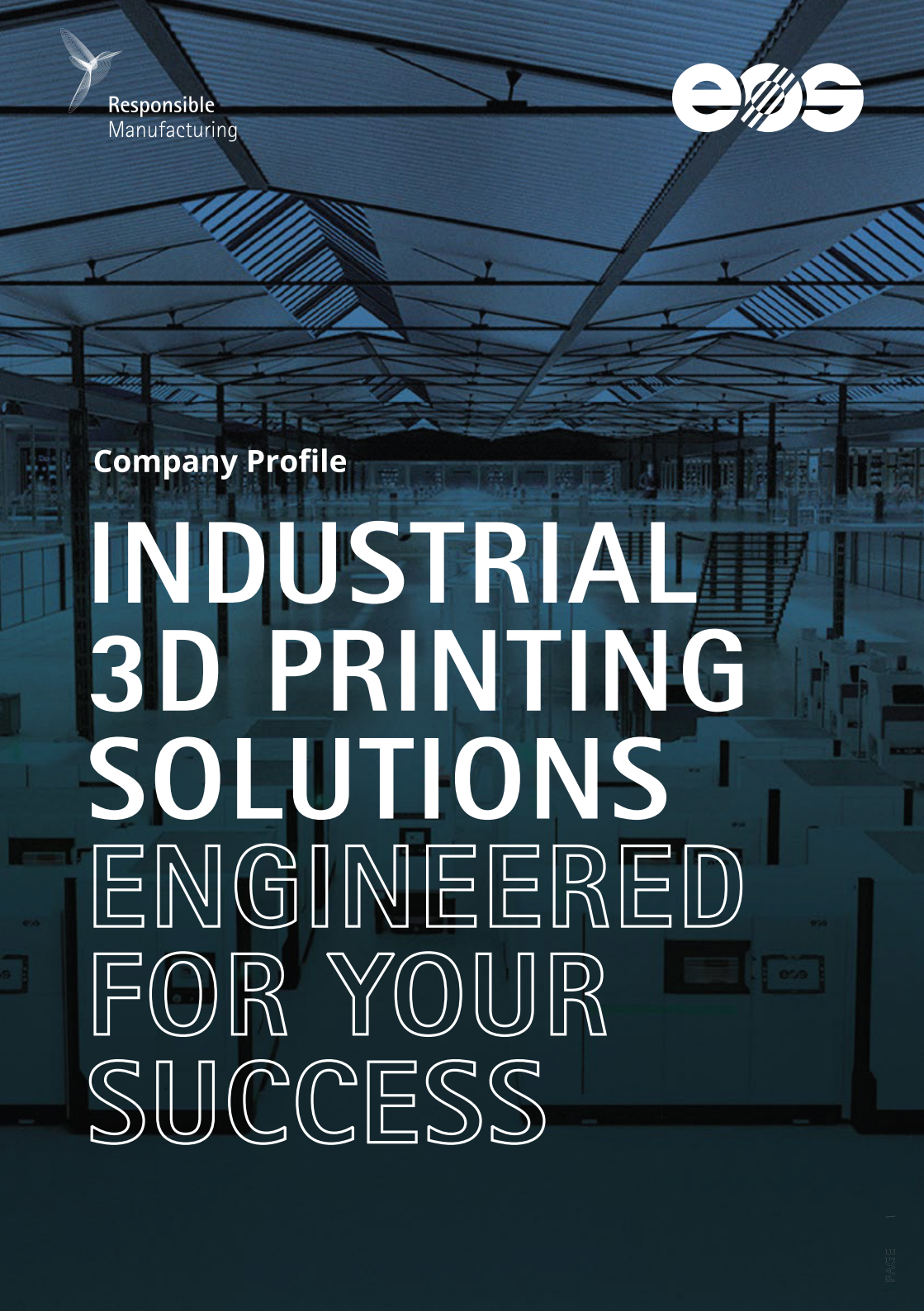


Company Profile

INDUSTRIAL 3D PRINTING SOLUTIONS ENGINEERED FOR YOUR SUCCESS

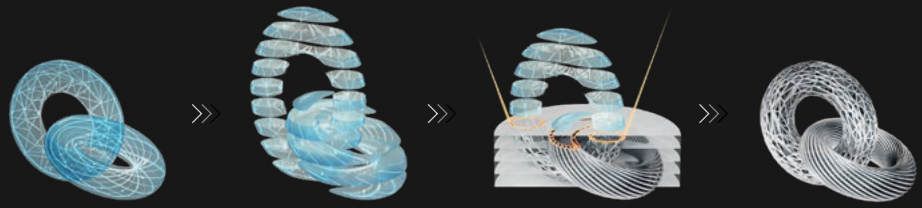
Who We Are

EOS provides responsible manufacturing solutions via industrial 3D printing technologies to organizations around the world. Since 1989, EOS has shaped the future of manufacturing by enabling its customers to innovate and differentiate through expert guidance, technology and services, leveraging its end-to-end additive manufacturing (AM) industry partnerships. From strategy to education to production, EOS is the leading global partner for both metal and polymer AM solutions, accelerating time-to-market for its customers through high-quality production efficiencies and sustainable solutions.

What We Do

At EOS, we work with the additive manufacturing technology of powder bed fusion, which enables the production of components directly from 3D CAD data. Components are built layer by layer from materials supplied as fine powder, which are available in a wide range of metals and polymers.

This is how it works high-level:



1 Create a digital 3D model

2 Slice the 3D model

3 Build the part layer by layer

4 Final part

Responsible Manufacturing

3D printing is an enabler technology for sustainable products. It contributes to less material consumption, less over-production and less waste. No molds or special tools need to be made. Spare parts inventory is reduced significantly and on-site, on-demand 3D printing has a positive impact on global supply chains.

Dual Function Inductor

Up to 60 % less energy needed, up to 58 % lower costs per part.

Project: thyssenkrupp
Source: EOS

Airbus A350 Latch Shaft

45 % weight reduction saves > 3 000 kg CO_2 per plane per year, 25 % lower production cost.

Project: Airbus
Source: EOS

Customized Eyewear

58 % lower carbon footprint, higher wearing comfort.

Project: YOU MAWO
Source: YOU MAWO

Benefits of EOS Technology

Lightweight Design

3D printing enables the design and manufacture of high-strength lightweight structures. Components only use material where it is functionally necessary, thus saving resources and making them significantly lighter.

Functional Integration

Space-saving design with the same functionality is desirable. Fewer assembly parts mean lower assembly costs, reduced susceptibility to errors and more favorable logistics costs.

Complex Geometries

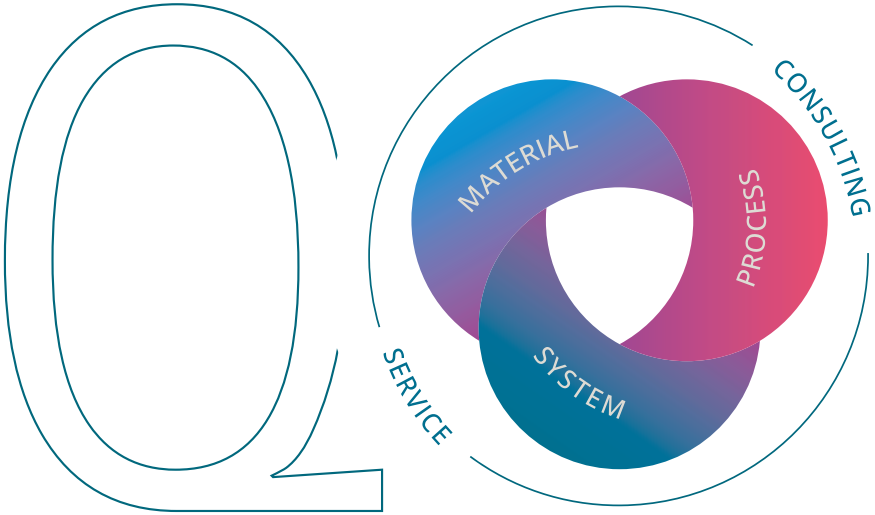
Industrial 3D printing offers maximum design freedom. Any shape that can be designed in a 3D CAD program can be created in 3D printers.

EOS Quality.

We create the conditions for uniform, repeatable and reliable part properties.

System Quality Assurance

We manufacture fixed, predefined reference objects that are checked against all decisive criteria, including mechanical properties such as tensile strength, elongation at break, porosity and surface quality. The corresponding tests are conducted using common DIN and ISO standards*.



Material Quality Testing

Each batch of raw powder is checked in terms of chemical properties and uniform particle size distribution using various test procedures - which is especially important in additive manufacturing. The second quality check is performed with density cubes and tension rods. All testing and processing steps are performed in class 9 cleanrooms.

Process – Verified and Secured Parameters

All parameters, like laser power or layer thickness, that are required for attaining certain chemical or component characteristics, are based on more than 30 years of experience at EOS, coupled with a comprehensive series of tests during product development. Intensive coordination with hardware development teams and material suppliers enables cross-cutting optimization potentials.

Comprehensive Service

Our comprehensive service offering ensures high-quality system performance for the entire lifetime of the machine.
Close service support with standard or customized packages, as well as effective maintenance management following dedicated and proven procedures with original and qualified parts, ensures consistent production quality in compliance with industry-specific regulations.

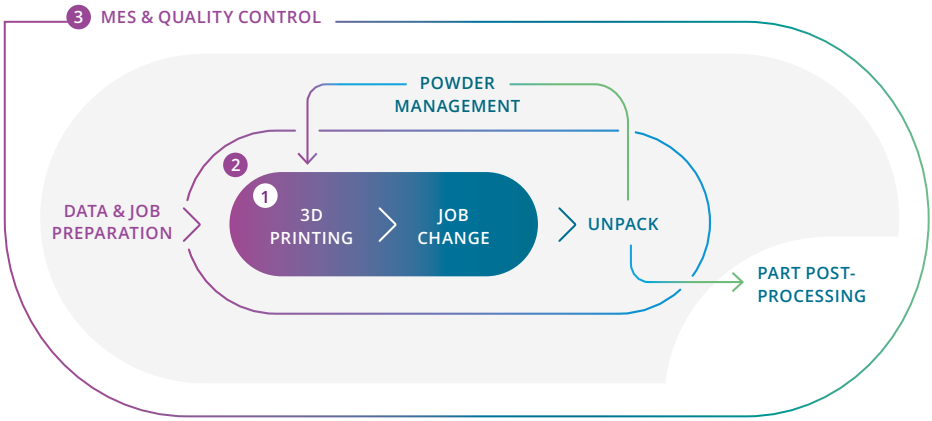
The objective of our quality policy is to identify current customer needs and recognize future market requirements at an early stage, so we can meet them with appropriate organization, technical, and economic means.
Through our multilateral coordination between the three elements (system, material, and process) drawn from 30 years of experience, we create the conditions for uniform, repeatable and reliable part properties. The result? Unsurpassed part quality. With comprehensive quality assurance measures in all three areas, EOS has established an integrated quality approach for series production.

** Certification of EOS GmbH in accordance with ISO 9001:2008 (since 1998) for the development & production and sale & service of laser sintering systems. Certification of EOS Oy (EOS subsidiary in Turku, Finland) in accordance with ISO 9001:2008 (since 2013) and in accordance with the Medical Products Law (ISO 13485:2003, since 2012). Certification of KVS GmbH in accordance with ISO 9001:2008 for the development, production, testing and marketing of polyamide powders and mixtures.*

Automation for Every Scale of Production

Existing production structures and processes have reached their limits in terms of flexibility, the feasibility of complex parts, and product customization. But 3D printing provides an integrated, intelligent, and digitally optimized solution to these challenges. To increase the output and decrease the cost-per-part the keyword is process automation.

We provide suitable solutions to streamline a manufacturing infrastructure starting with automated machine interfaces to reduce the cycle time and guarantee operational build times lasting several days (1). The next level includes optimized accessories to smoothen the unpacking of parts (2) and it ends with the automation of quality assurance steps, material handling and post-processing equipment (3). State-of-the-art software interfaces allow to embed all elements in MES and ERP systems to gain transparency and control the performance of the 3D printing production.



Established Polymer Machines for a flexible and economical production of prototypes and final products in small to medium sized series.

FORMIGA P 110 *FDR*

The reliable system is now operating with a one-of-a-kind ultra-fine laser beam to produce delicate parts and extremely smooth surfaces, which enable new fields of applications.

Usable build size
200 × 250 × 330 mm
7.9 x 9.8 x 13 in

FORMIGA P 110 *Velocis*

The system with the smallest footprint ensures high performance and reliability. Its well-known FORMIGA quality has set a standard in the market.

Usable build size
200 × 250 × 330 mm
7.9 x 9.8 x 13 in

EOS P 396

The proven and robust system with a medium-sized building volume offers the largest variety of materials on the market.

Usable build size
340 × 340 × 600 mm
13.4 x 13.4 x 23.6 in

Industrial 3D Printers of Plastic Material

EOS P 500

The automation-ready production platform reliably produces high-quality components at the lowest cost per part. Thanks to clever hardware interfaces and accessories, the uptime of the EOS P 500 increases by up to 75 % compared to predecessor systems and competition models.

Usable build size
500 × 330 × 400 mm
19.7 x 13 x 15.7 in

EOS P 770

With its large building volume the dual-laser system allows for the production of large parts and high-throughput manufacturing.

Usable build size
700 × 380 × 580 mm
27.6 x 15 x 22.9 in

EOS Metal 3D Printers for high-quality parts with integration posibilities in your existing production enviroment.

EOS M 290

Robust system design and powerful fiber laser deliver reliable high performance.

EOS M 290 1kW

Ideal for producing highly complex components, particularly for copper and aluminium.

Usable build size
250 × 250 × 325 mm
9.8 x 9.8 x 12.8 in

EOS M 290-2

Equipped with two 400 W lasers that offer full-field overlap and optimized laminar gas flow while ensuring the high performance of material properties. Best-in-class process quality and material library comparable to EOS M 290.

Usable build size
250 × 250 × 325 mm
9.8 x 9.8 x 12.8 in

EOS M 300-4

DMLS quality with up to 10x more productivity for the industrial production of metal parts. Each of the four 400 W lasers covers the entire build area, which maximizes productivity.

Usable build size
300 x 300 x 400 mm
11.8 x 11.8 x 15.7 in

M

EOS metal 3D printers are based on the DMLS process, with a range of different build space sizes, laser power ratings, and scalability.

EOS M 300-4 1kW

Designed to optimize production of materials requiring high intensity and high productivity at a very low cost-per-part. Boost productivity with versatile lasers, customizable automation, and adaptable design.

Usable build size
300 x 300 x 400 mm
11.8 x 11.8 x 15.7 in

EOS M 400

Ideal for serial manufacturing of large metal parts, ensuring exceptional quality at high volume. 1000 W laser power increases productivity with higher build rates and thicker layers.

Usable build size
400 × 400 × 400 mm
15.7 x 15.7 x 15.7 in

EOS M 400-4

The ultimate choice for industrial applications. Four 400 W lasers and a large build plate offering four-times higher productivity. Hassle-free user interface and flexible software tools guarantee ease of operation.

Usable build size
400 × 400 × 400 mm
15.7 x 15.7 x 15.7 in

EOS Software and Process Parameter to prepare, optimize, control, and monitor the additive manufacturing process.

Job and Process Management
EOS Build / EOS Build+ Plan

EOS Build delivers the key features of the data preparation and job optimization software EOSPRINT. Multiple users can optimize process parameters and manage material usage across the organization. The plans provide customers with flexible flat rate access to all available validated and proven EOS material sets.

Industrial Grade Connectivity
EOS Data Insights Plan

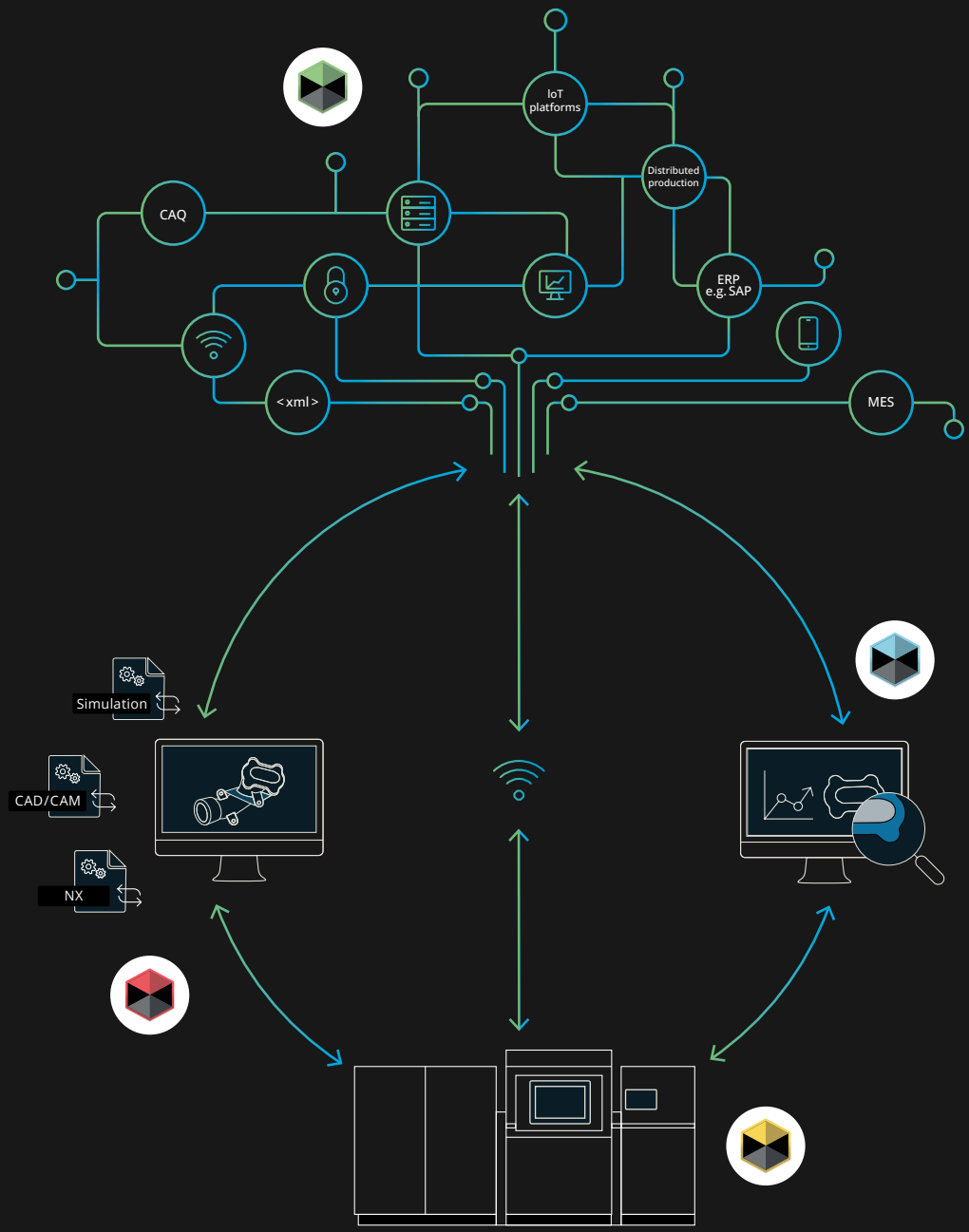
The software offers unparalleled insights into machine performance, either individually or as a whole park of devices. As a web-based subscription platform, it's available on-premises or via the cloud, with a UI for desktop and mobile devices.

System and Periphery Control
EOS System Suite Plan

EOS System Suite helps streamline the production process. This improves quality and reduces downtime. The software package includes an open API that can collect sensor and status data from EOS systems, integrate them with MES and other IT systems on the shop floor, retrieve job and part quality reports, or create custom reports.

Monitoring & Quality Assurance
EOS Smart Monitoring Plan

EOS Smart Monitoring uses Exposure OT to make build monitoring and analysis more thorough and cost-effective — but doubles down on the cutting edge with Smart Fusion. This automated power adjustment tool operates in close conjunction with EOS Build/ Build+ to ensure heat never exceeds standards established in the parameter set.


IoT platforms
Distributed production
CAQ
ERP e.g. SAP
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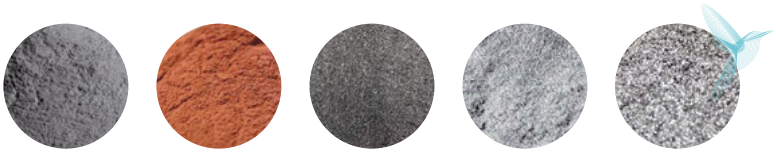
MES
Simulation
CAD/CAM
NX

EOS offers a comprehensive portfolio of highly developed Plastic and Metal Materials synergize match process and systems.



EOS Metal Materials

Stainless, tool, and case hardening steels

Aluminium

available in a carbon-reduced version

Cobalt chrome

Copper

Nickel alloys

Titanium

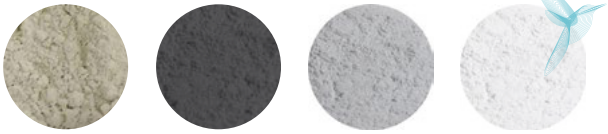
Refractory metals

Custom materials

Layer thicknesses: 20, 30, 40, 60, 80, 90 µm

Detailed Info

The material used is an essential factor of production quality, which is why EOS employs multidimensional quality management with every batch of powder, to ensure uniform composition. The best possible part property profiles can be realized using suitable materials. We provide our customers with intensive advice and support in the selection of materials, allowing them to benefit from our many years of experience in achieving their design, development and production goals.
EOS supplies processes that exactly match the materials and systems, to allow our customers to enjoy the full benefit of their comprehensive optimization potential.
They represent the best possible combination of parameters for the respective product characteristic.



EOS Plastic Materials

Mass-colored, flame-retardant, filled and unfilled polyamide 11 (PA)
available in a climate-neutral version

Flame-retardant, filled and unfilled polyamide 12 (PA)
available in a carbon-reduced version

Filled and unfilled Polyaryletherketone (PAEK)

Thermoplastic elastomers (TPE)

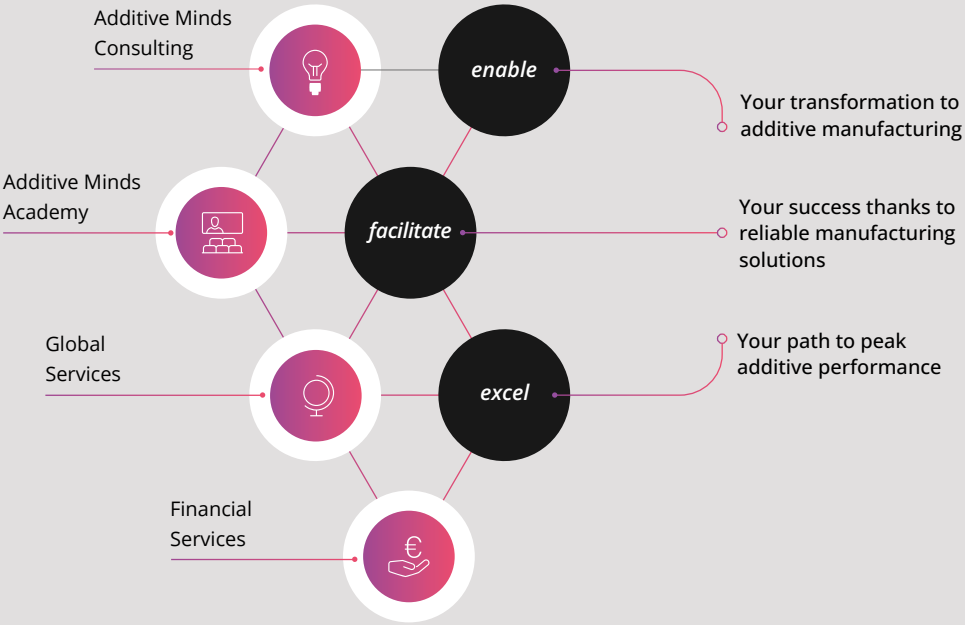
Layer thicknesses: 60, 100, 120, 150, 180 µm

Detailed Info

EOS Service Portfolio

EOS services are based on more than 30 years of experience in the industrial 3D printing sector. From the first contact with additive manufacturing technology to fully developed solutions during ongoing operations – with Additive Minds applied engineering & consulting, global services and trainings of Additive Minds Academy, we cover all phases on your way to AM success. With our flexible financial services, we provide fast and cost-efficient access to our systems.

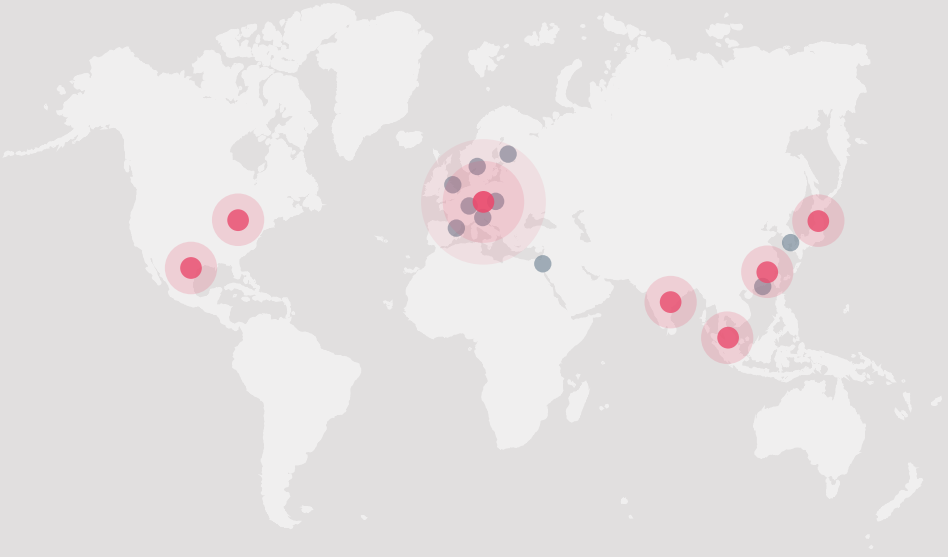
The Comprehensive Range of Services & Consulting Offered by EOS



Visit store.eos.info and get the support you are looking for

We offer a unique, complementary portfolio of global services and local support based on our deep business expertise.

Stay on top of the competition and produce successfully with a reliable partner at your side. We ensure that your systems remain durably profitable and efficient throughout their entire lifecycle!
With seven technology centers on three continents – Europe, North America and Asia/Pacific – the outstandingly qualified EOS service force will always be available. Our growing number of local service locations with their own spare parts depots, proven remote support options and the MyEOS customer portal guarantee that we will always be nearby.



7 Technical Centers on 3 continents

15 local service sites

EOS Applied Engineering, Consulting and Education: Additive Minds

Companies in all industries are being challenged to integrate additive manufacturing into their value chains. Integrating additive manufacturing, though pivotal, poses its unique challenges, primarily due to the scarcity of seasoned expertise in the domain. Our Additive Minds engineering, consulting and education offerings are here to accelerate your journey into additive manufacturing.

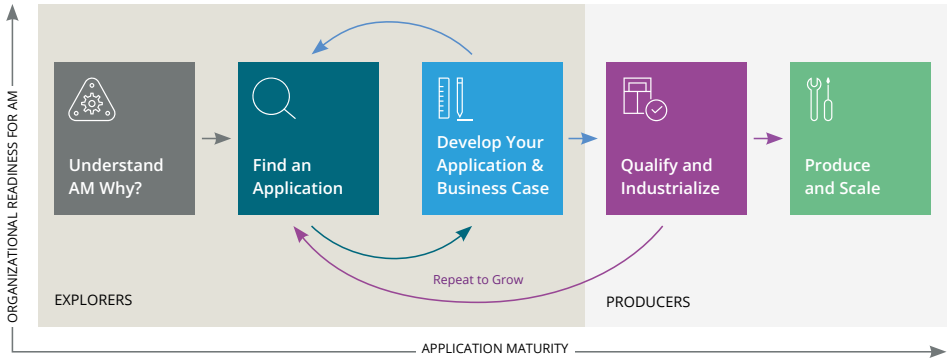
Your Benefits

Custom programs designed to help your organization become successful in AM.

Digital, blended and instructor led trainings, that enable you and your team not just once, but continously.

Access to industry leading engineers, driving your application development and production projects forward.

Engagements can range from development sprints to full turnkey solutions.



C&E

Take advantage of additive manufacturing to develop completely new business models, improve the efficiency of existing products and productions, and create disruptive innovations.

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