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Role of 3D printing in the pharmaceutical R&D

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Since the appearance of the 3D printing in the 1980s it has revolutionized many research fields including the pharmaceutical industry. The main goal is to manufacture complex, personalized products in a low-cost manufacturing process on-demand. In the last few decades, 3D printing has attracted the attention of numerous research groups for the manufacturing of different drug delivery systems. The drug delivery systems are sub-grouped into tablets, capsules, orodispersible films, implants, transdermal delivery systems, microneedles, vaginal drug delivery systems, and micro- and nanoscale dosage forms. Since the 2015 approval of the first 3D-printed drug product, the number of publications has multiplied. In our lecture, we focused on summarizing the technologies and the requirements of 3Dprinting. Different possibilities of the wide application field of 3D printing are also presented. In the last part of our talk, we will give a brief introduction to the 3D printing researches at the Department of Pharmaceutical Technology, University of Debrecen.

References:

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