INDUSTRIAL APPLICATION OF DEM & CFD-DEM

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Many industrial processes, e.g. catalyst production, tablet coating, powder conveying or mining, deal with particulate phases with different particle sizes, shapes and properties. Many of these processes are dominated by the particles and therefore an adequate knowledge of the process and the underlying operating units is crucial for being cost efficient and competitive.

Although particle processes are widely applied and of fundamental importance, their design and prediction are often based on empirical knowledge. Discrete Element Method (DEM) and Computational Fluid Dynamics coupled to DEM (CFD-DEM) helped to solve some of the challenges and bear potential to do so in the future.

This session focuses on all aspects enabling industry to face future challenges: specific contact models (e.g. for pastes), new calibration routines (e.g. for cohesion) or new coupling approaches (e.g. with magnetic fields) as well as examples of successful process predictions at industrial scale.