The paper industry is using a large variety of raw materials with pigments playing an important role. Pigments are used in papermaking to improve the optical paper properties and the printability. In addition pigments also improve the application process of the coating colour and the runability in printing house. Further on pigments can help to improve the overall cost situation. Therefore pigments are selected and adjusted according to their final usage.

Investigations on Ball Mill - Classifier Loops for Processing of Ultrafine Mineral Materials  
**Dipl.-Ing. Mathias Polster, Dr. Andre Kamptner, UVR-FIA GmbH**

Numerous semi-industrial grinding tests with various mineral materials have been performed by UVR-FIA in the past 20 years. Based on this treasure trove of experience the challenges, chances and limits of ultrafine grinding in ball mills are illustrated. As a result recommendations are given with regard to mill design, grinding media and plant operation.

Latest technologies for energy-efficient air supply  
**Mr. Thomas Ludwig, Atlas Copco Kompressoren und Drucklufttechnik GmbH, Essen**

Approximately 80% of the total lifecycle cost of compressors is apportionable to energy. For this reason, Atlas Copco has been striving for greater energy efficiency for many years, with the aim of boosting customer’s productivity in the long term. The latest developments can help to achieve significant savings.

Cost Efficient Wet-processing, Drying and Coating of Ultrafine GCC Fillers  
**Mr. Alexander Auer, HOSOKAWA ALPINE Aktiengesellschaft – Minerals & Metals Division**

The energy consumption is the key cost factor in the mineral filler production. Wet processing and drying is a way to reduce the energy costs for ultra-fine CaCO3 fillers. A techno-commercial introduction of the wet grinding, drying and coating system.

New Jet Mill Technology – MJQ  
**Mr. Matthias Maurer, HOSOKAWA ALPINE Aktiengesellschaft – Minerals & Metals Division**

The fluidized-bed jet mill AFG is THE jet mill for numerous applications. Tests with a newly developed jet mill technology show advantages for certain products. Design features of the new technology and latest test results will be presented.

Screening of mica – a challenge for the Allgaier tumbler screening machine  
**Mr. José Antonio Garcia Serena, Allgaier Process Technology GmbH**

Mica is one of the most difficult materials to screen, in the sector of Minerals. Mica has different requirements to the screening application; Allgaier screening machines can be adapted, depending on the process. High standards to the machine are required, if we talk of cut points around 60 micron.

Automated handling of difficult powder raw materials  
**Mr. Jochen Weimer, Bachelor of Engineering, AZO GmbH + Co. KG, AZO®Chem**

Automated handling of powder raw material with difficult product characteristics – The relationship between process behaviour and material properties.

High Pressure vs. Low Pressure Jet Milling of Graphite and Talc  
**Ms. Ingrid Löhle, HOSOKAWA ALPINE Aktiengesellschaft – Minerals & Metals Division**

This presentation is discussing the fine grinding of Graphite and Talc on Jet Mills with low and high pressure. Energy consumption as well as investment costs of both procedures are compared.

Mobile Pilot Ball Mill Plant – Container Solution  
**Mr. Christian Harmert, HOSOKAWA ALPINE Aktiengesellschaft – Minerals & Metals Division**

Introduction of a mobile pilot Ball Mill – Classifying system as a container solution.
### Optimizing milling process with measuring devices

**Dipl. Ing. Stefan Zoebisch, Endress+Hauser Messtechnik GmbH+Co. KG**

The ability to do more with less is now the new benchmark in the primaries industries. Lower material grades are driving an acute need for ever-better automation and controls. With examples out of industry cost savings and improvements in efficiency are showing for correct dosing of grinding agents with appropriate measuring devices.

### Energy Efficient Dry Processing of Ultrafine GCC fillers below $d_{97} = 10 \mu m$

**Mr. Dietmar Alber, HOSOKAWA ALPINE Aktiengesellschaft – Minerals & Metals Division**

This presentation is discussing available technologies of energy efficient dry processing of ultrafine GCC at a fineness $d_{97} = 2$ to $10 \mu m$. In particular ball mill /classifier loops versus stirred vertical media mills in circuit with classifiers will be compared.

### Wet process fine classification and highest dewatering with sedimentation centrifuge

**Mr. Tore Hartmann, GEA Westfalia Separator Group GmbH**

Mineral substances such as calcium carbonate from marble and chalk, titanium dioxide, kaolin talc, for use as pigments for paper and dispersion paints, filler for porcelain, etc. are processed after mining by grinding, subsequent classification and concentration. Decanter centrifuges and nozzle disc stack centrifuges find application in the concentration of the aqueous suspensions and in wet classification.

### Micronisation of Hard Minerals below $d_{97} = 20 \mu m$

**Mr. Lothar Wörle, HOSOKAWA ALPINE Aktiengesellschaft – Minerals & Metals Division**

The market demands more and more finer products even for hard minerals like silica and zircon sand. We show state of the art technology solutions for production of hard minerals from standard grades to products in the nano range.

### Minimizing interfaces by designing integrated, modular components and processes

**Mr. Frank Schnur, HAVER & BOECKER – Chemical Division**

Facilities modularity in the chemical industry continues to play an increasingly important role. Operators of modular facilities respond flexibly to the most diverse requirements during the entire production process and can realize necessary changes in the production more quickly. It is of fundamental importance to minimize interfaces and thus avoid frictional losses. How this can be put into practice will be reviewed in the presentation.

### Metal Powder Processing – Cases Studies of Classification and Micronisation

**Mr. Marco Hauk, HOSOKAWA ALPINE Aktiengesellschaft – Minerals & Metals Division**

This presentation shall introduce the processing of different metal powders by discussing some case studies. Special precautions for flammable or dust explosive product will also be introduced.

### Evaporative cooling as a method for the reduction of the energy consumption on drying sand

**Dipl. Ing. Pascal Binder, ALLGAIER Process Technology GmbH**

As particularly in the construction material industry there is heavy pressure on prices at the producers along with high production quantities, energy-efficient design of the drying process is particularly important. The presentation is a summary of a Bachelor Thesis which compares standard sand drying processes with combined drying and cooling drum system Mozer® TK+.

### CIP cleaning for milling plants – A new way in servicing

**Mr. Bernhard Öttl, HOSOKAWA ALPINE Aktiengesellschaft – Food Division**

A programmed and automatic operated CIP process can reduce the working time for cleaning between two batches. The cleaning process is all the time reproducible and reliable, and the system is available for an increased number of batches. Presentation by an example from an installed pin mill system.

### Containment – A Modern approach

**Mr. Carl Emsley, Hosokawa Micron Ltd.**

From the leaders in Containment Technology, redefining the risk approach to equipment selection criteria, which equipment is best suited for which containment level.