BETWEEN ACADEMIA AND INDUSTRY – THE ROLE OF ADDITIVE MANUFACTURING IN HEALTHCARE

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Additive manufacturing, or 3D printing, approaches are heavily investigated in academia as tools to prepare medicines. Since 2015, the number of scientific publications has greatly increased and more and more technologies are moving into the focus of academia and industry alike. Several startups and companies were founded to exploit the advantages of pharmaceutical additive manufacturing, such as simplified formulation and process development or dosage form individualization. While the technological capabilities of at least some of the technologies are well understood, their application in clinical and industrial practice but also required technological advances are everything but. More knowledge is required for the identification of suitable use and business cases and the selection of the most suitable additive manufacturing technology for specific applications. At the same time, a profound understanding of the necessary technological developments and trials to bring technologies to a higher technological readiness level is required. The implementation of additive manufacturing technologies into healthcare will not only have pronounced implications on clinical and therapeutical aspects but also on the current supply and value chain. In this talk, I will outline and discuss healthcare applications of additive manufacturing outside of academia and relate them to the current state of the art in academia to highlight the potential of 3D printing technologies. I will also focus on the potential implications for healthcare professionals and healthcare systems.