



Company News

EDEM and The Barnes Group Advisors collaborate to advance Use of Simulation in Additive Manufacturing

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Additive manufacturing (AM) is a rapidly growing industry. One common form is based on the repeated laying of powders that are selectively hardened using laser sintering or binding agents. The specific composition and behavioral traits of the powder used in this type of AM is highly influential on printer set-up and the build quality of the final part. Introducing a new powder into an AM process means that the set-up and design of printer components and operational conditions needs to be reviewed and configured to handle this new material effectively. Traditional approaches to such a process can be time-consuming and require physical testing based on trial-and-error adjustment. Computer-aided engineering and simulation offer the AM industry the opportunity to reduce the amount of physical testing and time that is needed in a design process, and to understand how printers need to be configured to handle new powders. EDEM software is used in numerous industries to simulate the behavior of a wide range of bulk and granular materials, including powder processes. It has potential to be applied to various aspects of the AM process, including powder delivery, spreading, and cleaning operations. The partnership between EDEM and The Barnes Group Advisors aims to establish and demonstrate to the AM industry how simulation tools such as EDEM can bring insight into the design of AM equipment and processes including printers and help reduce reliance on physical testing for design work. John Barnes,

Founder & Managing Director, The Barnes Group Advisor commented: "The Barnes Group Advisors sees great need for validating simulation for powder flow and spreading scenarios as additive manufacturing continues its rapid expansion. Part of that expansion is partly new types of materials and partly a need for more affordable materials. How they behave in systems and designing systems to move particles around is going to be very important. We see this activity as a win-win to be working with EDEM." Richard LaRoche, Chief Executive Office, EDEM added: "We are pleased to be collaborating with The Barnes Group Advisors who are leaders in the field of additive manufacturing. Our EDEM technology has already proven to be a key predictive tool in other industries handling powders such as the pharmaceutical sector and we are excited to explore how the additive manufacturing industry will be able to benefit from key design insights".