

Collective Research Networking – Cornet – Project NextMould



Figure 1: Innovation target workpiece



Figure 2: Innovation target aspects

Research topic:

Development of hybrid energy-efficient aluminum injection moulding tools through electric arc additive and friction stir welding, as well as deposition of thick diamond-like carbon layers.

Keywords:

- Aluminum injection moulding tools
- Design guideline for aluminum tools
- Additive manufacturing
- Electric arc welding
- Wear protection
- DLC thick-film
- Honeycomb structure

Third-Party Donors

- AIF – German Federation of Industrial Research Associations / BMWI – Federal Ministry for Economic Affairs and Energy
- FFG – Austrian Research Promotion Agency

Results:

- Design guideline for the construction of aluminum injection moulding tools
- Additive manufacturing of injection moulding tools out of aluminum through the use of electric arc and friction stir welding
- Embedding of honeycomb and truss structures in the additive manufactured tools

- Development of thick DLC coatings for wear protection

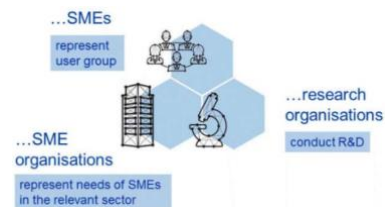


Figure 3: Research Group – Comet Projects

Participating Institutions and Contact Details:

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- FGW - Research Association for Tools and Materials e.V., Dr. Christian Pelshenke

Cost Volumes:

- 705,926 € (of which 583,987€ is from subsidies)