5 Technologies to deliver Value at each Step of the Product Life Cycle

From prototyping to production

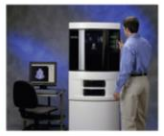
A 30+ year history of accelerating innovation

1988
Scott Crump invents FDM by mixing wax and plastic in the family kitchen

1994
Stratasys introduces the first thermoplastic available for 3D printing

1998
Objet founded by former printing industry entrepreneurs

2002
Stratasys introduces the first 3D printer under $30,000



2007
Objet launches the Connex: The world's first multi material 3D printer

2008
Stratasys launches the first 3D printer for production

2009
Foundation of MakerBot by Bre Pettis, Adam Mayer and Zach Smith

2012
Objet announces world's first desktop 3D printer able to support 7 materials

2012
Stratasys and Objet complete merger to lead the 3D printing industry

2013
Stratasys acquires MakerBot

2014
Stratasys launches multi-material color 3D printer

2014
SSYS acquires SolidConcepts & Harvest, combines them with RedEye creating SDM, the largest 3D Printing Service Bureau in North America

2014
Stratasys acquires GrabCAD

2017
Stratasys founder Scott Crump inducted into TCT Hall of Fame

2018
MakerBot introduces professional-grade METHOD

2019
Stratasys introduces biomechanically realistic J750 Digital Anatomy 3D Printer

2020
Stratasys introduces office-friendly full-color, multi-material J55 3D printer

2020
Stratasys acquires Origin

2021
Stratasys introduces first SAF technology 3D printer for production

Where we make it happen.

Headquarters
Eden Prairie, MN
and Rehovot, Israel

04
Manufacturing Locations

13
Countries of operation

200+
Resellers

2,000
Employees

Why Different Technologies fit Different Applications?

General Characteristics Differentiation

	PJ	SLA	FDM	DLP	SAF™
Mechanical Properties					
Parts Appearance					
Speed & Throughput					
Ease of use					

We have the broadest offering with the most innovative, best-in-class technologies

Design & prototyping

PolyJet™, FDM®, SL

Manufacturing & production

FDM®, Origin P3™, SAF™

Software

GrabCAD Print
GrabCAD Shop
Digital Anatomy
Advanced FDM
Advanced PolyJet
GrabCAD SDK

Partnerships with KeyShot, nTopology, others

Services

stratasys DIRECT MANUFACTURING

Stratasys Academy
Global Support

Materials

60+ FDM filament materials

45+ PolyJet resin materials

500,000+ color variations

Partnerships with BASF, DSM, Henkel, others

Polyjet

Stratasys J Series 3D Printers

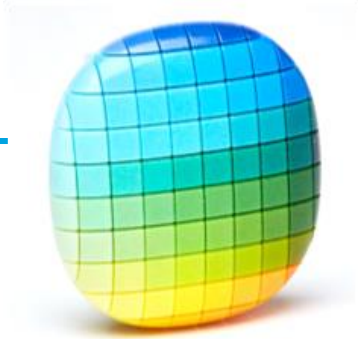
Design realism.
That meets your needs.
At an affordable TCO.

Design Realism

~500,000 Colors

Distinguishable color combinations, plus clear.

Full Color



Design Software Integration

Native a model in KeyShot®, SOLIDWORKS® or other supported software and export a 3MF file and import it into GrabCAD Print™ for 3D printing on Stratasys PolyJet™ printers.

Designer Workflow

Texture Realism

From matte to glossy surfaces, simulating materials like leather, wood, stone, and more with horizontal layers of 0.0007 in.

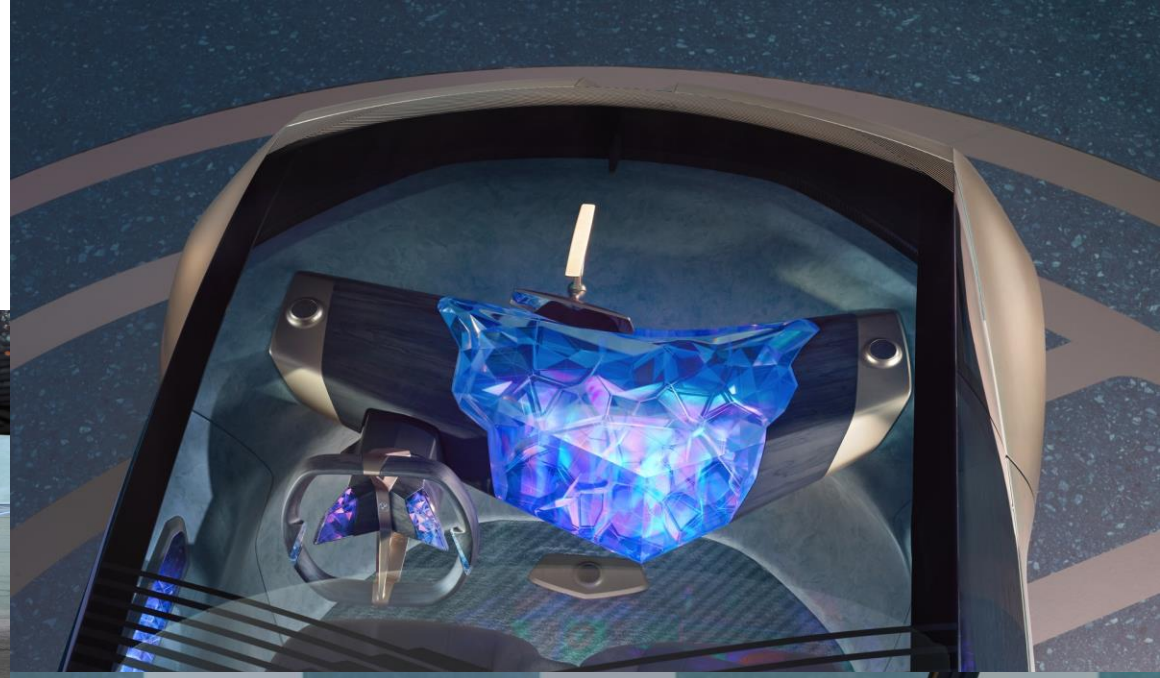
Modeling Features

PANTONE Validated™

Match to more than 1,900 printable PANTONE® colors and SkinTones™.

Color Fidelity

BMW i-Vision released on the IAA



Stratasys

Polyjet news

- new Ultra Clear material
- Embedd electronics during print
- Print on fabrics
- Keyshot design workflow

stratasys

Additive manufacturing with FDM

12

FDM - Technology

F770

us 450mc

F900

Standard, Engineering and High-Performance Materials

Highest Accuracy

Widest range of Applications

More Advanced Users Typical

Larger and Largest Build Volume

Standard and Engineering Materials

Good Accuracy

F770 - Large Build Volume

Fast Material Changes

Easy To Use And Accessible

Standard Materials

EASY TO INSTALL AND USE

Easy To Use And Accessible

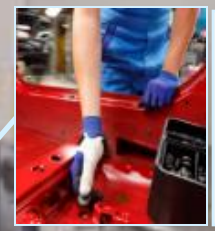
/ Functionality

Opportunities on the Factory Floor

Quality Control – Measuring fixture for 3D Scanning (end of line), CMM fixtures, Quality Control process

Packaging & Logistics - Tooling designed to allow for movement of parts within a facility or during shipment

R&D - Tooling used in the development phases of product development and manufacturing

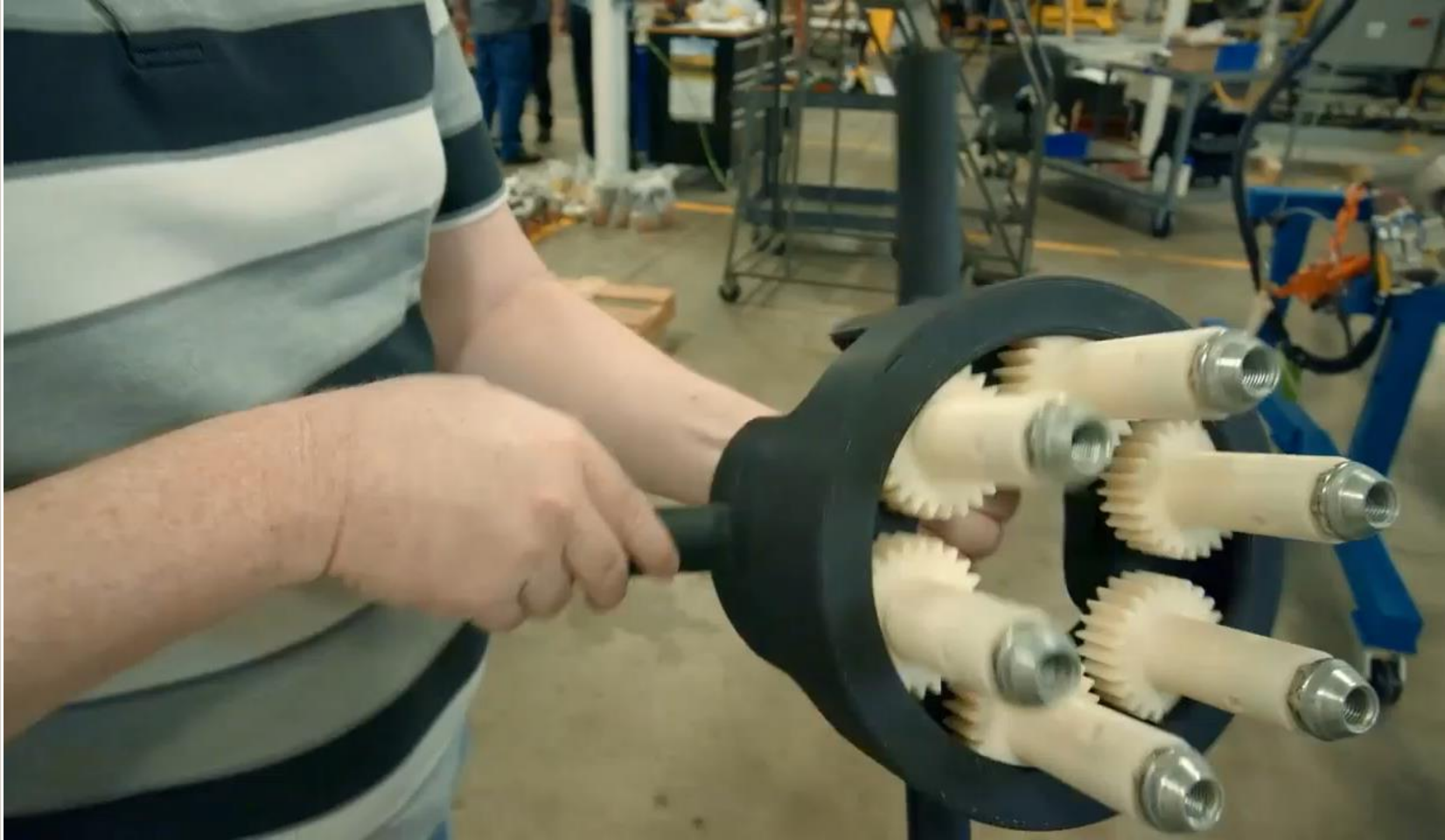


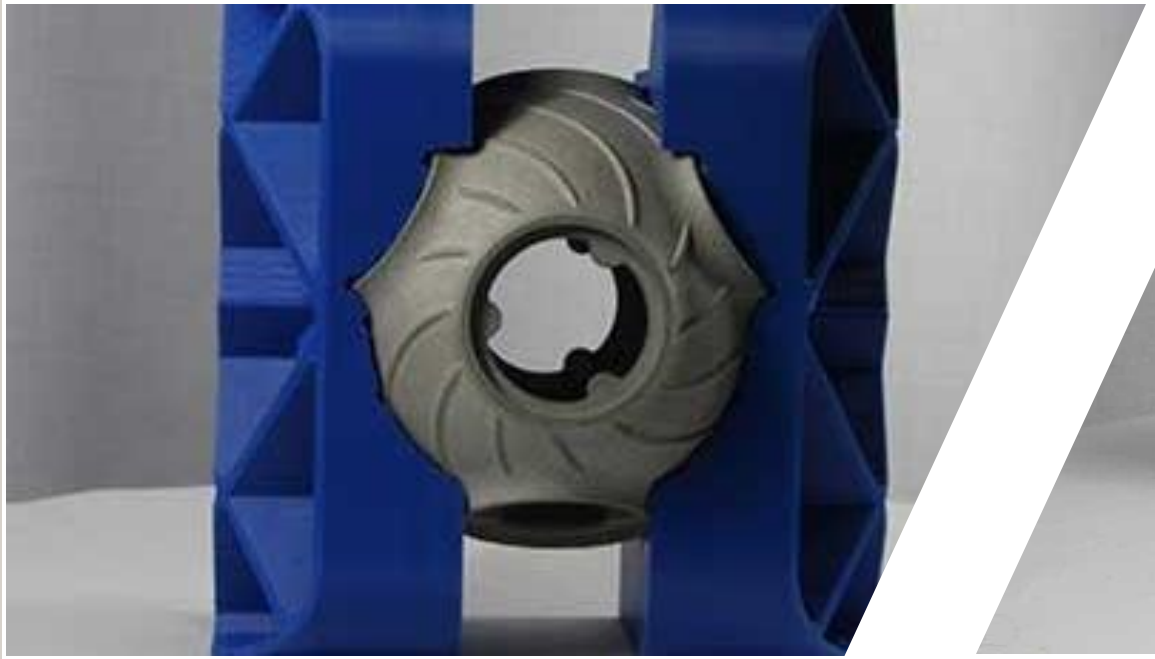
Health & Safety - Tools designed to aid worker safety and address ergonomic issues

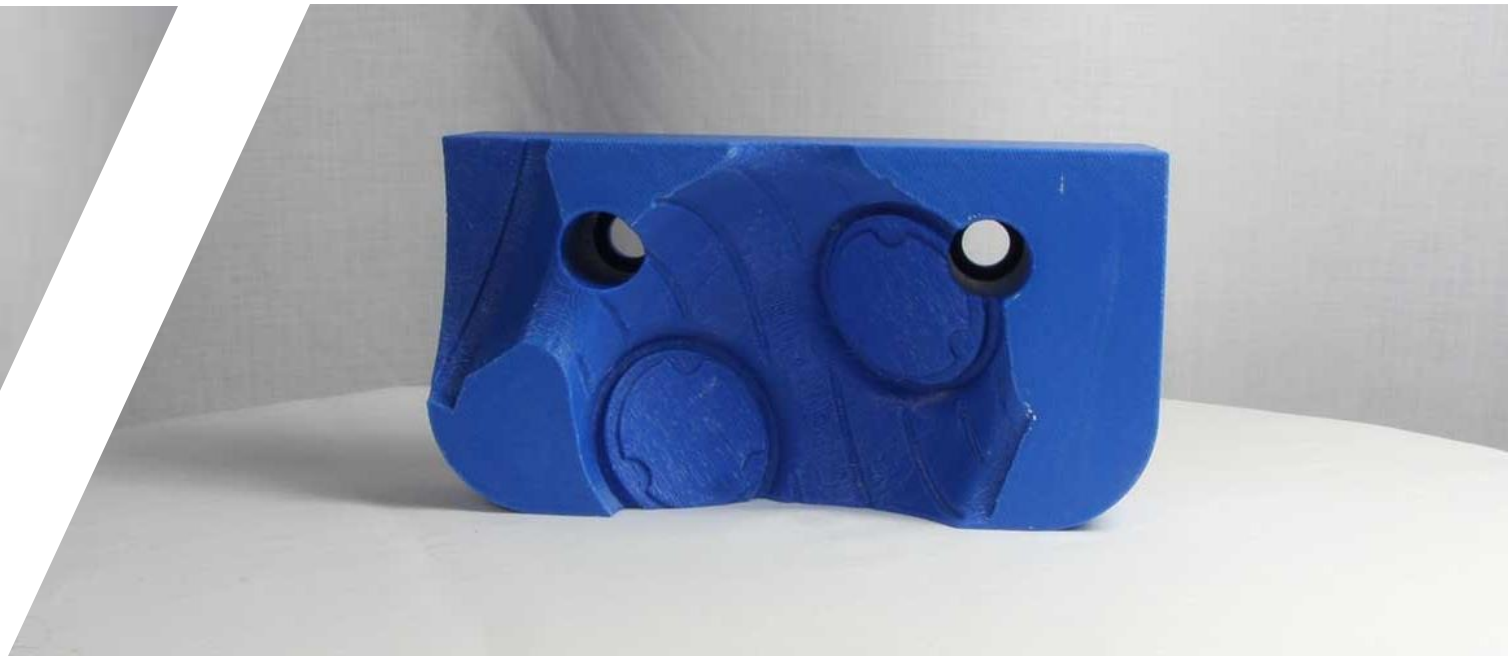
Assembly - Tooling for the assembly process, aiding workers to align and hold parts during assembly

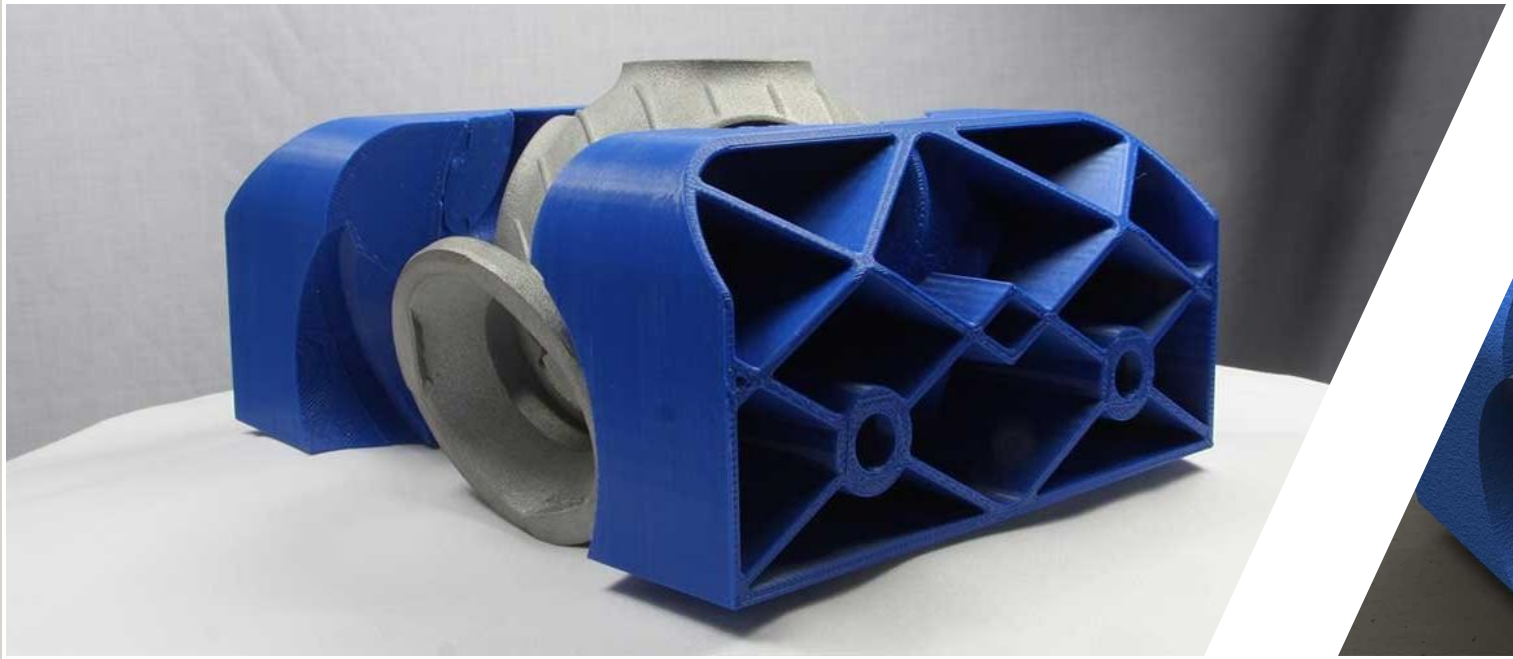
Checking – Checking fixture, gauges

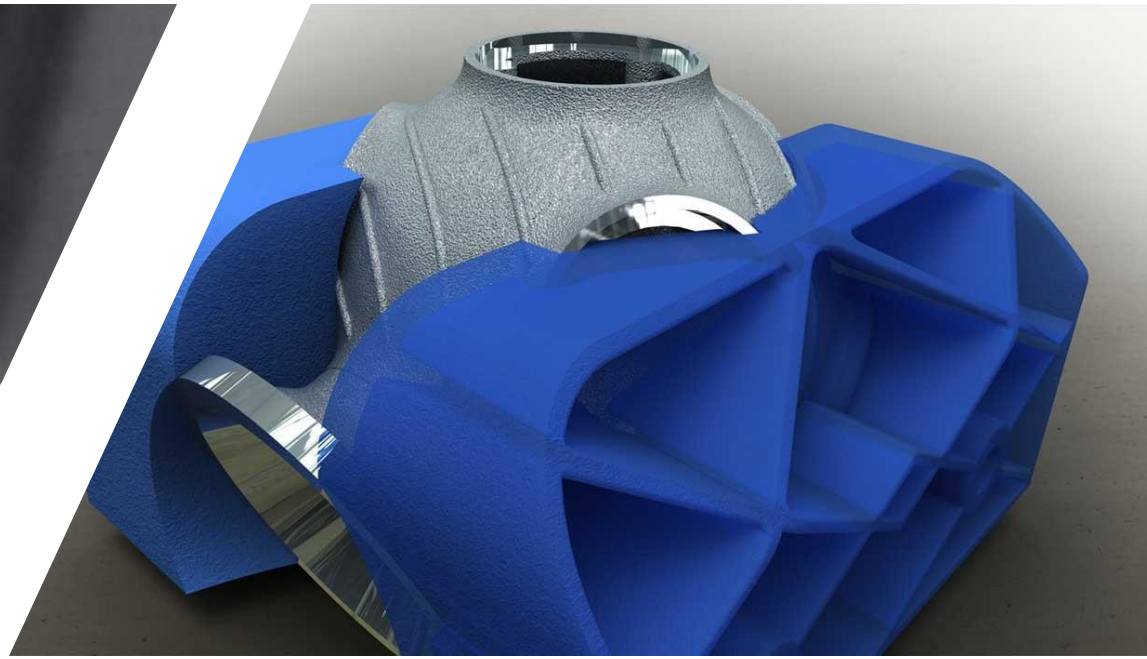
Automation /EOAT - Parts and tools associated with the equipment used in the fabrication process











Automation

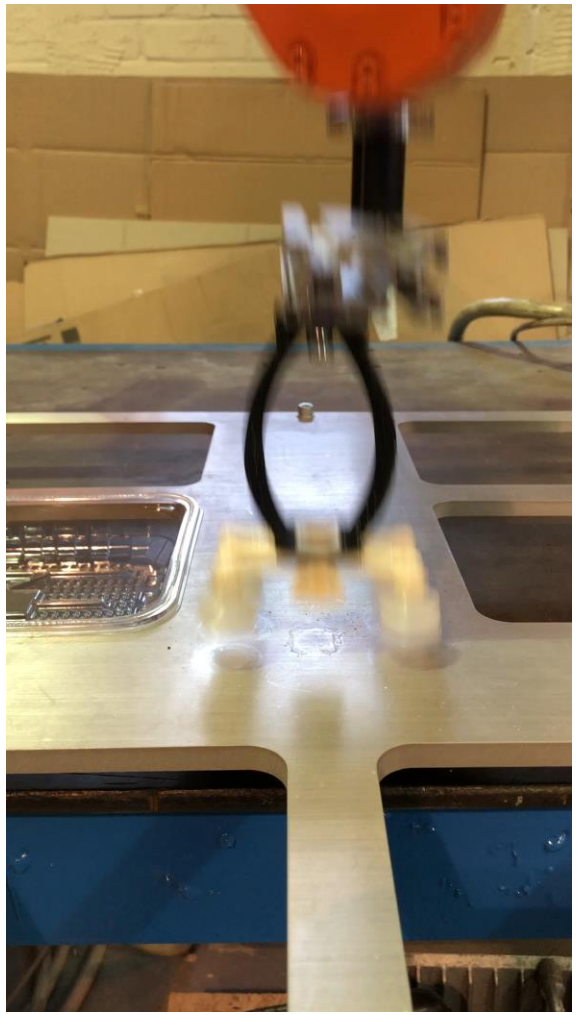
- End of Arm Tools
- Anti-Static & Bio-compatible
- Weight and cost saving

End of Arm Tool

Ruthland Plastics cobots EOAT

- Greater design flexibility for end of arm tools for Cobots
- Vacuum channels are build inside the part with easy to remove soluble support

Form Automation – End of Arm Tool, spring action



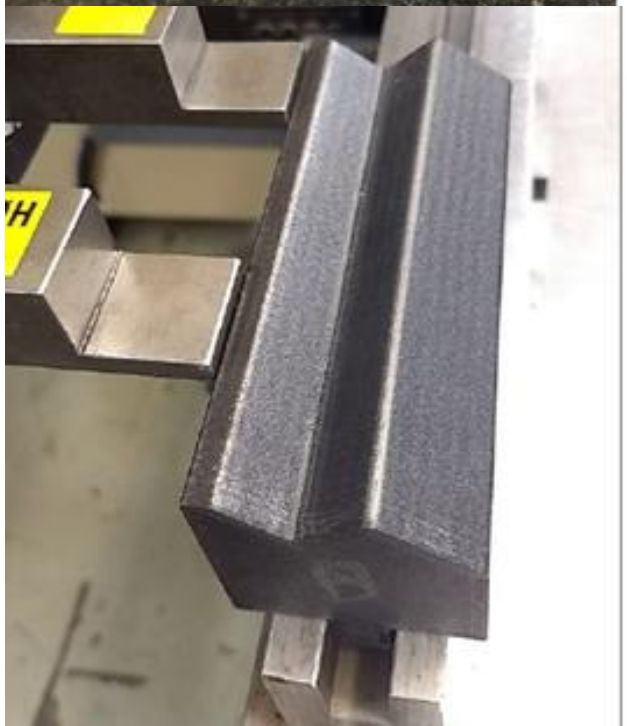
Solution

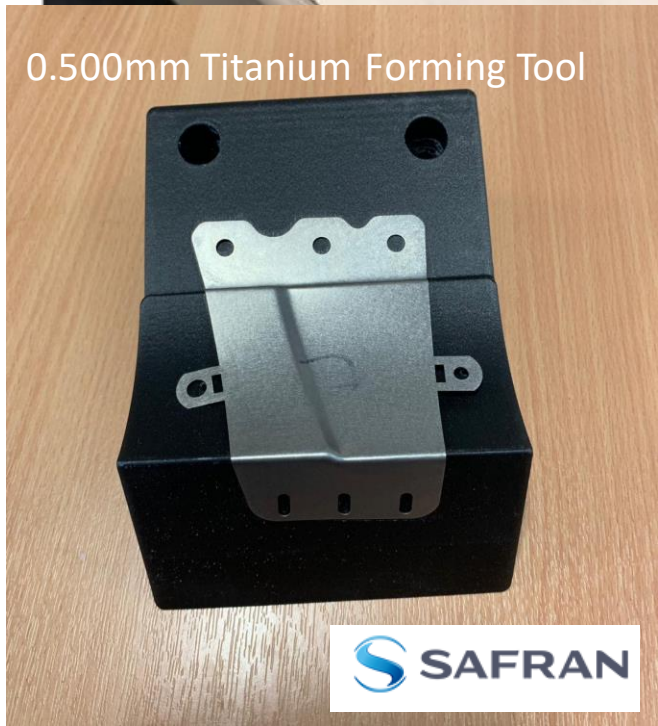
Additively manufactured 2 component solution: TPU Spring and ASA frame

Metal forming

- Weight Saving
- Lead Time reduction 95%
- Cost saving 96%
- 500 parts production

Forming Tonnage	6 tons
Material	6061 Aluminum
Material Thickness	14 Gage (0.064"/1.62mm)
Cycles	100+
Additive Tooling Cost	$133
Traditional Metal Tooling Cost	$3,500
Additive Lead Time (days)	1
Traditional Metal Tooling Lead Time (days)	21

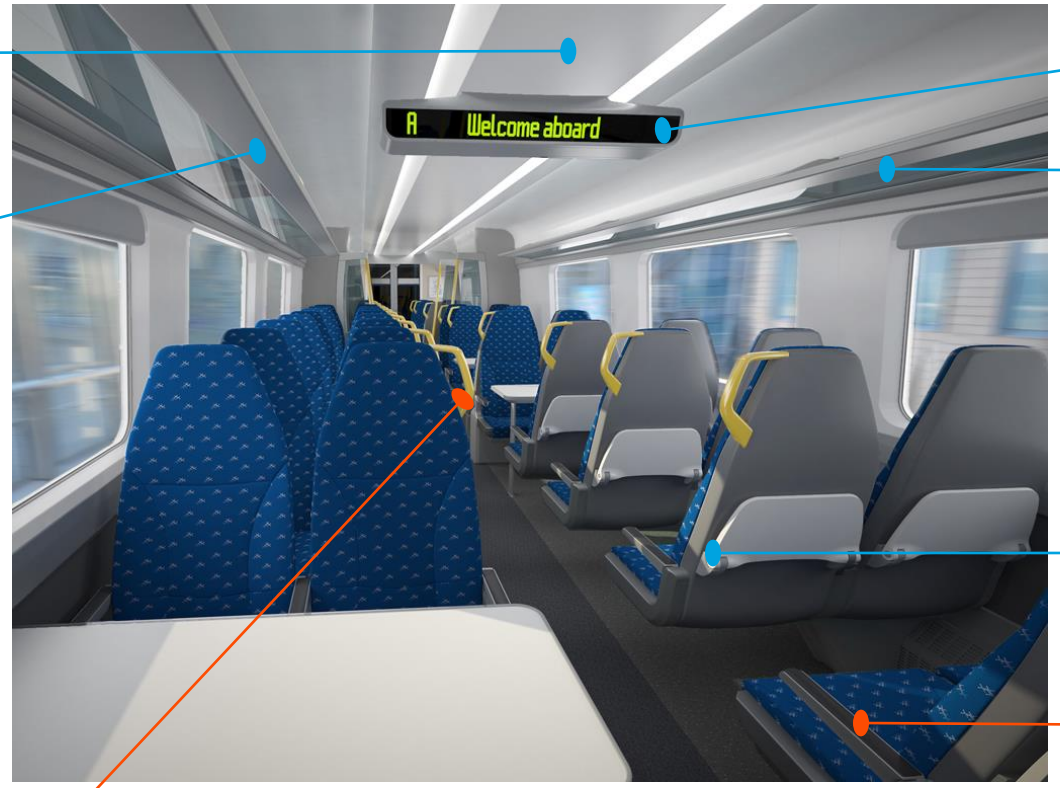




Electro-Static Dissipative

- ABS-ESD7, Nylon 12CF and ANTERO 840CN03 are anti-static materials
- Ricoh replaces metal jigs with thermoplastics with ESD properties
- Customized and lightweight jigs and fixtures 3D printed in one day v.s 2 weeks (outsourced metal jigs)
- Operator efficiency and satisfaction improved significantly

ROLLING STOCK INTERIOR



Cable Clips / Connectors / Brackets

ULTEM™ 9085 resin

HVAC (Air Duct)

ULTEM™ 9085 resin

FST Requirement

Handle/Safety

ULTEM™ 9085 resin wrapped with Glass Fiber

Information/ TV Screen Housing

ULTEM™ 9085 resin

FST requirement

Plugs/Electric Cable Holder

ULTEM™ 9085 resin

Individual Table

ULTEM™ 9085 resin

FST requirement

Seat arm rest

ULTEM™ 9085 resin wrapped with glass fiber

Potential Structural with Composite Sandwich

Direct Production Parts

Aerospace Bus Rail

End use Parts

Certified for Aerospace/Rail/Bus

- Customers include: Airbus, Siemens Mobility, Diehl Aviation, Bombardier Transportation
- Large part for Diehl Aviation: 1,140 X 720 X 240mm
- No need for injection moulds – direct low volume production in days vs. weeks
- Camera housing for Survey Copter (UAV) part of Airbus cheaper as no mold is required


introducing
SAF™ technology

SAF™ technology means Powder Bed-wide Fusion

SAF H350
Unique Value Proposition

- High Nesting Density
- Single Fluid
- Low running cost
  - ✓ Only single fusing fluid required
  - ✓ No cleaning roll
  - ✓ No regular head replacement
- Neither elephant skin nor orange peel
- Fully inclusive service contract
  - ✓ Including Print Head

- Unique combination of low cost-per-part, part accuracy and repeatability
- No Hidden cost

PA 11
A bio-based material

PA11 is a 100% bio-based engineering plastic sourced from a renewable raw material (the castor seed).

- Less energy consumption of raw material
- Less green house gas emissions

- compared with PA 12

Automotive interior parts production

SAF™ H350™

Under hood applications:
Filter housing, grills, bracket
(no direct contact with engine)

Electrical wire connectors

Rear bumper sensor brackets

Plugs and caps

Clips for electrical wiring loom

Front bumper sensor brackets

Side mirror

Automotive interior parts production

SAF H350

Vent grill

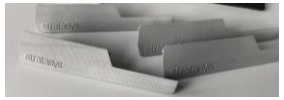
Handle

Mirror cover

Entertainment bracket | cover

Fan

Cup holder



Seat side panels | interior trim and texturing opportunity

Speaker grill

Seat fittings adjustment lever | knob

Driving mode controller | buttons

Thank you.

Questions?
Live Demo?
Benchmark?

Thank you

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