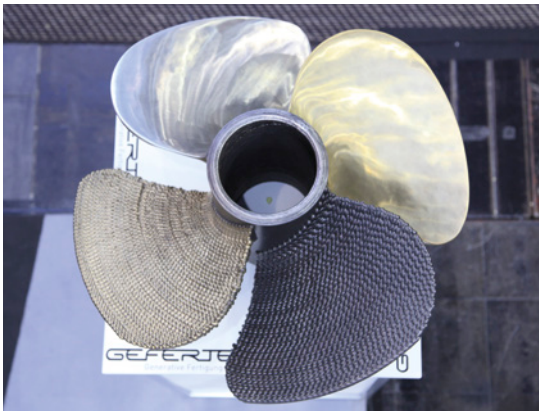


# **Additive Manufacturing** in the Capital Region Berlin-Brandenburg



Ship propeller with material mix made by 3DMP®



The BigRep STUDIO G2 is optimized for 3D printing projects with industrial grade materials.

#### Companies (selection)

3Bots 3D Engineering  
 3dk.berlin  
 3YOURMIND  
 addmotion  
 Alexander Daniels Global  
 Autodesk  
 BASF Schwarzheide  
 Berlin Tech Academy  
 BigRep  
 botspot  
 Carl Zeiss Meditec  
 Cellbricks  
 CellCore3D  
 clous  
 Druckerfachmann.de  
 EBK Krüger  
 F&B rapid production  
 Fab Lab Berlin  
 Fastpart Kunststofftechnik  
 flying-parts  
 formlabs  
 Gefertec  
 Hewlett-Packard  
 IFA 3D Medical Solutions  
 KleRo Roboterautomation  
 Kreatize  
 Metalprint3D-XXL  
 MotionLab.Berlin  
 Nanoval  
 Next Dynamics  
 Orion Additive Manufacturing  
 Ottobock  
 Photon  
 PSC Technologies  
 PYOT Labs  
 Ricoh Deutschland  
 Rojahn Design  
 Siemens  
 SKLT Strahlkraft Lasertechnik  
 Thiele+Wagner  
 Time Tool Rapid Prototyping  
 Trinkle 3D  
 Trumpf  
 voxelwerk  
 werk5  
 XERION Berlin Laboratories  
 xolo  
 YOUin3D.com

Additive manufacturing is becoming an increasingly important key technology with regard to industrial applications. The various innovative processes are on the agenda of large corporations, SMEs, and research institutes from almost all manufacturing industries. There is particular potential for development in the fields of aerospace, mobility and automotive, tool and mold making, as well as medical and dental technology, which are among the strengths of the capital region.

In recent years, Berlin-Brandenburg has become an important location for 3D printing technology developers, users, and service providers. For example, the medical technology company Otto Bock produces individual and custom-fit prostheses and orthoses using additive manufacturing. Siemens uses the technology for complex metallic components of gas turbines and Deutsche Bahn uses it to print spare parts for trains and infrastructure. Researchers at the Bundesanstalt für Materialforschung und -prüfung (BAM) have succeeded in developing 3D printers based on powder-based additive manufacturing in weightlessness for use in space travel.



»Formlabs is a young, innovative company that produces user-friendly and affordable 3D printing systems. These systems are used worldwide in the mechanical engineering & manufacturing industries, as well as in dentistry and education & research. Our headquarters are located in Boston, USA and our EMEA office in Berlin has been growing rapidly since 2015 - not least because of the high availability of young international talent, the excellent start-up ecosystem and the city's strong 3D printing community.«

**Stefan Holländer**  
 Managing Director EMEA  
 Formlabs GmbH



»3YOURMIND was founded in 2014 as a spin-off of the Technische Universität Berlin and above all benefited from Berlin's excellent startup ecosystem, the good funding instruments, and the high degree of availability of young talent. The strong 3D printing community in the city helped us with our rapid international breakthrough and makes Berlin the most important location for 3D printing in Germany.«

**Stephan Kühn**  
 Founder, CEO  
 3YOURMIND GmbH

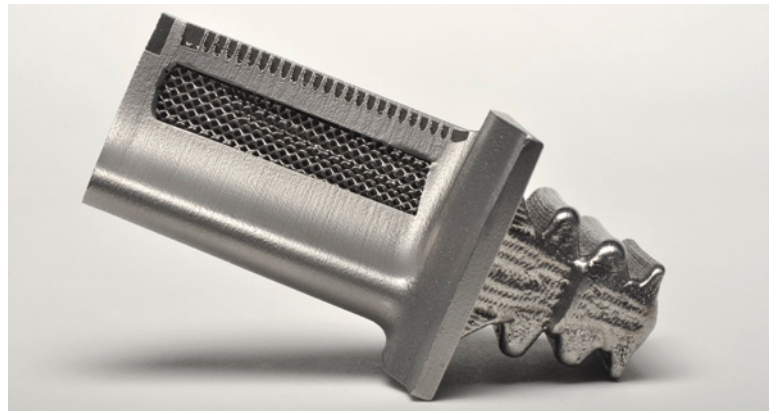
## Complete value chain

Companies and scientific institutions in Berlin today represent the entire value chain of additive manufacturing. As an important interface between the digital economy and manufacturing industry, the sector also benefits greatly from the dynamic Berlin startup scene. In addition to hardware development, startups from Berlin also offer innovative solutions along the data-driven value-added process of 3D printing. CellCore develops component optimization software based on bionic principles to improve lightweight structures. Trinkle offers cloud-based software that enables the customization of 3D-printable products. Botspot is one of the leading international specialists for professional 3D scanning.

Small and large-format printers for professional and industrial applications have been conquering the international market for several years. Various processes are used, from stereolithography and laser sintering as with the printers from Formlabs to fused filament fabrication/fused deposition modeling (FDM) from companies such as BigRep and F&B rapidproduction, to Gefertec's innovative 3D metal print process



3D-printed copper inductors from ProtiIQ and trinckle 3D



SLM-LPA hybrid blade produced at Fraunhofer IPK

based on arc welding technology. In addition, Berlin is home to a number of experienced companies in materials science, such as 3dk.berlin, which continues to develop a large number of plastics, and Nanoval, a specialist in the production of high-quality metal powders. In the field of bioprinting, the three-dimensional printing of living cell tissue structures, the new company Cellbricks is a pioneer in tissue engineering applications and the development of artificial organs for transplantation medicine.

## Excellent science

Berlin's outstanding scientific landscape makes important contributions to technology development. Among others, its primary focuses are in digital 3D modeling at the Technische Universität of Berlin, printable ceramics, biomaterials, and quality control at the Bundesanstalt für Materialforschung und -prüfung (BAM), printed electronics at the Fraunhofer IPK and the Beuth University of Applied Sciences. The integration of additive manufacturing in the context of Industry 4.0 and the digital factory is being advanced by the Hochschule für Technik und Wirtschaft Berlin.



the obstacles to its implementation.«

**Stefanie Brickwede**  
CEO  
Mobility goes Additive e. V.



**Prof. Dr.-Ing. Michael Rethmeier**  
Head of Division Welding Technology  
Bundesanstalt für Materialforschung und -prüfung (BAM)

»With its variety of polymers, ceramics, and metals, additive manufacturing is highly relevant for many of BAM's areas of research. In Berlin, their applicability for automotive, aerospace and medical technology, among others, is being researched. Our

global cooperation and research projects often result in innovations and patents whose industrial applicability is the stated goal of BAM.«

## Global networks

Today, the German capital is an internationally renowned location for innovation, new technologies and additive manufacturing. For this reason, the 3D printing network MGA (Mobility/Medical goes Additive) was established here recently. Another milestone for 3D printing is the establishment of a center for additive manufacturing in the south of Berlin. The Industrial Additive Manufacturing Hub Berlin (IAM Hub) is a place to go for young 3D printing companies and scientific institutes. Innovative ideas are born and groundbreaking 3D printing projects are implemented on the rapidly developing campus, and there is also an attractive offer of co-working space.

In addition, the nationwide AM association Verband 3DDruck and other networks operate from Berlin and represent a strong community on various aspects of technology, law and standardization.

### Science | Research (selection)

bbw University of Applied Sciences  
Berlin University of the Arts  
Beuth University of Applied Sciences Berlin  
Bundesanstalt für Materialforschung und -prüfung (BAM)  
Charité – Universitätsmedizin Berlin  
Fraunhofer Institute for Applied Polymer Research (IAP)  
Fraunhofer Institute for Production Systems and Design Technology (IPK)  
Fraunhofer Institute for Reliability and Microintegration (IZM)  
Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute (HHI)  
Hasso Plattner Institute  
Hochschule für Technik und Wirtschaft Berlin (HTW)  
Technical University of Applied Sciences Wildau  
Technische Universität Berlin  
Weißensee Academy of Art Berlin

### Networks | Associations (selection)

3D Printing Network Berlin  
Composites United  
Medical goes Additive  
Initiative Leichtbau  
Innovation Network for Advanced Materials  
Mobility goes Additive  
Netzwerk Leichtbau Metall Brandenburg  
Verband 3DDruck

# Our goal: your success!

Berlin offers excellent starting conditions for growth, production, research and development. Economic policy focuses on innovation and technological performance.

Our goal is to help companies and scientific institutes start up, develop and network here.

We support you with:

- Finding a location
- Funding and financing
- Technology transfer and R&D cooperation
- Collaborative networks
- Recruiting strategy
- Visa applications
- International market development



The new competence atlas for additive manufacturing in the capital region is online. Register your company free of charge!

[www.businesslocationcenter.de/industrieatlas](http://www.businesslocationcenter.de/industrieatlas)

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