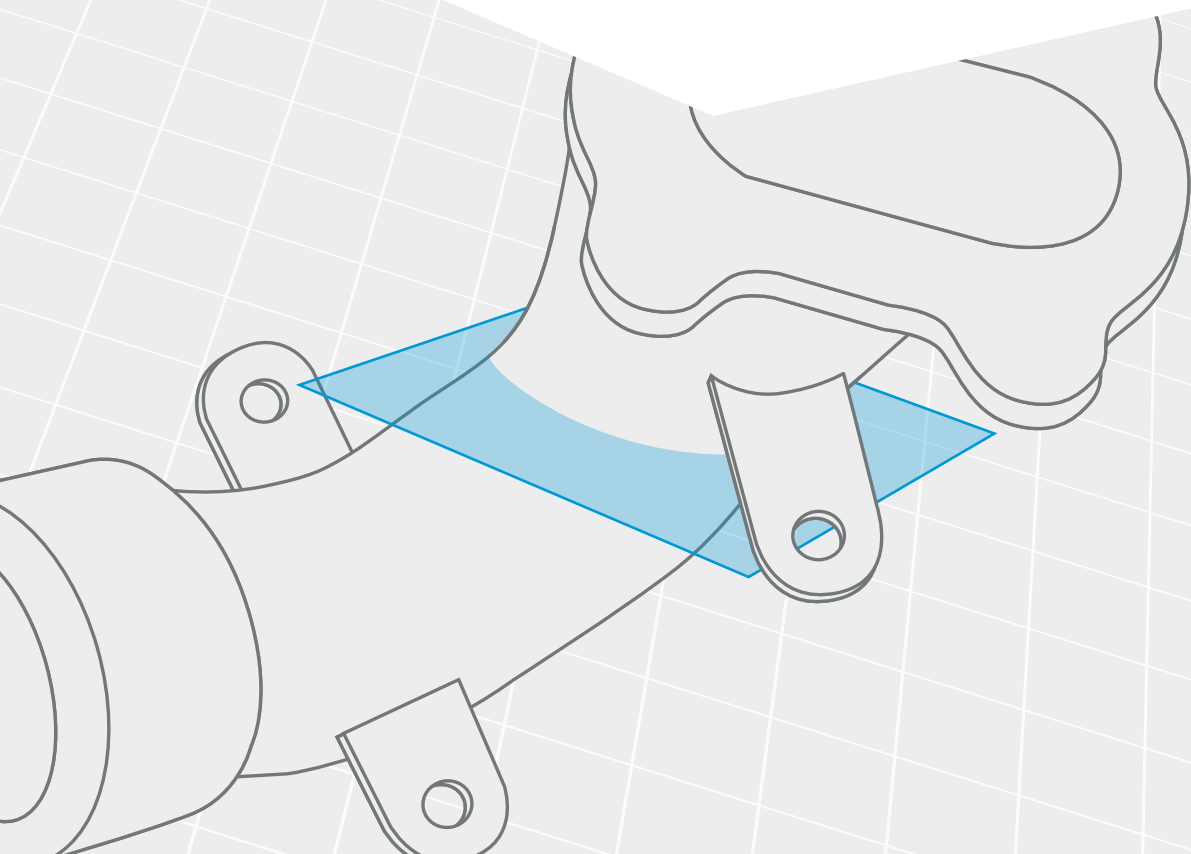Benefit from Our New
Generation of Job and Process
Management Software

EOSPRINT
2
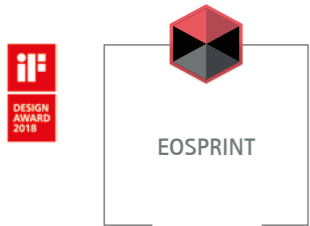
EOSPRINT 2
Intuitive. Open. Productive.

eos

EOS Software Suite for Industrial 3D Printing
Fully Integrated in Your Production Workflow

EOSCONNECT

With **EOSCONNECT**, all the machine and production data can be gathered and made available in real time. EOS systems are IIoT-ready and can be integrated into existing IT infrastructures via the **EOSCONNECT** Core API or be connected to intelligent EOS apps providing productivity increase. **EOSCONNECT** is the gateway for the digital factory.

EOSTATE

EOSTATE is an automated and intelligent multi-monitoring suite that enables customers to conduct a real-time quality assurance of all production and quality-relevant data. **EOSTATE** is composed of four different monitoring systems – System, PowderBed, MeltPool and Exposure OT (optical tomography).

EOSYSTEM

The operating software of all EOS systems is designed for easy operation and an intuitive control of all system features. **EOSYSTEM** has a perfectly harmonized design combined with a usability concept aligned with user requirements. The operator can quickly navigate through the menu with the easy-to-use touch display.

EOSPRINT

The intuitive, open and productive CAM tool allows CAD data to be optimized for EOS systems. The EOS ParameterEditor module is part of **EOSPRINT 2** and offers developers a large and open tool set, containing unique exposure strategies and up to 258 parameters. This wide range of parameters offers greater freedom for application-specific optimization.
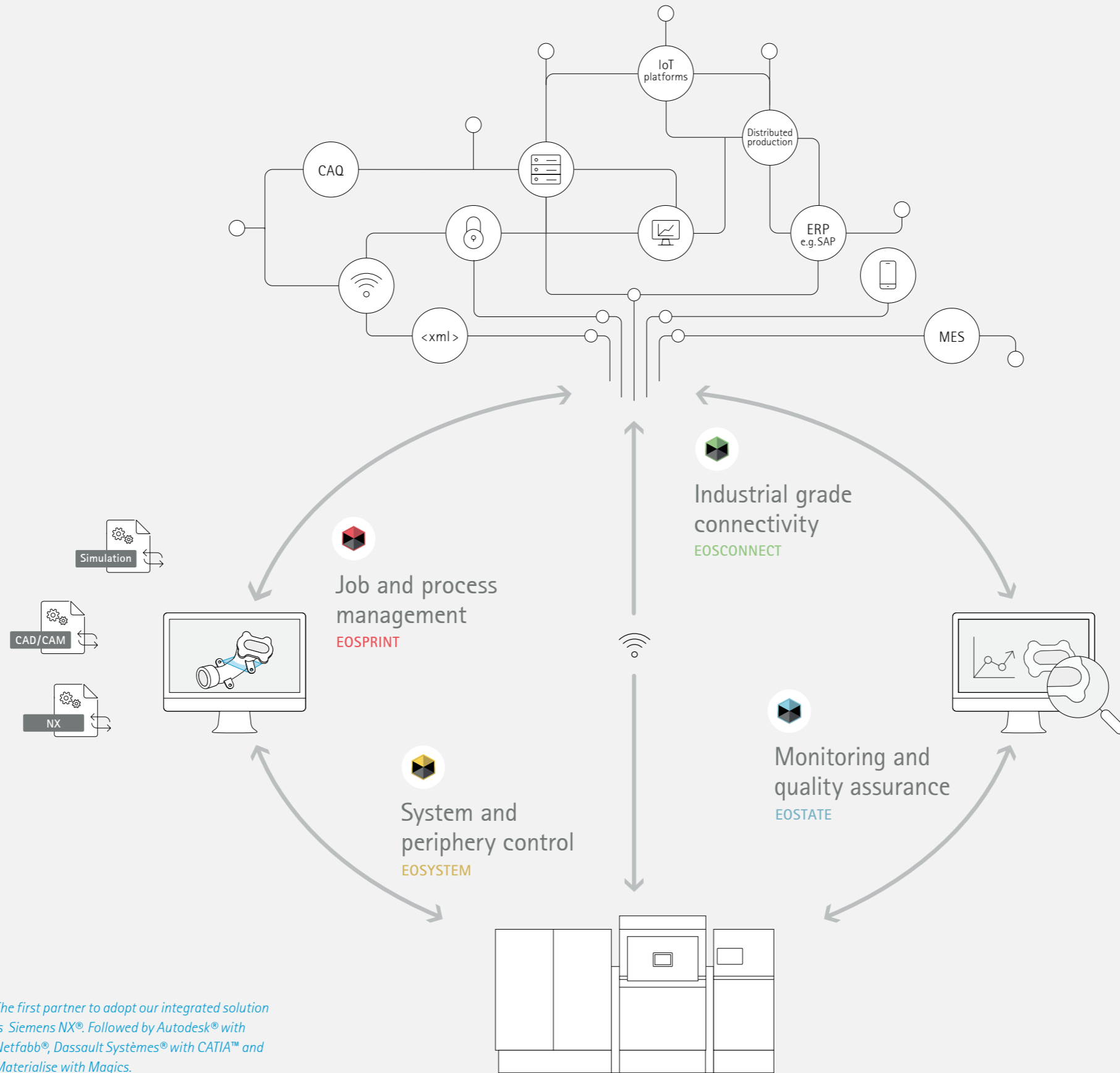
Industrial grade connectivity
EOSCONNECT

Job and process management
EOSPRINT

System and periphery control
EOSYSTEM

Monitoring and quality assurance
EOSTATE

Can be Integrated into Software Environments

EOSPRINT 2 is ready for full integration into automated workflows as part of the digital future (Industry 4.0).

Its functionality is structured into modules, allowing it to be easily integrated into CAD/CAM as well as simulation environments.
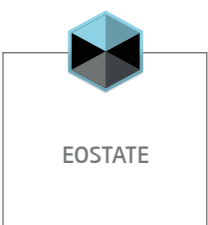
The first partner to adopt our integrated solution is Siemens NX®. Followed by Autodesk® with Netfabb®, Dassault Systèmes® with CATIA™ and Materialise with Magics.

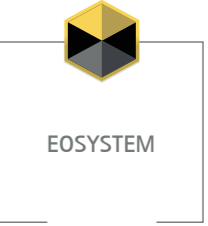https://www.eos.info/systems_solutions/software

EOSPRINT is a CAM Tool that Fully Leverages the Potential of Industrial 3D Printing

EOSPRINT 2 is a game changer in terms of ease of use, and pushes the boundaries of industrial 3D printing. It is an intuitive, open and productive CAM tool that allows CAD data to be optimized for EOS systems.

When used together with data preparation software like Magics or Siemens NX, it offers a comprehensive AM CAM environment designed for engineers who want to fully leverage the benefits of additive manufacturing with production-ready design.

EOSPRINT makes the initial steps of the AM build process easier.

Benefits:

→ Intuitive workflow

→ Open process parameters

→ Increased productivity

→ Excellent EOS quality

→ Can be integrated into software environments

→ Further information on our software portfolio is available at: www.eos.info/systems_solutions/ software
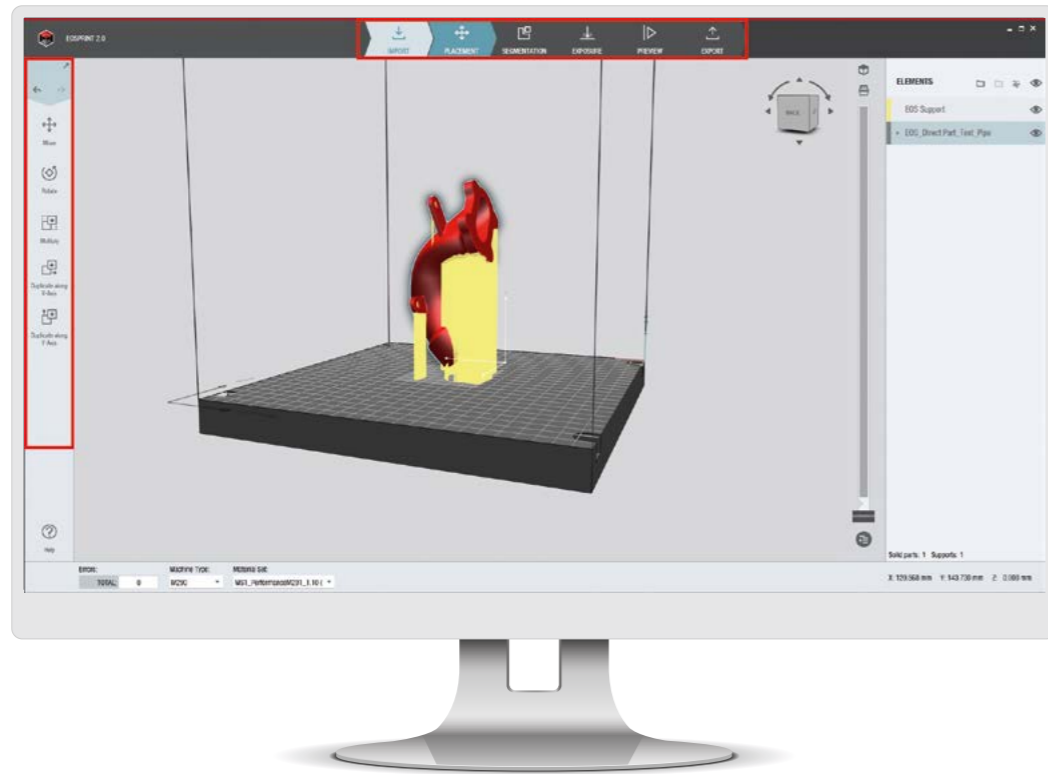
"Reduce data preparation time by 50 percent with EOSPRINT 2."

Benedikt Schlund, Project Leader, toolcraft
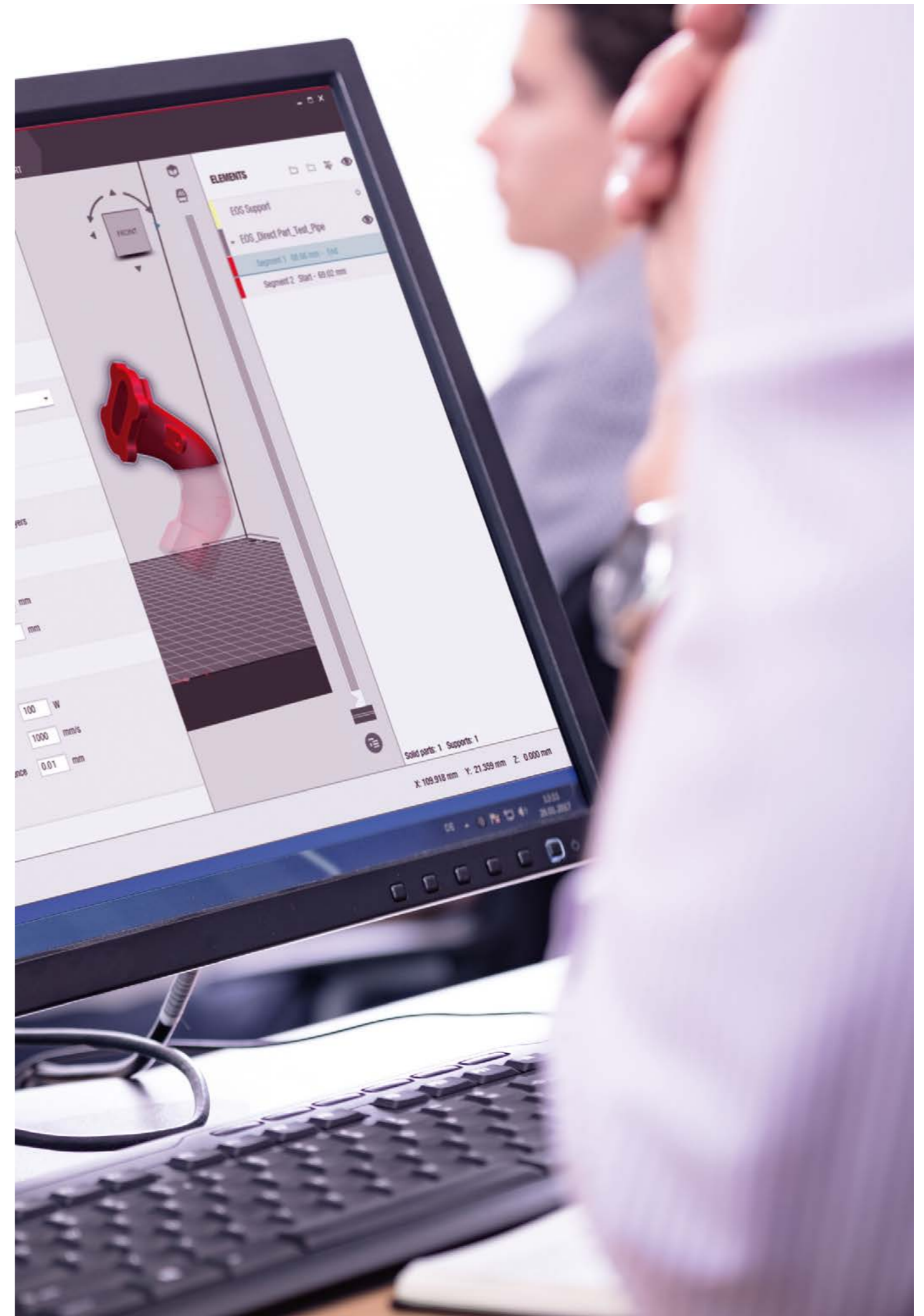
"The new user interface is much clearer and intuitive following the additive manufacturing workflow."

Samuel Blower, Development Engineer, Materials Solutions Ltd.

Intuitive
Workflow

What differentiates ordinary software from excellent software?
Great software is intuitive and quick to learn! EOSPRINT 2 introduces a workflow-based approach that reflects the metal AM CAM process. The behavior of its tools and features is context-sensitive, and changes to adapt to each step in the workflow - enhancing the daily work of engineers. With EOSPRINT 2's integrated slicing functionality (RP Tools), users need fewer tools for the data preparation workflow.

Your benefits:

⟶ Quick to learn

⟶ Easy handling
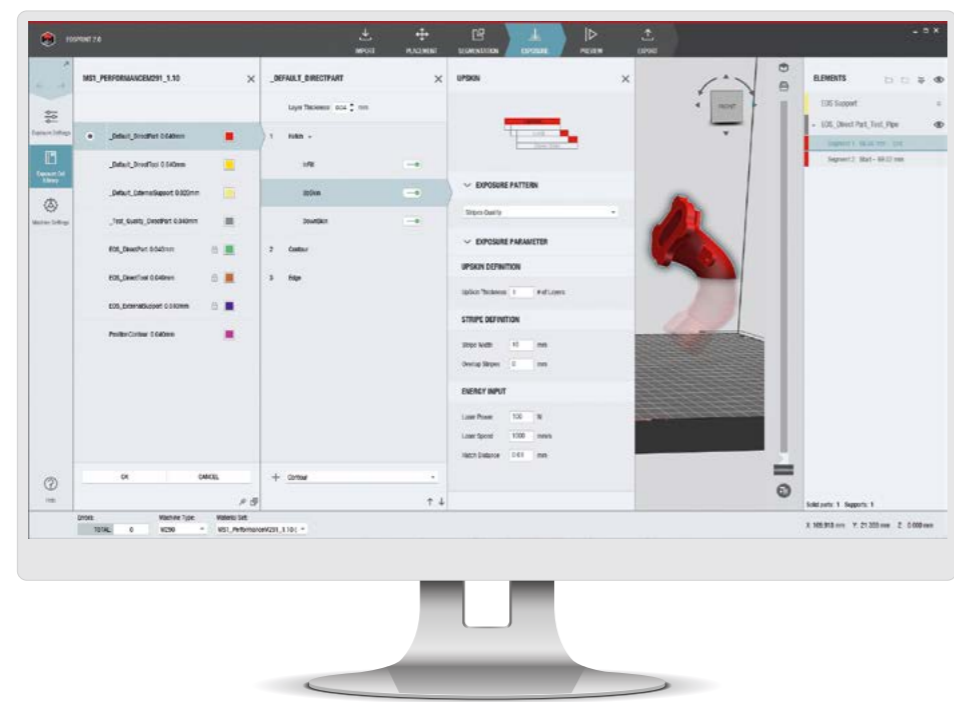
⟶ More fun to work with

⟶ Fewer errors

Award-winning user interface
EOSPRINT 2 receives the Red Dot Design Award and the IF Design Award.

At the Red Dot Communication Design Awards 2018, EOS and UX-design partner UseTree were awarded the prize for the best user interface for EOSPRINT 2 software.

"We are very proud to win a Red Dot Design Award and it is certainly testament to the power of our software solutions. We redesigned EOSPRINT in 2016 with simplicity front of mind. Our goal was to create an out-standing user experience that makes it easy to reap the rewards of additive manufacturing technology."

Markus Frohnmaier,
Team Manager Data Preparation Software,
EOS

"With the openness and clarity of the parameter editor everybody gets the possibility to develop an own process."

Axel Helm, Development Engineer,
AM Metals

Open Process Parameters
3D Printing Software
for Experts

Experienced materials and process developers will benefit from the open EOS ParameterEditor module of EOSPRINT: Its intuitive handling shortens the learning curve and reduces the potential for error. To allow customers to get ahead of the competition, the ParameterEditor provides even greater freedom and openness to material development, application-specific parameter optimization, and process development on EOS systems. The unique exposure patterns and parameters offered by the ParameterEditor allow the proven EOS quality standards for parts to be met and facilitate more productive metal 3D printing.

In addition to configuring standard parameters like laser power, scan speed, etc., customers can now:

⟶ Customize the order and number of exposure types
⟶ Define a large number of pre- and post-contours
⟶ Vary the start and rotating angle for stripe patterns

Additionally, the ParameterEditor includes both standard and unique exposure patterns. The wide selection of exposure patterns gives users a choice between higher quality or shorter production time.

⟶ *Benefit from our experience in parameter development and get in touch for training and consulting. Fasten your learning curve, now.*

Developers can continue to use the standard EOS exposure patterns for all materials:

⟶ Standard 67° rotated stipes pattern*
⟶ Chess pattern
⟶ Flow optimized pattern** for homogeneously distributed mechanical properties over the build area
⟶ Edges pattern for highest-detail resolution

In addition to the existing EOS exposure pattern portfolio, three new patterns have been developed in order to maximize the benefit for our users and achieve previously unseen quality and productivity.

The **Stripe Quality** pattern** homogenizes the energy input and thus avoids local overheating. This reduces the risk of job crashes, especially for highly demanding applications. When applied to DownSkin areas, it improves the buildability of down-facing surfaces to levels that have never been achieved before. It even allows cooling channels with 20° down-facing surfaces to be built without support structures****. This has many advantages: It is now possible to produce parts that require inner channels with high surface quality requirements or large diameters. These kinds of parts are commonly found in nozzles, turbine blades and injection molding tools. This can also reduce post-processing time and costs of metal support. Build heights can be reduced thanks to optimized part orientation.

Time Optimized typically helps to reduce exposure time in the UpSkin and DownSkin areas by more than 20 %***. This is achieved by reducing laser jump times.

Bi-directional support exposure typically reduces the Support Exposure by more than 20 %***. This is achieved by reducing laser jump times.
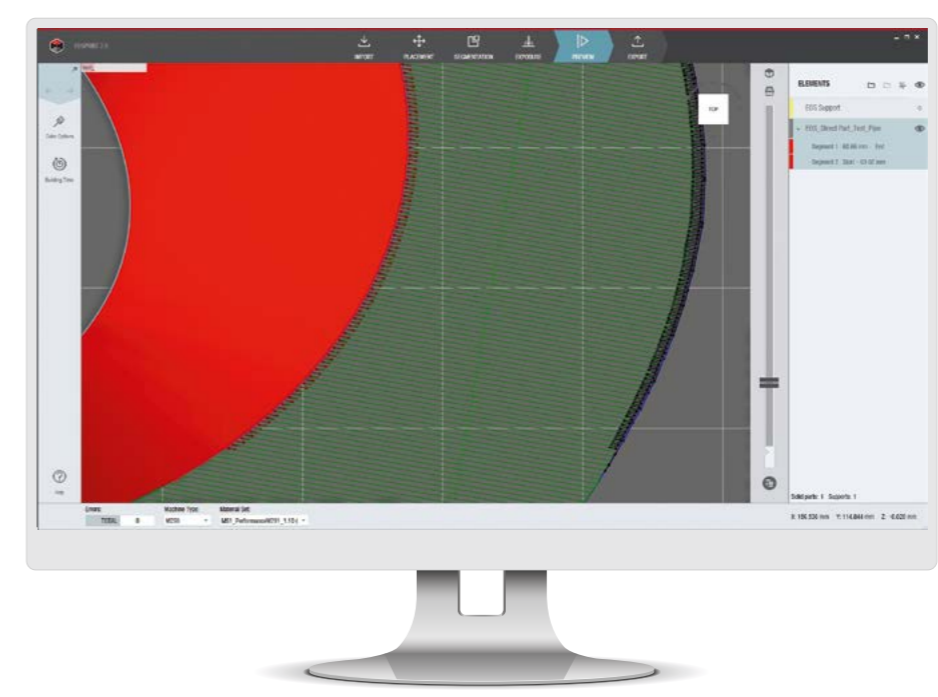
Since the existing EOS process parameters have already been extensively tested, developers can very quickly create unique parameter sets on their own.

The EOS ParameterEditor supports customers in developing their own materials and parameter sets.

Benefits:

⟶ Develop unique materials and parameter sets

⟶ Reduce build time (e. g. by 20 %)

⟶ Build previously unbuildable parts

Screenshot visualizing the laser paths for building parts with unique DownSkin surface quality.

*patented

** patent pending

*** Tested on a reference geometry aerospace stator segment in EOS Nickel Alloy IN625 on EOS M 290 compared to EOSPRINT 1.

**** Tested on MS1. The standard parameters given in Stripe Quality exposure pattern were adjusted. The mechanical properties seemed desirable, but further investigations are required.

Productivity Goes up
with EOSPRINT 2!
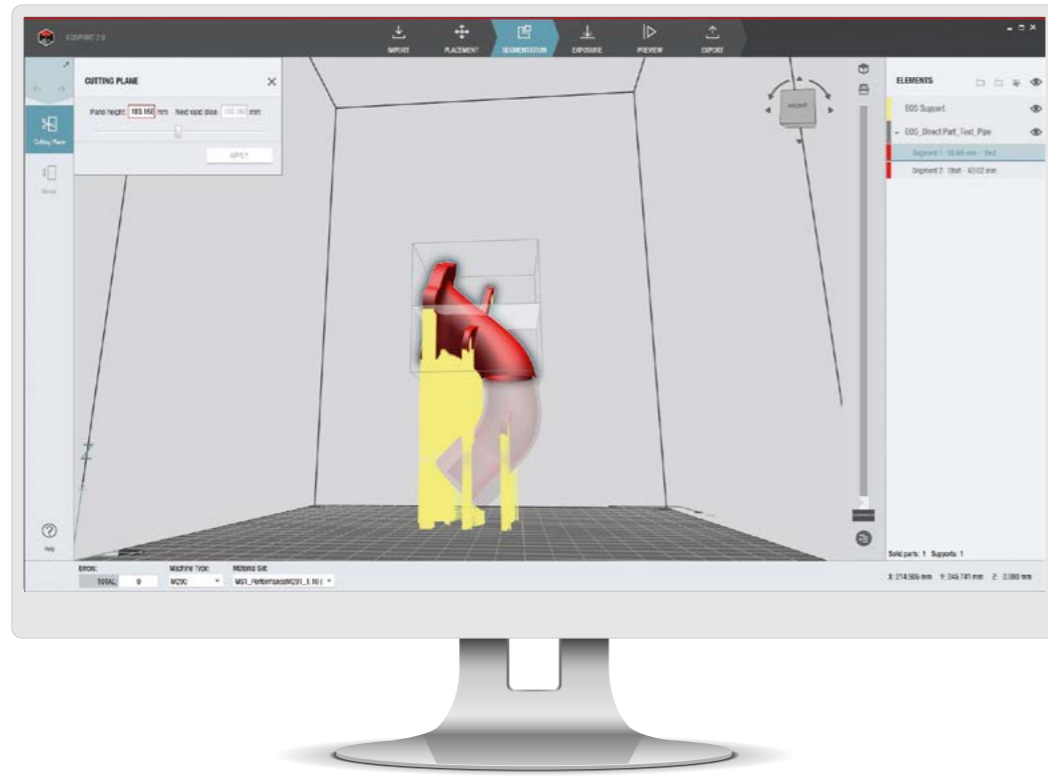
The new plane segmentation functionality allows parts to be more easily optimized for production with respect to quality and productivity.

This feature enables the user to split parts by defining a plane that can be shifted in the z-direction in order to create segments with different exposure requirements.

For example, critical areas can be built with 20 µm layer thickness, adapted process parameters and high-quality exposure patterns, whereas uncritical areas can be optimized for productivity e.g. by choosing a layer thickness of 40 or even 80 µm.

Benefits:

→ Increase productivity

→ Reduce cost per part

→ Achieve adequate quality

"Thanks to plane segmentation and new exposure strategies, we are able to produce faster than ever before and with the required quality. In the future, we will significantly improve our productivity, cost-effectiveness and general feasibility."

Matthias Herker,
Application Engineer for Additive Manufacturing,
AUDI AG