"3D PRINTING OFFERS VIRTUALLY INFINITE OPPORTUNITIES OF IMPROVING OUR LIVES AND MAKING THEM MORE SUSTAINABLE"

Interview with Christian Kirner, Chief Operating Officer (COO), EOS GmbH



DIALOG: *Mr. Kirner, additive manufacturing is* seen as one of the most promising emerging technologies. EOS has been on the market for over 25 years now. What are the main reasons for additive manufacturing attracting such huge attention in recent years?

CK: After finding widespread use primarily in prototype construction in the first 20 years, where it significantly speeded up product development, the technology has now reached a level of maturity allowing customers to produce end parts in series. Leading global corporations and DAX-listed companies have begun qualifying this technology for pilot production around five years ago. And now there are the first genuine series applications, for example in the aerospace and medical sectors. The general hype around "3D printing" has been huge in recent years, and interest in the technology has continuously and massively increased. **DIALOG:** What do you consider to be the most important milestones in the development of 3D technology over the last 25 years?

CK: Of course we can only speak for ourselves here as it's difficult to speak about "the one method of 3D printing" in such a diversified market. There have been many milestones in our company history that helped us take the next step: the first major customer, BMW, for whom EOS supplied a stereolithography system, and the recommendations to other companies that followed on from this; the decision to quit stereolithography and to concentrate solely on the higher quality, powder-based laser-sintering process; the decision to also develop the metal process alongside the plastics process. And finally the move into series applications that are today primarily based around metallic materials.





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DIALOG: What are the biggest obstacles preventing the widespread proliferation of the technology, and what can manufacturers do to break down those obstacles?

CK: We currently consider the topic of knowledge development among customers to be the biggest obstacle. Our technology is still quite new. Customers need to take a number of decisions beforehand in order to ultimately achieve real added value with our technolo-

added value with our technology. What is the right component and the right application for using EOS technology? What engineering guidelines need to be considered in order to make optimum use of all the degrees of freedom offered by additive manufacturing? What needs to be changed in a company's organizational

> structure? How would customers need to modify their business models based on the technology? And finally, the machine operators need to be trained up perfectly and expertise developed in order to produce high-quality components using this cutting-edge technology. Additive manufacturing remains highly complex since you can't just create a component at the press of

a button. In all these matters, EOS will support its customers with extensive consulting services.



DIALOG: Companies like "Local Motors" are demonstrating that even automotive industry concepts can be re-thought through 3D printing. Do you believe that the propagation of 3D printing is likely to bring major changes to industrial value chains in the coming years?

> **CK:** Addimanufacturing

tive manufacturing is already changing the way in which design and production is performed for many applications. The next few years will see the

"The next few years will see growing the integration of conventional and additive processes as production becomes increasingly digitalized."

growing integration of conventional and additive processes as production becomes increasingly digitalized. Instead of replacing one technology with another, the best of both worlds will be used to achieve the best possible result. This will allow additive manufacturing to enrich and extend the prospects of industrial value creation.



Christian Kirner, Chief Operating Officer (COO), EOS GmbH **DIALOG:** Where will this take EOS and what strategic direction will you follow in the next few years?

CK: While pursuing the EOS strategy of introducing additive manufacturing methods to all industrial sectors, we have, for example, developed a groundbreaking metal system, the EOS M 400-4. The system is the perfect addition to our system portfolio for industrial deployment. It eliminates all the previous limits on manufacturing as it meets the very highest demands of our industrial partners in terms of efficiency, scalability, ease of use, and process monitoring. And what is more, since the system is based on a modular platform designed for 3D printing. It can be integrated into existing production environments and is, at the same time, designed to enable future innovation at the customer's end.

DIALOG: You yourself have been accompanying and observing global technological trends for a number of decades. What does 3D printing mean personally for you? What is so intriguing about it?

CK: I consider the potential that additive manufacturing offers to be really huge. 3D printing provides virtually infinite and yet unknown possibilities of improving our lives and making them more sustainable. In the context of Industry 4.0 and the Internet of Things (IoT), 3D printing will become a historic milestone over the medium term not just for the industry but ultimately for society as a whole. The technology and its benefits will be firmly embedded in our thinking and actions, just like smartphones and 2D printers today.

About EOS

EOS is the global technology and quality leader for highend additive manufacturing (AM) solutions. The company enables its customers to manufacture high-quality and innovative products based on the industrial 3D printing processes. Founded in 1989, EOS is a pioneer and global leader in the area of direct metal laser sintering (DMLS), and also a provider of a leading polymer technology. www.eos.info