Reduce Costs and Drive Innovation with Additive Manufacturing

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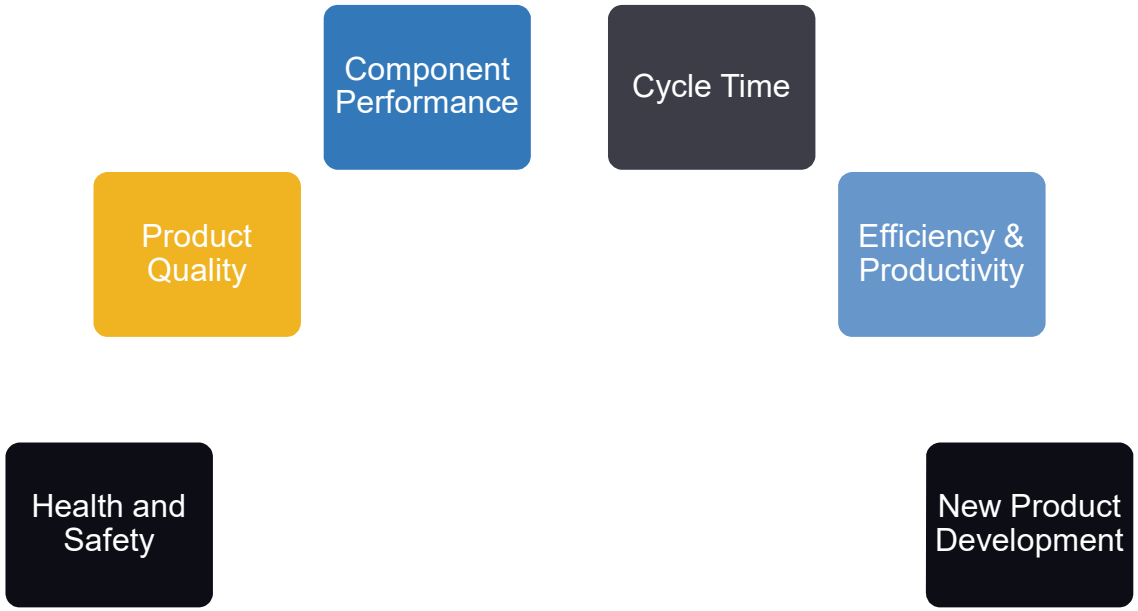
Addressing the challenges



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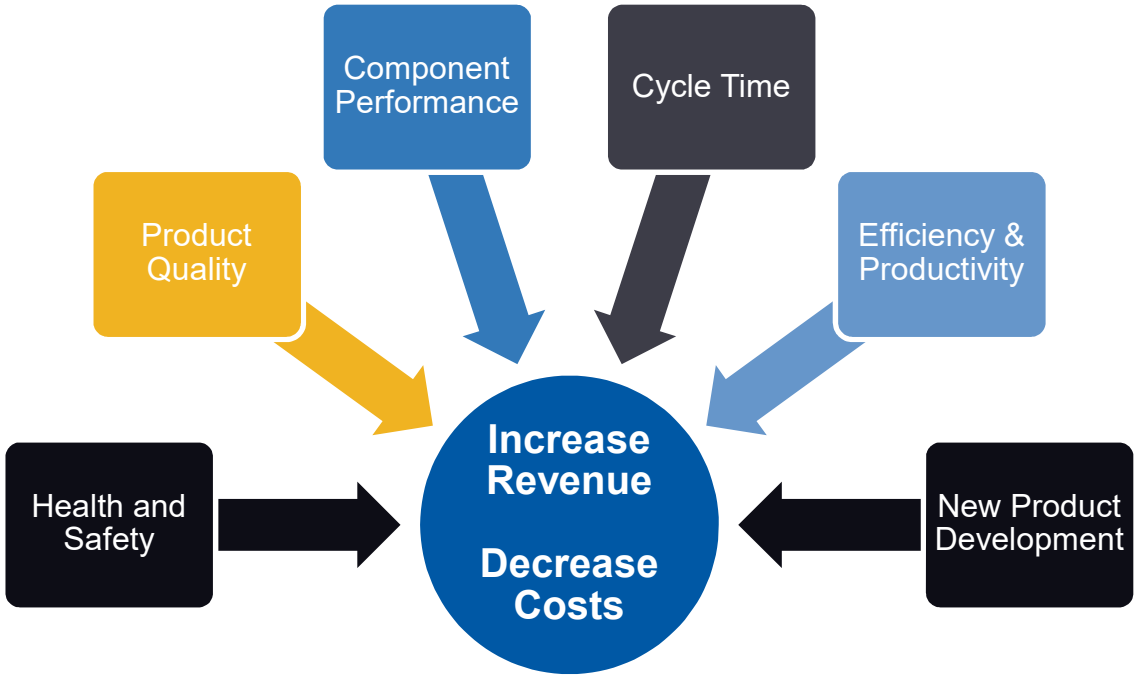
Addressing the challenges



How additive manufacturing can help

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Component Performance	Supply Chain	Innovation
Reduce Weight	Reduce Lead Times	Shorten Time to Market
Improve Air or Liquid Flow	Reduce Costs	Meet Handling Requirements
Increase Product Quality	Reduce Stock	Facilitate New Product Introduction

Production Tool Applications

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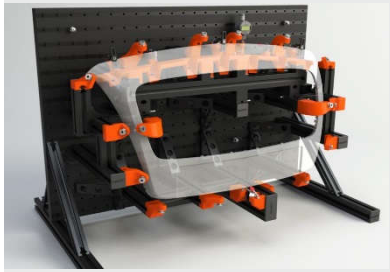
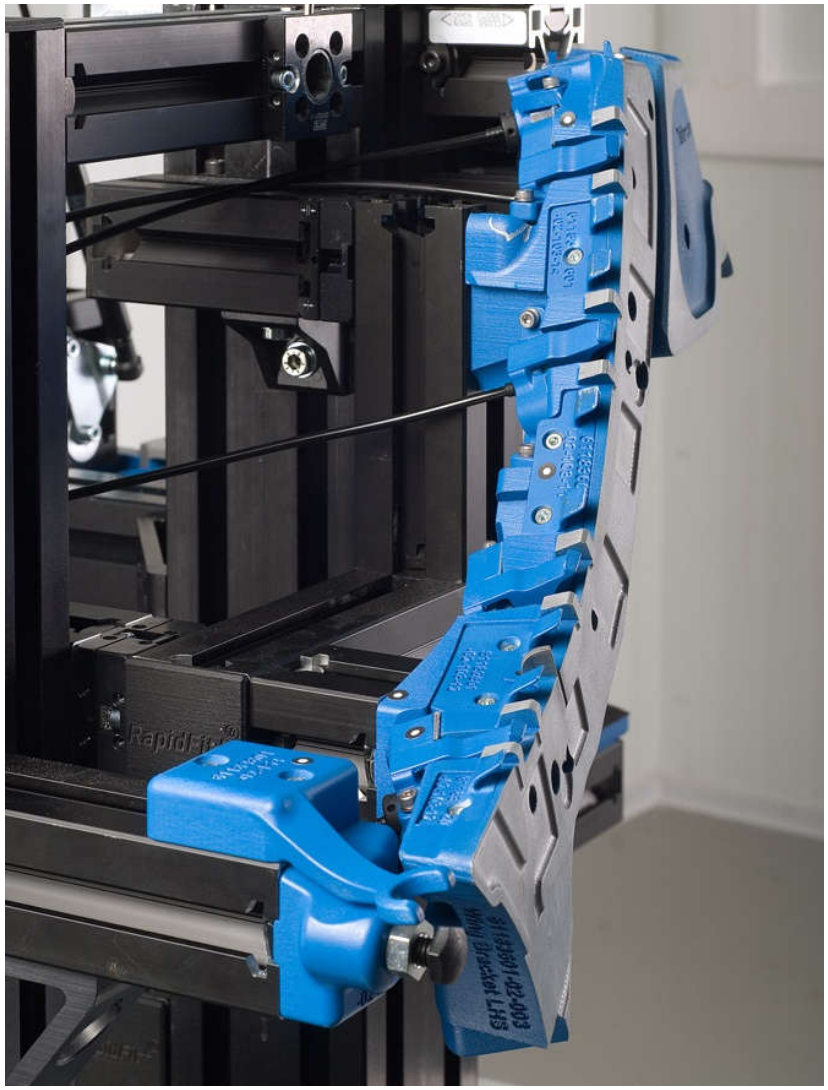
Fixtures		Casting Patterns		Vibratory Feeders
	Quality Control Aids		Brackets	
Jigs and Working Aids		Nozzles		Grippers



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Jigs & Fixtures

- Custom design
- Precise
- Integrated functionality
- Lightweight

CASE STUDY

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Volvo Gluing Fixture

- Improve accuracy
- Reduce weight
- Decrease cost and lead time

CASE STUDY

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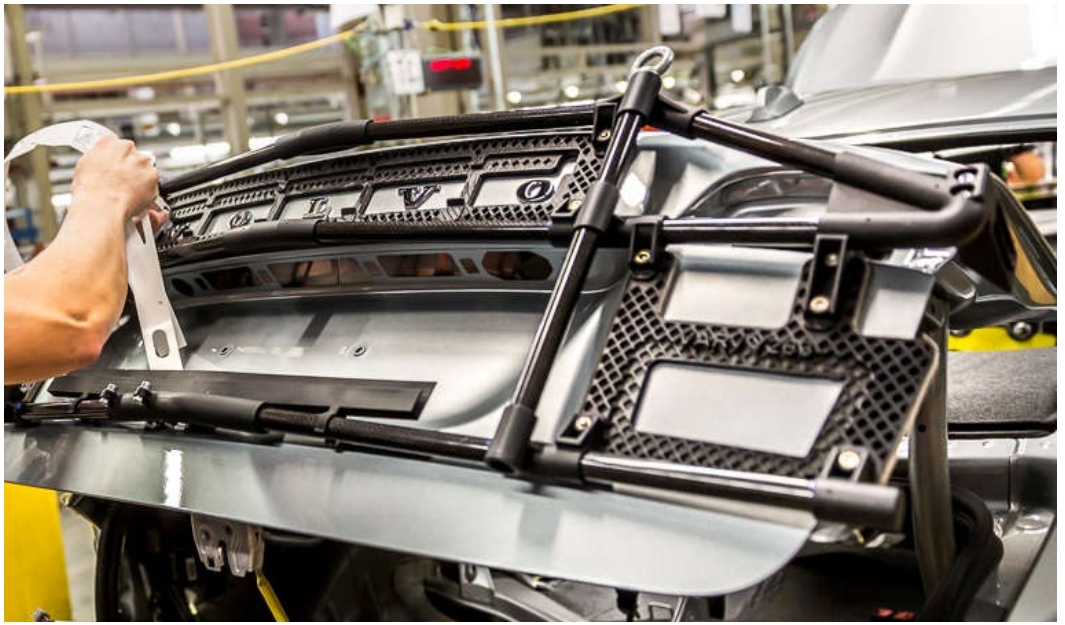
Volvo Gluing Fixture

- 0.2mm accuracy
- 64% weight reduction
- 48% cost reduction
- 67% lead time reduction



Product Quality

Efficiency & Productivity

Component Performance

Health and Safety

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Nozzles

- Optimise flow of air, gas or liquid
- Complex or intricate designs
- Cost efficient small series
- End-product innovation

CASE STUDY

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Food Extrusion Nozzles

- Optimize liquid flow
- Reduce leakage risks
- Manufacture on demand

CASE STUDY

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Food Extrusion Nozzles

- Fit for purpose channel design
- Manufactured as one part
- Small series production

New Product Development

Component Performance

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Flexible Grippers

- Improved gripping
- Flexible material
- Delicate products
- Different shapes
- Customizable

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Vacuum Grippers

- Complex shapes
- Lighter and faster
- Integrated channels
- Customizable
- Less assembly

CASE STUDY

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Suction Gripper

- Reduce costs
- Save weight
- Increase part lifetime

CASE STUDY

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Suction Gripper
A design evolution

- €900 + assembly
- 237g

- €290 + assembly
- 87g

- €275 + **no assembly**
- 60g

CASE STUDY

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Suction Gripper

- 75% weight reduction
- 70% cost reduction
- Reduced material volume
- Integrated functionality
- Increased wear resistance
- No assembly

Component Performance

Cycle Time

Efficiency & Productivity

CASE STUDY

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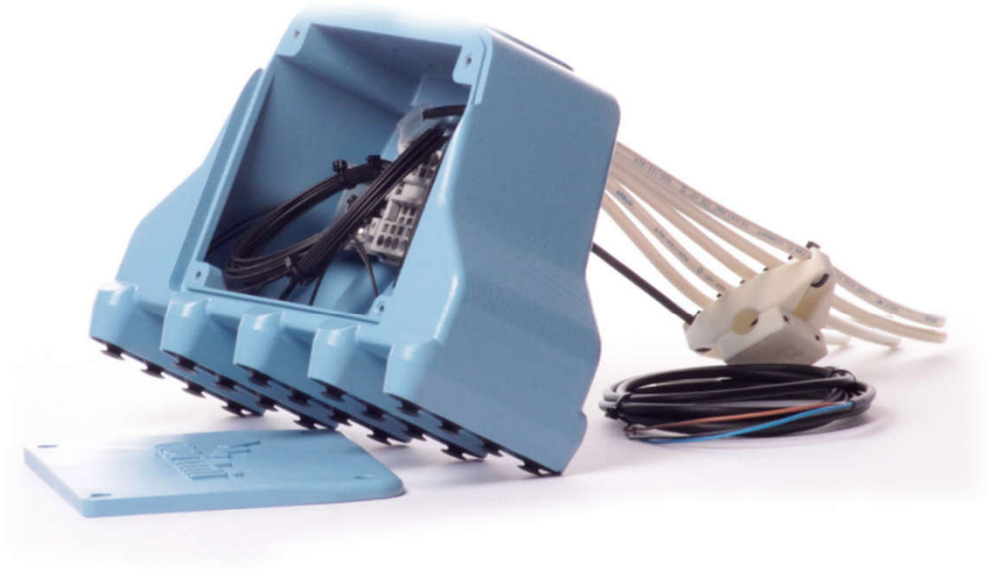
Intrion – Vacuum gripper

- Robot efficiency
- Risk of air leakage
- Limited space for optimal design



CASE STUDY

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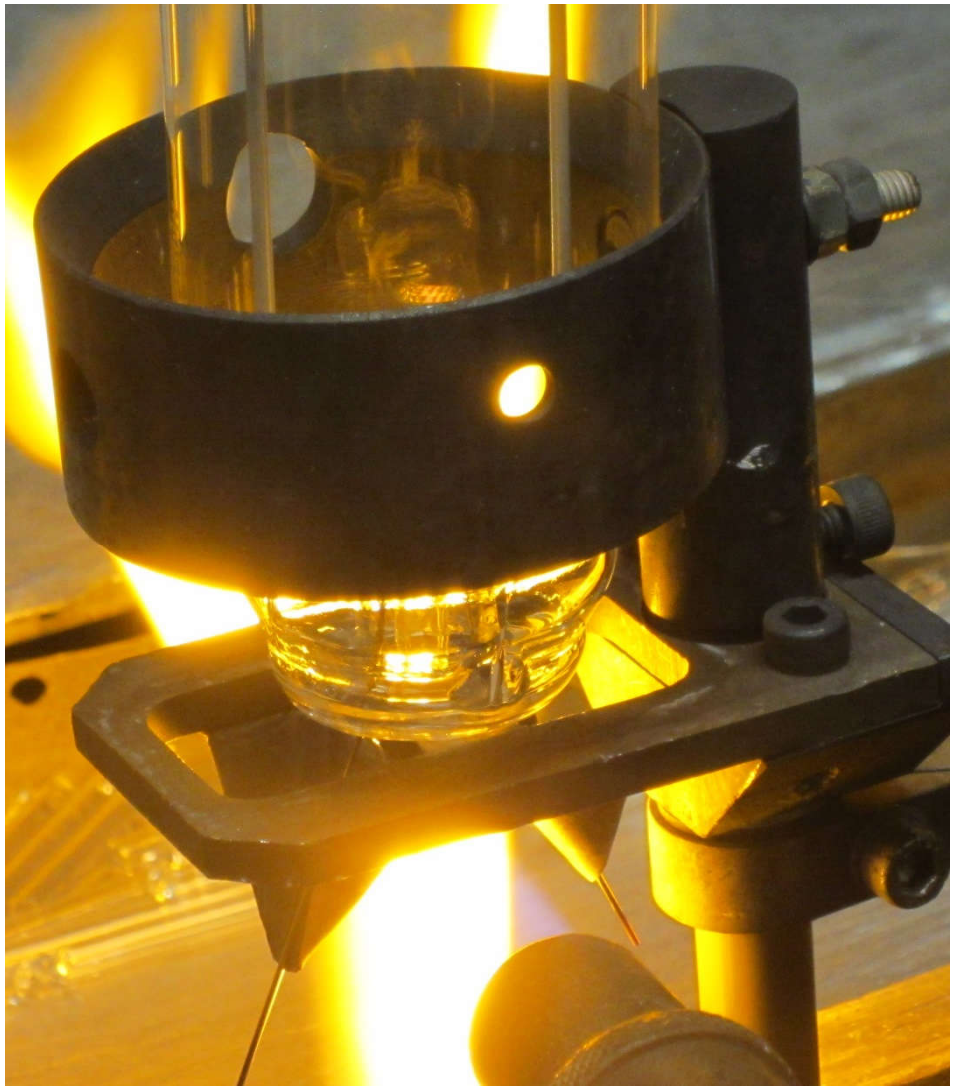
Intrion

- 70% weight reduction
- Lightweight design
- Integrated channels
- Electronics integration

Component Performance

Cycle Time

Efficiency & Productivity



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Brackets

- Complex geometries
- Product specific components

CASE STUDY

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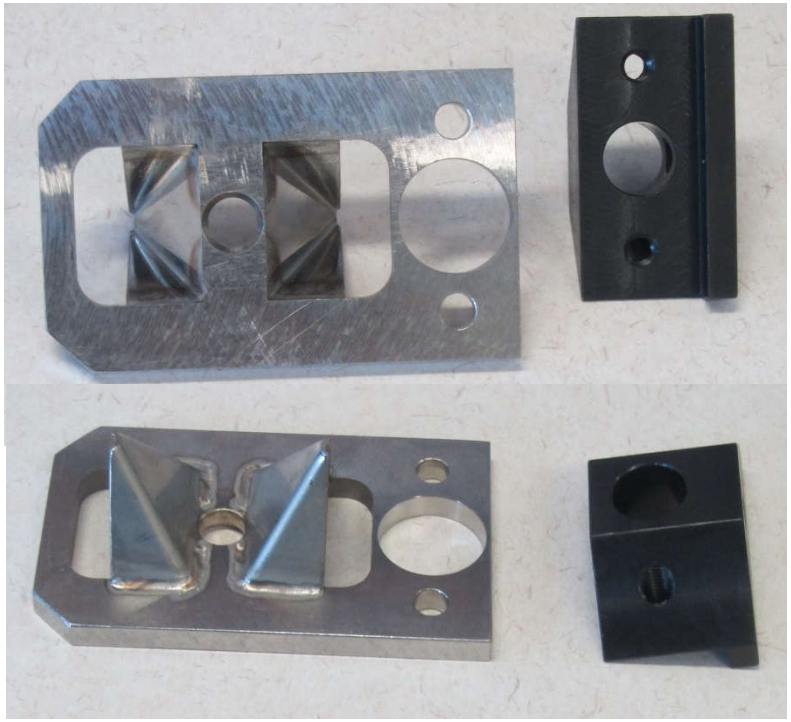
Philips Bracket

- Assembly of components
- Needed to be replaced regularly
- Frequent downtime



CASE STUDY

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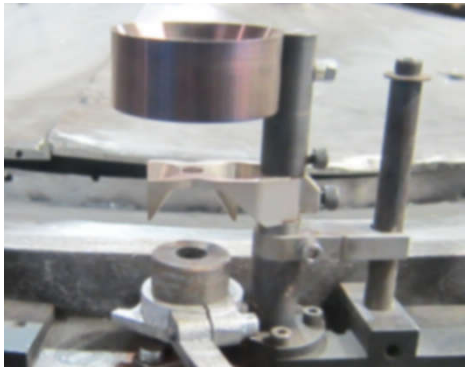
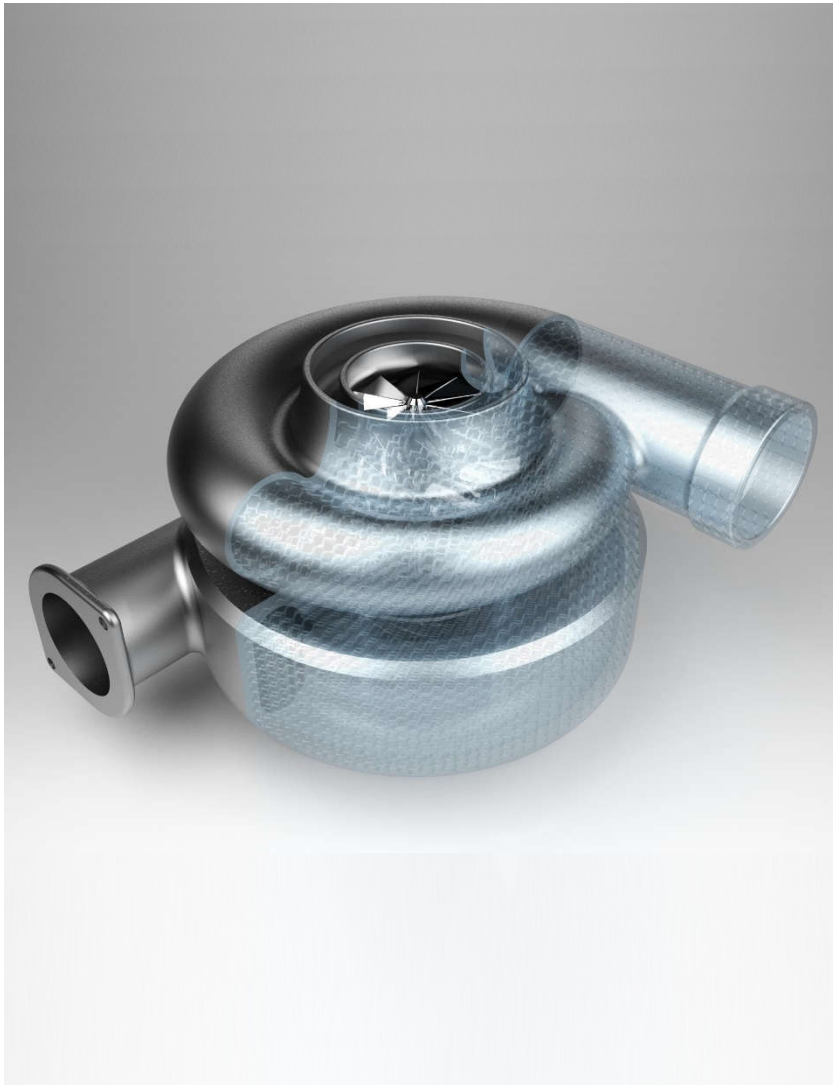
Philips Bracket

- Redesign for 3D printing
- Manufactured in 1 piece
- Shortened lead time
- Affordable small series



Component Performance

Efficiency & Productivity



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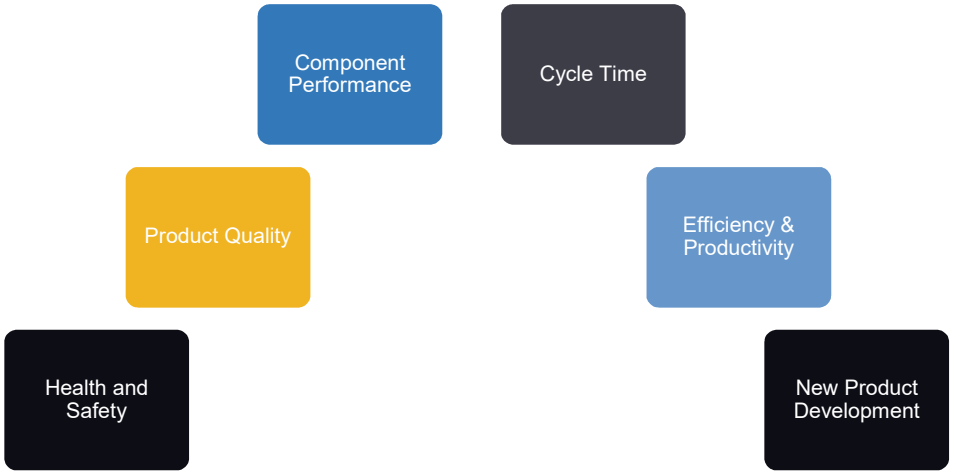
Casting Patterns: TetraShell

- Complex geometries
- Rapid production
- High dimensional accuracy
- High-level surface finish
- Large parts (up to 2m in length)

Finding your applications

- Identify the main challenges
- Locate your problem areas
  - Long lead times
  - High failure rate
  - Complex parts



Could another design and technology solve this?

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3DP Scan

A tailored programme to detect the opportunities for 3D printed components in your production facility.

- Identify the applications where 3D printing can add value
- Discover how to assess the suitability for 3D printing
- Benefit from Design for Additive Manufacturing
- Introduce 3D printed parts that can reduce costs and improve efficiency


Thank You