

Vacuum suction EOAT - End of Arm Tool

for pickin-up and assembly the
behind the steering wheel
plastic screen protector

About Continental

Continental is a multinational company with an extensive international reach, specializing in Automotive and Tires sector. Becoming a TIER1 in Automotive parts development, production and assembly in certain automotive sub-systems with different manufacturing lines.

Challenge

Continental aimed to develop more efficient and lightweight tools for their manufacturing and assembly automotive lines, mainly for picking-up and gripping small dashboard components during vehicle assembly, using a collaborative robots.

Thanks to the Additive Manufacturing design freedom, many new designs for several End Of Arm Tools have been developed.



3D Printer



HP MJF 5200

Post-Processings



Abrast - Sandblasting

Material



HP - PA 12

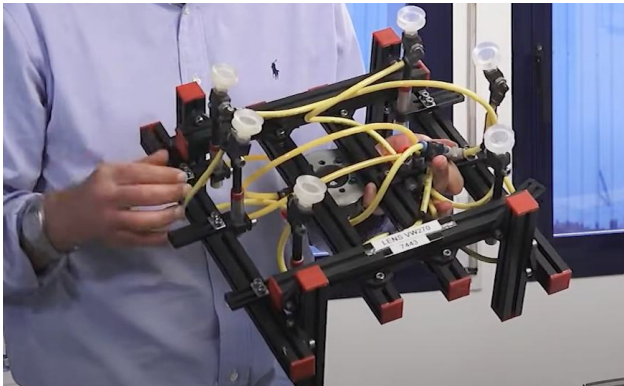
Software



Materialise - Magics

Solution

The solution involved the development of a lightweight monobloc gripper through generative design. This innovative approach utilized additive manufacturing with Multi Jet Fusion technology, using polymer material (PA12) for production. The gripper was seamlessly integrated with a UR10 collaborative robot, ensuring optimal functionality and compatibility.



Utilizing AM for gripper design, Continental achieved a remarkable **30% decrease in creation time** and a **40% reduction in process and installation time**. This resulted from parts consolidation, eliminating assembly of metallic and pneumatic components, leading to **more efficient robot operations, increased productivity, and reduced energy consumption**.



Legacy solution

Metallic assembly EOAT composed by several CNC manufactures parts joined with many diferent standard, mechanical and pneumatic parts.

Weight:	Cost per part:
1830g	450€
Number of parts:	Time to part:
23	-

3D Printed Solution

3D Printed unibody plastic (polyamide) part, with pneumatic system (fluid vessels) integrated in the structure.

Weight:	Cost per part:
237g. 87% Reduction	60€ 86% Reduction
Number of parts:	Time to part:
1 Unibody	20h (x 12parts)