

# Fraunhofer Research Institution for Additive Manufacturing Technologies

## About this organisation

### Machine translation

This organisation has been machine-translated based on data provided in German.

With around 100 employees, the Fraunhofer Research Institution for Additive Production Technologies IAPT is one of the leading institutions for scientific and industrial technology transfer in 3D printing. It specialises in the research and development of additive production technologies with a focus on design, process and system development.

The Fraunhofer IAPT develops innovative approaches for lightweight construction in the aerospace, automotive, shipbuilding and other high-tech industries using additive manufacturing processes. The developments include - topology-optimised design - Combination of conventional production technologies with additive manufacturing - functional integration

Am Schleusengraben 14  
21029 Hamburg  
Hamburg  
Germany  
[www.iapt.fraunhofer.de/](http://www.iapt.fraunhofer.de/)



### Organisation type

Non-university research institution

### Sectors



### Employees

50 up to 249

### Turnover

n/a

### Funding

### Main areas covered

Additive manufacturing

### Infrastructure

3D printing production systems, Welding systems, Material analysis laboratory

### Certifications

### Keywords

3D printing, Additive manufacturing, Additive manufacturing

### Memberships

Additive Alliance (Organiser), Mobility Goes Additive, Medical Goes Additive, Hanse Photonik

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## Overview of lightweighting expertise

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|   | Research | Development | Manufacturing & Supply |
|---|----------|-------------|------------------------|
| <b>Offer</b>  |          |             |                        |
| <b>Products</b><br>Parts and components   | ✓        | ✓           | ✓                      |
| <b>Services &amp; consulting</b><br>Training, Consulting, Testing and trials, Engineering, Standardisation, Prototyping, Validation, Simulation, Technology transfer  | ✓        | ✓           | ✓                      |
| <b>Field of technology</b>  |          |             |                        |
| <b>Design &amp; layout</b><br>Lightweight manufacturing, Lightweight design, Hybrid structures, Lightweight construction concepts, Lightweight material construction  | ✓        | ✓           | ✓                      |
| <b>Functional integration</b><br>Actuator technology, Sensor technology, Thermal activation, Material functionalisation   | ✓        | ✓           |                        |
| <b>Measuring and testing technology</b><br>Component and part analysis, Visual analysis (e.g. microscopy, metallography), System analysis, Materials analysis, Destructive analysis, Non-destructive analysis | ✓        | ✓           |                        |
| <b>Modelling and simulation</b><br>Loads & stress, Life-cycle analysis, Multiphysics simulation, Optimisation, Processes, Materials   | ✓        | ✓           | ✓                      |
| <b>Plant construction &amp; automation</b><br>Plant construction, Automation technology, Handling technology, Robotics  | ✓        | ✓           |                        |

*Recycling technologies*

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|   | Research | Development | Manufacturing & Supply |
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| <b>Manufacturing process</b>  |          |             |                        |
| <b>Additive manufacturing</b><br>3D printing, Deposition welding, Electron beam melting, Laminated object manufacturing (LOM), Fused deposition modeling, Selective laser melting (SLM, LPBF, ...), Selective laser sintering (SLS) | ✓        | ✓           |                        |
| <i>Coating (surface engineering)</i>  |          |             |                        |
| <i>Fibre composite technology</i>   |          |             |                        |
| <i>Forming</i>  |          |             |                        |
| <b>Joining</b><br>Soldering, Welding  | ✓        | ✓           |                        |
| <b>Material property alteration</b><br>Mechanical treatment, Heat treatment   | ✓        | ✓           |                        |
| <b>Primary forming</b><br>Sintering   | ✓        | ✓           | ✓                      |
| <b>Processing and separating</b><br>Drilling, Turning, Milling, Electrical discharge machining, Sawing, Grinding, Cutting   | ✓        | ✓           |                        |
| <i>Textile technology</i>   |          |             |                        |

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| <b>Material</b>   |          |             |                        |
| <i>Biogenic materials</i>                                   |          |             |                        |
| <i>Cellular materials (foam materials)</i>                  |          |             |                        |
| <b>Composites</b>   |          |             |                        |
| Carbon-fiber reinforced plastics (CFRP)                     | ✓        | ✓           |                        |
| <i>Fibres</i>   |          |             |                        |
| <b>Functional materials</b>                                 |          |             |                        |
| Shape memory materials                                      | ✓        | ✓           |                        |
| <b>Metals</b>   |          |             |                        |
| Aluminium, Intermetallic alloys, Magnesium, Steel, Titanium | ✓        | ✓           | ✓                      |
| <b>Plastics</b>   |          |             |                        |
| Thermoset plastics, Elastomers, Thermoplastics              | ✓        | ✓           | ✓                      |
| <i>Structural ceramics</i>                                  |          |             |                        |
| <i>(Technical) textiles</i>                                 |          |             |                        |

## Contacts

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## Contacts

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