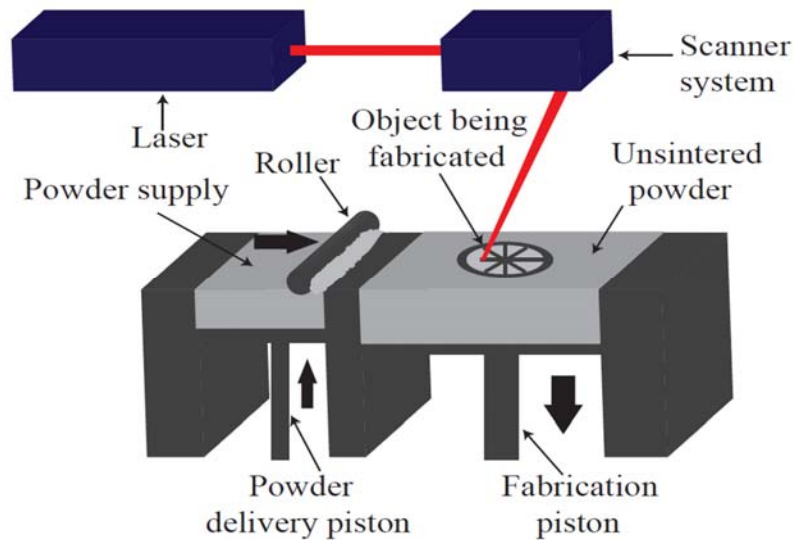BSc assignment

# 3D printing with Selective Laser Sintering



**Description:** Additive manufacturing (AM) is part of the next industrial revolution – further optimization of the process holds various applications. One AM method is Selective Laser Sintering (SLS), where objects are produced by laying down successive layers of powder (plastic), and hardening selected parts by sintering them with a laser. The technology is used in various fields, e.g. automotive, biotech, aerospace, etc.

In the first project, we will study how the process parameters influence the part density, dimensions accuracy and the mechanical properties by printing different test samples using our in-house, desktop SLS machine for PA12 powder and conducting different mechanical tests (tensile, compression, etc).

In addition, powder spreading is an essential part of the process and powder spreadability plays a role in the final part quality. Thus, in the second project we will design an experimental setup for testing the spreadability of powder and conduct experiments where the results would serve in validating simulations ones.

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