

Research program

3D TECHNOLOGY

Research in the field of non-contact 3D digitization, research into the accuracy of 3D printer production for today's advanced technologies such as SLS, SLA, FDM, PolyJet Matrix, SLM etc. Research and complex analysis of both dimensional and shape accuracy of parts produced on selected 3D printers. Applied research and development in the field of measurement concerning manufactured models. Using modern optical methods of digitization by means of contactless 3D scanners including subsequent data evaluation and real part verification against the nominal CAD model for different industries.



Research activities

RESEARCH AND USE OF 3D OPTICAL DIGITIZATION IN THE QUALITY CONTROL AND INNOVATION

- ▶ Research on digitization and data processing techniques.
- ▶ Research on the influence of factors concerning accuracy of optical 3D digitization.
- ▶ Research on automation regarding inspection processes while using 3D optical scanning.

RESEARCH IN THE ARE OF ADDITIVE TECHNOLOGIES / 3D PRINTING

- ▶ Research in the field of 3D printing of photo-polymer materials (3D printing of ceramics, glass, graphene, biogel, etc.)
- ▶ Research in the field of topological optimizations (maximum utilization of 3D printing potential in the design of parts.)
- ▶ Research in the area of FFF technology (individualization of 3D printer design for given thermoplastic materials with admixture or filler).
- ▶ Research in the field of metallic 3D printing.
- ▶ Research in the field of auxetic structures for the purposes of damping.
- ▶ Research in the field of bio-printing.
- ▶ 3D printing research in building construction.