Supporting Service Specialisation: the role of incubators, accelerators, and S&T Parks in delivering sector specific support

16th October 2019

Belgrade, Serbia

3D Impuls

Nebojša Bogojević

3D Impuls

The Faculty of Mechanical and Civil Engineering

3D impuls

- Research and development center of the Faculty of Mechanical and Civil Engineering in Kraljevo

- Digital manufacturing- production trend of XXI century
  - Additive manufacturing
  - 3D scanning

- www.3dimpuls.com

Project funded by the European Union

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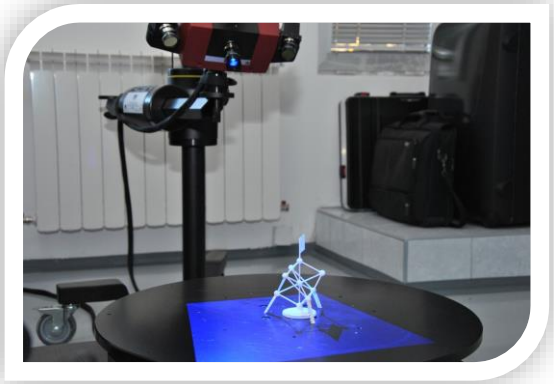
What?

- Product development
- Industry education
  - additive manufacturing
  - 3D scanning
- Digital manufacturing
  - Additive manufacturing usig an SLS technolgy
    - Rapid prototyping (plastics and metals)
    - Rapid manufacturing (plastics and metals)
    - Mold tool optimisation
  - 3D scanning
    - Reverse engineering
    - Inspection



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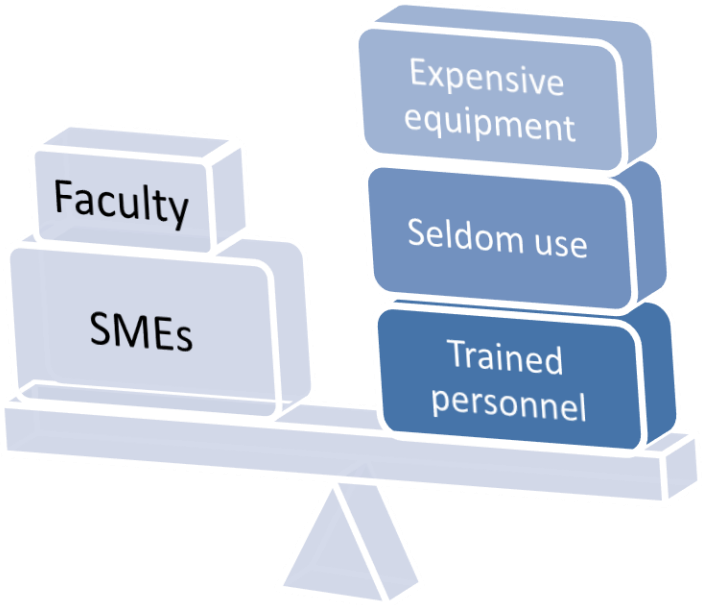
Why?



Increasing innovation capacity of SMEs by providing advanced design technologies

Establishing of common product development center at the Faculty available to SMEs

Increase cooperation between the academia and the industry

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How?

- Project „IMPuls“ – EU RSEDP II
  - The European Commission
  - USAID
  - City of Kraljevo
  - City of Čačak
  - Budget – cca. 1,000,000 EUR
  - Duration 3/9/2011-6/9/2013
    - Provision of equipment
    - Staff training
    - Services to SMEs:
      - 120 prototypes and 300 models
      - Innovation managment, marketing and tech trainings

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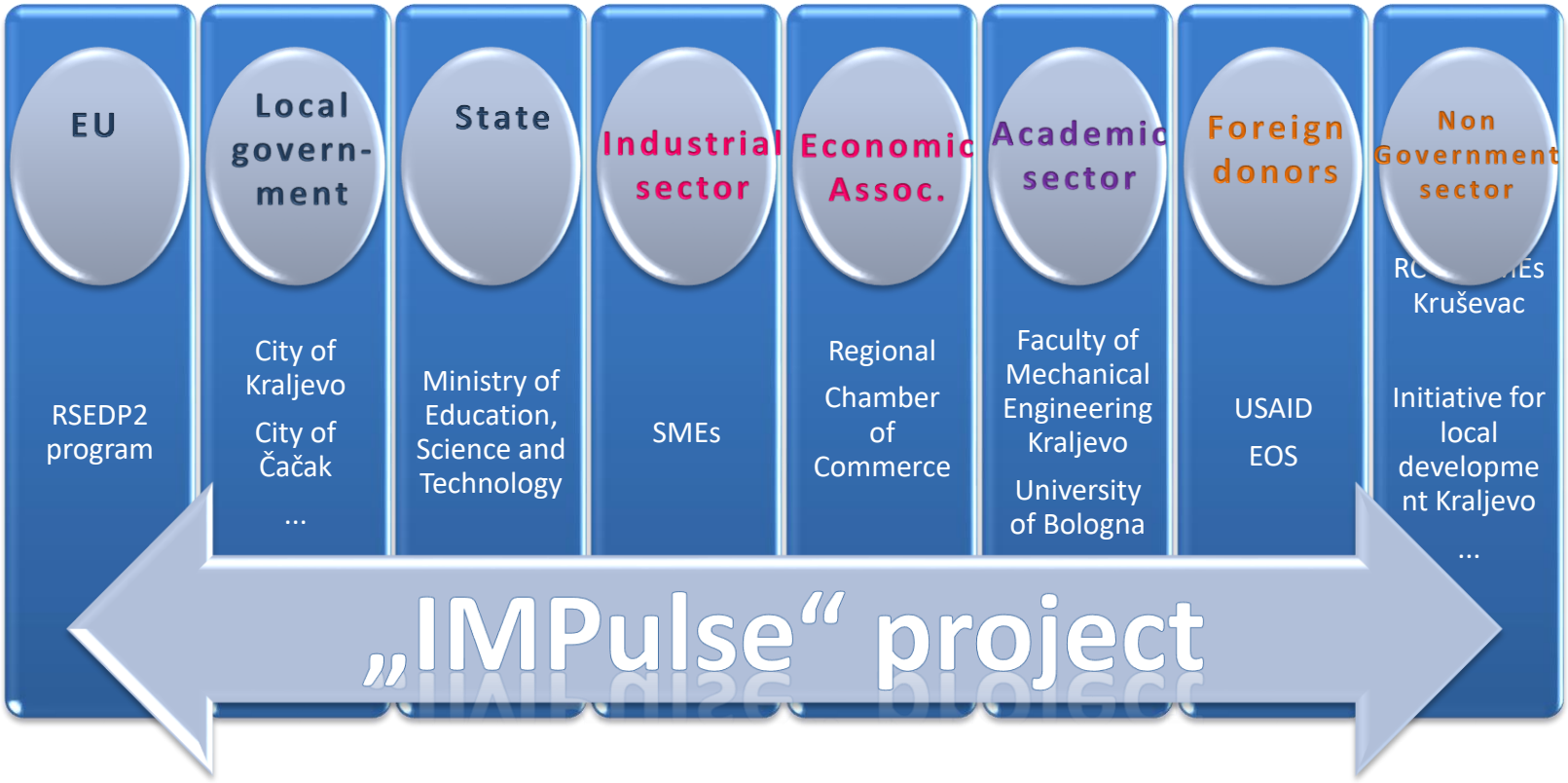
How?



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Effect/ Results

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Results

Innovative Multi-Height Ergonomic Shoe - Glass Slipper d.o.o.

The innovation voucher has enabled Glass Slipper to successfully complete 3D modeling, 3D printing and tooling for the latest version of our prototype shoe.

Modular heels are attached onto the shoe to change heel height from 6cm to 10cm within seconds

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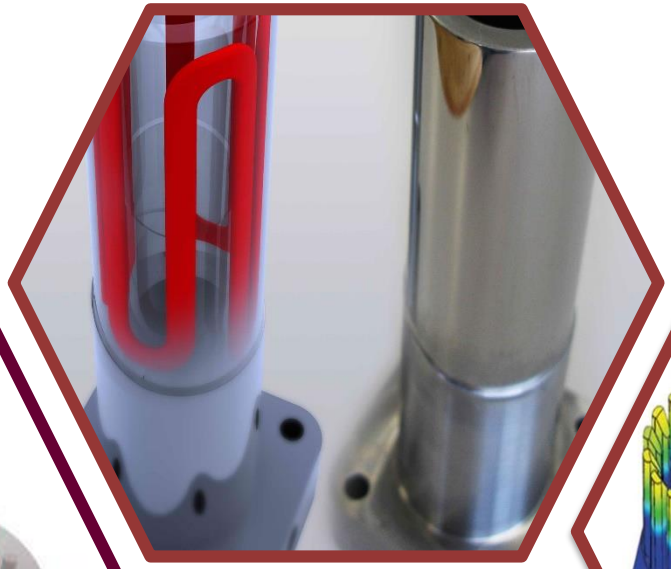
Results

- InMold d.o.o. – mold tool optimisation



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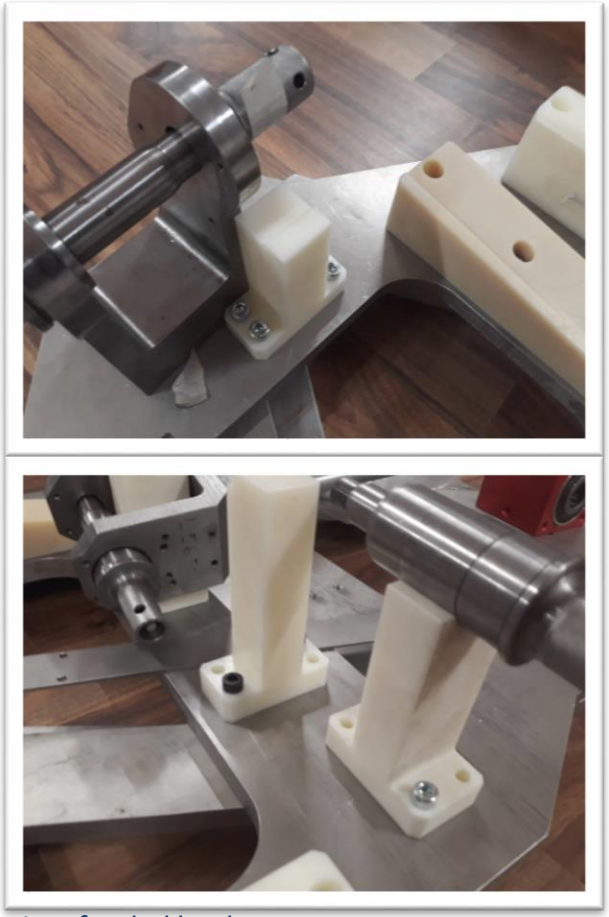
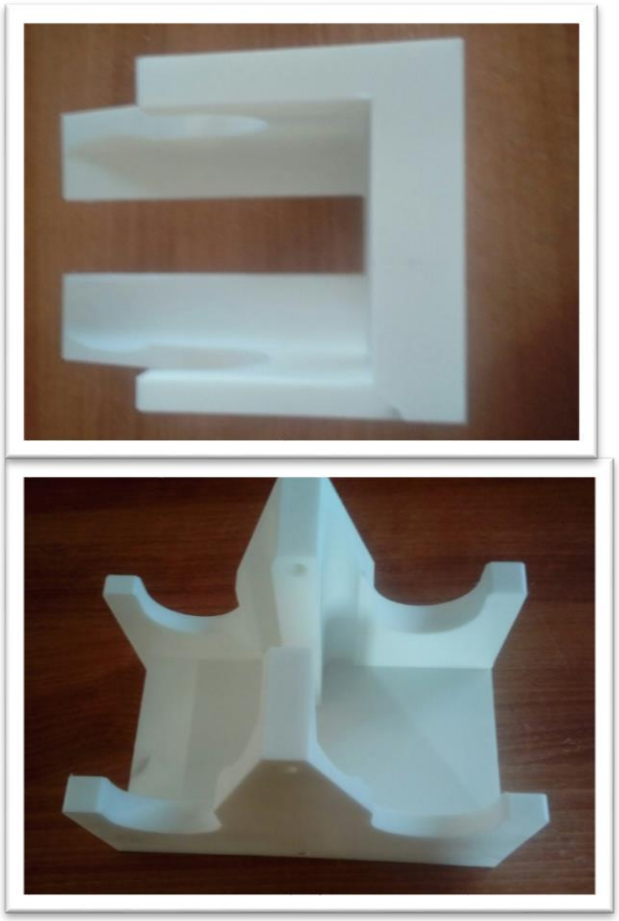
Results

- Custom tools for jet plane engine reparation – Konelek d.o.o.





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3 Lessons for the wider community

- Low level of the knowledge about the additive manufacturing and 3D modelling in general
- Big expectations from the users of the AM that cannot be achieved by the technology at the moment
- One need to spend a lot of time to educate the customers about AM possibilities
- Sustainability of the Laboratory is an issue

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Nebojša Bogojević

Lead engineer for additive production

Nebojsa Bogojević is the leading engineer for additive production in the 3D Impulse laboratory. His responsibilities include the preparation and realization of selective laser sintering production. Nebojsa is a mechanical engineer who graduated at the Faculty of Mechanical and Civil Engineering in Kraljevo, and later passed post-graduate specialization at KTH University in Stockholm, in the field of design of mechanical systems. Since 2012 he is engaged in the field of additive manufacturing. After passing specialist courses at the faculty in Kraljevo and in the company EOS in Krailing /Germany/, he participated in almost 200 additive manufacturing projects.

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