

BERLIN



ADDITIVE MANUFACTURING

IN THE CAPITAL REGION



AMBER - THE FRAMEWORK FOR BERLIN'S AM ECOSYSTEM

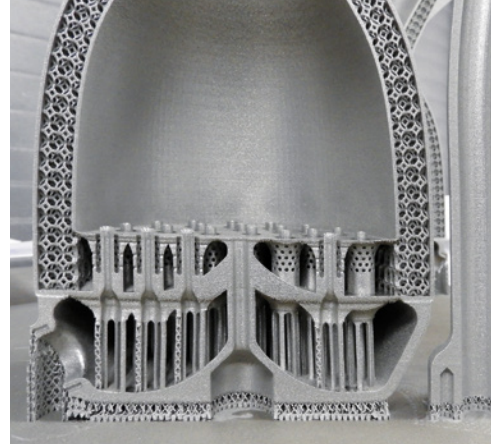
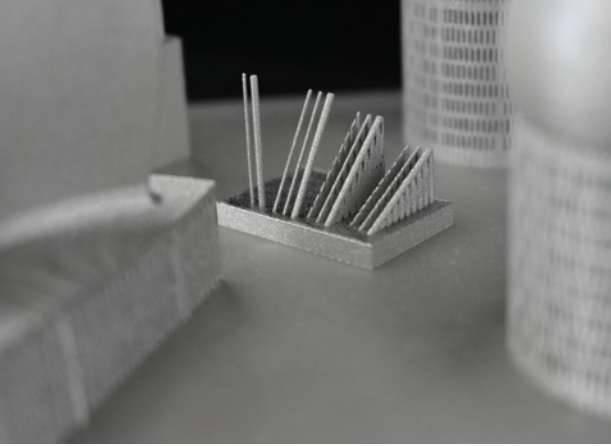
Additive manufacturing is an integral part of industrial policy in the capital region and a technology priority in Berlin's Industrial master plan. As a result AMBER stands for the regional cluster for additive manufacturing in Berlin and beyond (Additive Manufacturing Berlin-Brandenburg), supported by a core of strategic partners and coordinated by Berlin Partner. AMBER pursues the rapid transfer of research results into sustainable and internationally competitive innovations and stands as an umbrella brand for the AM ecosystem of the capital region. The goal is nothing less than to develop Berlin into the top address in Europe as an international platform for new production technologies based on its highly innovative AM players, its major 3D printing conferences such as AM Forum and AM Medical Days, AM education and cutting-edge research.

The Berlin Senate has taken an important step in this direction with the targeted AMBER Call of 14 million euros for R&D projects. The focus is on the topics of „Personalized medical technology“, „Additive manufacturing with bio-based materials“, „Design and lightweight construction“ and „Additive manufacturing in/for space“. The projects with a total of 29 partners from universities, research institutions and companies from the capital region will run until the end of 2025 and create high-tech innovations „made in Berlin“.



AMBER

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BERLIN-BRANDENBURG



KEY TECHNOLOGY ACROSS MANY INDUSTRIES

Additive manufacturing is becoming an increasingly important key technology for industrial applications, and Germany is the home country for industrial 3D printing. The various innovative processes are equally on the agenda of large companies, SMEs and research institutions. There is particular development potential in the aerospace, mobility and automotive sectors, as well as in medical and dental technology. These industries are regional strengths that are represented by the capital region's clusters. For example, medtech companies such as Ottobock use additive manufacturing for the development of individual and custom-fit prostheses and orthoses, while Siemens manufactures complex metallic components of gas turbines and Deutsche Bahn in turn uses 3D printing as a supplement for its spare parts production.

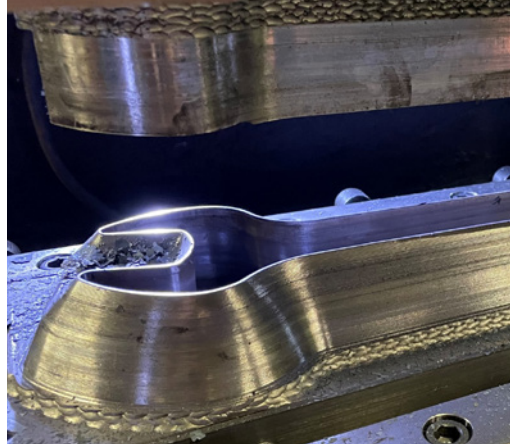


»AM is in high demand for producing components quickly, sustainably, and locally. 1000Kelvin is an AI company based in Berlin developing the largest machine learning models to enable cost effective and higher quality AM to scale. With the support of the city via the recent AMBER funding call we were able to accelerate our innovation roadmap and become the leading AI company in the additive manufacturing industry. Berlin's thriving tech startup scene provides 1000Kelvin with access to a diverse and supportive entrepreneurial ecosystem for growth and development.«



Dr. Anna Katharina Eissing

Co-founder and CTO of 1000Kelvin 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 Berlin's unique startup scene. Beside hardware development, a few renown startups develop highly innovative solutions along the data-driven value-added process of 3D printing.

CellCore, for example, develops software for component optimization based on bionic principles to improve lightweight structures. Trinckle offers cloud-based software for the customization of 3D printable products, while Botspot is one of the leading international specialists for professional 3D scanning.

COMPANIES (selection)

1000Kelvin / 3DCeram Sinto Tiwari / 3Dealy / 3dk.berlin / 3D-Medico / 3Dpartzz / 3D Point / 3YOURMIND / Alstom / BigRep / botspot / ccd systems / Cellbricks / CellCore / CNCteile24 / Constin / druckerfachmann.de / Endless Industries / FACTUREE / FASTPART Kunststofftechnik / flying-parts / Formlabs / GaeaStar / GE-FERTEC / IFA 3D Medical Solutions / Kaisertech / KleRo Roboterautomation / Kreatize / Kunststoffguss Berlin / MakerVerse / MaxResolution3D / MotionLab.Berlin / Nanoval / nFRONTIER / Orion Additive Manufacturing / Ortho Native 3D / Ottobock / Photon / PYOT Labs / Quantica / Rojahn Design / Siemens / Siemens Energy / Space Structures / Stadler Rail / Thiele + Wagner / Think3DDD / trinckle 3D / Überdruck 3D / voxelwerk / werk5 / Würth Elektronik eiSos / XERION BERLIN LABORATORIES / Xolo / YOUin3D.com



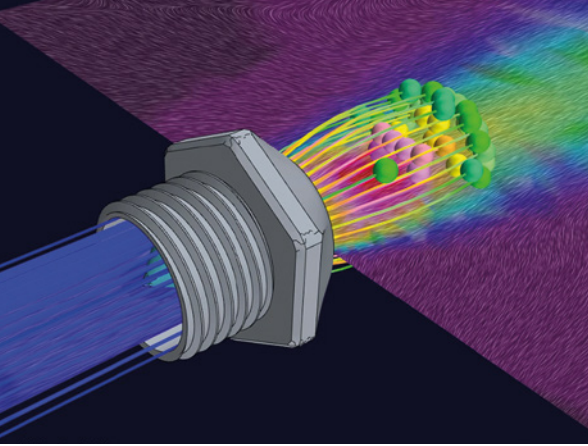
Small and large format printers for professional and industrial applications have been spreading on the international market for several years. Various processes are used, such as stereolithography and laser sintering in the printers from Formlabs, which has its European headquarters in the city. Companies founded in Berlin, such as BigRep, use fused deposition modeling (FDM), while GEFERTEC's innovative 3D metal printing process is based on arc welding technology. Berlin is also home to a number of experienced materials science companies, such as 3dk.berlin, which develops a variety of plastics, and Nanoval, which specializes in the production of high-quality metal powders. In the field of bioprinting, the 3D printing of living tissue structures, the young company Cellbricks is a pioneer in tissue engineering applications and the development of artificial organs for transplant medicine.

RESEARCH INSTITUTIONS (selection)

bbw University of Applied Sciences / Berliner Hochschule für Technik (BHT) / Berlin University of the Arts / 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) / SRH Berlin University of Applied Sciences / Technical University of Applied Sciences Wildau / Technische Universität Berlin / Weißensee Academy of Art Berlin

ASSOCIATIONS & NETWORKS (selection)

AMBER / Composites United / Initiative Leichtbau / Innovation Network for Advanced Materials / Medical goes Additive / Mobility goes Additive / Netzwerk Leichtbau Metall Brandenburg / Verband 3DDruck / Werner-von-Siemens Centre for Industry and Science



EXCELLENT SCIENCE

Berlin's outstanding scientific landscape makes important contributions to technology development. Key areas include digital 3D modeling at the Technische Universität Berlin, printable ceramics, biomaterials and quality control at the Bundesanstalt für Materialforschung und -prüfung (BAM). The Fraunhofer IPK and the Berliner Hochschule für Technik (BHT) have built up strong competencies in printed electronics, while the integration of additive manufacturing in the context of Industry 4.0 and the digital factory is being driven forward by the Berliner Hochschule für Technik und Wirtschaft.



»Additive manufacturing is increasingly becoming a key technology for digital, sustainable, personalized, on-demand and in-place production and is characterized by a diversity of technologies, materials and application areas. At TU Berlin, additive manufacturing is now one of the strongest research areas and is attracting enormous and ever-growing interest among students from all over the world.«



Prof. Dr. Aleksander Gurlo

Head of the Chair Advanced Ceramic Materials
Technische Universität Berlin

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 a few years ago. The Industrial Additive Manufacturing Hub Berlin (IAM Hub) has also taken up residence on the grounds of the Marienpark Innovation Quarter, which is in direct neighborhood to ringberlin, the upcoming largest makerspace in Europe. With its existing infrastructure and co-working space, it is a highly synergetic place to go for young 3D printing companies and scientific institutes. 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.



»Additive manufacturing is a dynamic technology and ideal for the startup environment in Berlin. That's why we steer MGA, the leading 3D printing network in Europe, from the „Capital of AM“. 150 member companies from all areas of the AM value chain are leveraging the potential for diverse industries. Started in the railway sector, today it also covers medicine, aerospace, automotive, architecture, energy, pharmaceuticals and more.«



Stefanie Brickwede

CEO, Mobility goes Additive e. V.



BERLIN

OUR AIM: YOUR SUCCESS

IN THE CAPITAL REGION



Berlin offers excellent starting conditions for production, research and development. Economic policy focuses on innovation and technological performance. Our goal is to support companies and scientific institutions effectively in their settlement, growth, further development and networking.

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