

# **Additive Minds Academy**

# FACILITATE.ENABLE.EXCEL.

Customer Training Catalog (Classroom) February/ March 2021

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# **Classroom Training Catalog Overview**

General Trainings	General Polymer	General Metal	System related Trainings	FORMIGA P 110	EOS P 396	EOS P 500	EOS P 760	EOS P 770	EOS P 810	EOS M 100	EOSINT M 270	EOSINT M 280	EOS M 290	EOS M 300-4	EOS M 400	EOS M 400-4
ata Preparation Metal		•	Training System Operation			•				•	•	•	•	•	•	•
ata Preparation Polymer	•		Training System Operation & Data Preparation	•	•		•	•	•			•	•			
arameter Editor	•	•	Training Periphery Operation												•	•
attice Structures		•	Training Maintenance Level 1			•								•		•
dvanced User Level 1	•	•	Dental Special: Training Partial Dentures								•					
dvanced User Level 2	•	•	Reference Point Calibration Initial set-up									•	•			
OSPRINT/ EOSCONNECT APIs for			Training Reference Point Calibration									•	•			
<u></u>			Digital EOSTATE Monitoring Trainings										•	•		•
			EOS AM Machine Operator Certification												•	•

For digital trainings please visit <u>https://store.eos.info/</u>

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Training <u>C</u> Training <u>P</u> Training <u>P</u> Training <u>P</u> Training <u>P</u> Training <u>P</u> Integrato

Klick on the trainings to learn more about the contents.

With the home symbol () in the upper right corner you get back to the overview.

With our integrated Service and Consulting portfolio, we accompany you along the entire lifecycle.



# Additive Minds supports our customers in all stages of their development





- $\rightarrow$  Face lack of competence in additive manufacturing in your existing organization
- $\rightarrow$  Gain competitive advantage through additive manufacturing
- → Accept economical pressure as a challenge for faster innovation

# Additive Minds Academy We make our knowledge accessible

# Trainings, seminars and workshops

Interactive programs, designed to transfer know-how as fast as possible.

- Trainings covering all relevant AM knowledge areas
- Hands on and "Edutainment" trainings
- Adaptable to your specific needs
- Get tangible results within a few days
- Choose from a variety of levels: beginners, advanced and expert courses
- Range includes everything from system operation trainings to Software and Quality courses

# NEW E-Learnings & Learning Paths

Take advantage of your whole potential by becoming an expert in your AM Field.

- structured and result driven learning paths covering all roles required to successfully build your AM business
   → Now available: Add. Man. Data Preparation Specialist Metal
- Hybrid teaching technology Combining online education with traditional classroom methods for individual learning needs and work situations

Please visit https://store.eos.info/

# The best way to ensure a successful additive manufacturing production is to build up and maintain the necessary know-how and expertise.

# Develop Your Application Trainings









**Find Your Application** 

**Develop Your Application** 

**Ramp Up Your Production** 

**Certify and Scale Your Production** 

### General

Learn basic data preparation in Magics RP<sup>®</sup>, part placement and job preparation in EOS processing software for EOS metal and polymer systems.

#### Objectives

- ✓ Understanding of basic principles of data preparation for Additive Manufacturing
- Enabling participants for basic data preparation for EOS Metal systems using Magics RP<sup>®</sup>

#### **Target Group**

- Data Preparation Experts
- AM Designers

#### Prerequisites

- Basic know how of handling Windows PCs
- Basic training of Magics RP<sup>®</sup> or other third party data preparation software accomplished
- Recommendation to participate in a system operation training

### Content

#### Part 1: Data preparation

- → Data preparation in Magics RP<sup>®</sup> related to EOS systems
- → Whole work-flow including data import, part placement and orientation, part repair with fix wizard, support structure generation and data transformation

#### Part 2: Job preparation

- $\rightarrow$  Job preparation using EOS processing software and transfer of data to machine
- → Scaling & Shrinkage, Positioning, Multiplication of parts
- $\rightarrow$  Beam offset compensation

#### Part 3: Operation of machine and peripherals

- $\rightarrow$  Handling of EOS processing software
- ightarrow Set-up, job-start and observation of process
- ightarrow Post processing procedures

## Information

/enue	At your site or at EOS Training Center
Duration	2 days (excl. travelling days)
Participants	max. 4 participants
anguages	English, German, other languages to be agreed

Material	Article N°
Metal	0105-0102

# **Training Data Preparation Polymer**



**Find Your Application** 

**Develop Your Application** 

**Ramp Up Your Production** 

**Certify and Scale Your Production** 

### General

Learn basic data preparation in Magics RP<sup>®</sup>, part placement and job preparation in EOS processing software for EOS polymer systems.

#### **Objectives**

- ✓ Understanding of basic principles of data preparation for Additive Manufacturing
- ✓ Enabling participants for basic data preparation for EOS Polymer systems using Magics RP<sup>®</sup>

#### **Target Group**

- Data Preparation Experts
- AM Designers

#### **Prerequisites**

- Basic know how of handling Windows PCs
- Basic training of Magics RP<sup>®</sup> or other third party data preparation software accomplished
- Recommendation to participate in a system operation training

### Content

#### Part 1: Data preparation

- $\rightarrow$  Data preparation in Magics RP<sup>®</sup> related to EOS systems
- $\rightarrow$  Whole work-flow including data import, part placement and orientation, part repair with fix wizard and data transformation

#### Part 2: Job preparation

- $\rightarrow$  Job preparation using EOS processing software and transfer of data to machine
- → Scaling & Shrinkage, Positioning, Multiplication of parts
- $\rightarrow$  Beam offset compensation

#### Part 3 - Optional:

#### **Operation of machine and peripherals**

- → Handling of EOS processing software
- $\rightarrow$  Set-up, job-start and observation of process
- $\rightarrow$  Post processing procedures

## Information

Venue	At your site or at EOS Training Center
Duration	2 days (excl. travelling days)
Participants	max. 4 participants
Languages	English, German, other languages to be agreed

Material	Article N°
Polymer	0105-0104





**Find Your Application** 

**Develop Your Application** 

Content

**Ramp Up Your Production** 

**Certify and Scale Your Production** 

### General

Intense training on the safe and efficient operation of EOS systems.

#### Objectives

- ✓ Learn the safe handling of EOS Laser-Sintering Systems
- ✓ Work safety and handling procedures of the machine itself and its peripherals

#### Target Group / Job Role

- System Operators
- Other Users

#### Prerequisites

Basic know how of handling Windows PCs 

Part 1: Work safety instructions → Rules and procedures for safe working → Safety equipment of machine and paripherals	Venue
Part 2: Laser Sintering Process	Duratio
→ Workflow and main system components → Overview of EOS Materials	Particip
Part 3: Operation of machine and peripherals → Handling of EOS processing software	Languag
$\rightarrow$ Set-up, job-start and observation of process	System a
Part 4: Daily System Care	EOS M 10
→ Cleaning and Maintenance	EOSINT N
Part 5: Handling of EOS laser-sintering materials	EOSINT M
$\rightarrow$ Building and Evaluation of EOS Reference job	EOS M 29
→ Evaluation of parts built	EOS M 30
	EOS M 40

### Information

/enue	At you headq	ır site or at EOS Juarter Germany			
ouration	2.5 da	YS (excl. travelling days)			
articipants	max. 4 participants				
anguages	Englis langua	h, German, other ages to be agreed			
system and Duration		At your site	At HQ		
OS M 100 (2 days)*		0105-0050	0105-0156		

EOS M 100 (2 days)*	0105-0050	0105-0156
EOSINT M 270	0105-0045	0105-0157
EOSINT M 280	0105-0029	0105-0158
EOS M 290	0105-0039	0105-0159
EOS M 300-4 (2 days)*	0105-0117	0105-0160
EOS M 400 (3 days)*	0103-0021	0105-0161
EOS M 400-4 (3 days)*	0105-0074	0105-0162
EOS P 500	0105-0103	0105-0143

# Training System Operation & Data preparation



**Find Your Application** 

**Develop Your Application** 

**Ramp Up Your Production** 

**Certify and Scale Your Production** 

### General

Intense training on the safe and efficient operation of EOS systems including basic data preparation for laser-sintering process.

#### Objectives

- ✓ Learn the safe handling of EOS Laser-Sintering Systems
- ✓ Intensive practicing of all handling procedures including Data preparation

#### **Target Group**

- System Operators
- Data Preparation Experts
- AM Designers
- Other users

#### Prerequisites

Basic know how of handling Windows PCs

# Content

#### Part 1: Work safety instructions

- $\rightarrow$  Rules and procedures for safe working
- ightarrow Safety equipment of machine and peripherals

#### Part 2: Laser Sintering Process

- $\rightarrow$  Workflow and main system components
- $\rightarrow$  Overview of EOS Materials

#### Part 3: Data Preparation

- → Data preparation in Magics RP®
- → Part placement, job preparation, scaling, shrinkage and beam offset compensation
- $\rightarrow$  Post processing procedures

#### Part 4: Operation of machine and peripherals

- $\rightarrow$  Handling of EOS processing software
- $\rightarrow$  Set-up, job-start and observation of process
- $\rightarrow$  Post processing procedures
- Part 5: Daily System Care
- $\rightarrow$  Cleaning and Maintenance
- Part 6: Handling of EOS laser-sintering materials
- Part 7: Check and adjustment of machine settings
- $\rightarrow$  Building and Evaluation of EOS Reference job
- ightarrow Evaluation of parts built

## Information

Venue	At your site or at EOS headquarter Germany
Participants	max. 4 participants

Languages English, German, other languages to be agreed

System and Duration	At your site	At HQ
FORMIGA P 110 (2.5 days)*	0105-0001	0105-0148
EOS P 396 (3 days)*	0105-0002	0105-0149
EOS P 760 (4 days)*	0105-0003	0105-0150
EOS P 770 (4 days)*	0105-0078	0105-0151
EOS P 810 (4.5 days)*	0105-0111	0105-0153
EOSINT M 280 (4 days)*	0105-0004	0105-0145
EOS M 290 (4 days)*	0105-0038	0105-0146



# **Training Maintenance Level 1**



**Find Your Application** 

**Develop Your Application** 

**Ramp Up Your Production** 

**Certify and Scale Your Production** 

### General

Intense training on the regular maintenance of EOS systems and peripherals.

#### Objectives

- ✓ Learn to maintain EOS Laser-Sintering Systems and their peripheral components.
- ✓ Work safely while maintaining the machine itself and its peripherals.
- ✓ Learn to keep the systems up and running properly.

#### Target Group / Job Role

- System Operators
- Maintenance personal

#### Prerequisites

 Training System Operation on the respective EOS system and peripherals.

# Content

#### Part 1: Work safety instructions

- $\rightarrow$  Rules and procedures for safe working
- $\rightarrow$  Safety equipment of machine and peripherals

#### Part 2: Components and maintenance procedures

→ Overview of maintenance checkpoints and procedures

#### Part 3: Hands on maintenance procedures

- ightarrow Cleaning of EOS system components
- $\rightarrow$  Regular maintenance check-ups
- $\rightarrow$  Exchange of wearing parts
- ightarrow Check-up and maintenance of peripherals
- Part 4 Optional: System calibration
- ightarrow EOS LMK
- $\rightarrow$  EOS LPM

#### Part 5: Documentation and further maintenance

- → EOSYSTEM SmartService
- $\rightarrow$  EOSTATE Database and Monitoring-Tools
- $\rightarrow$  EOS maintenance and service products

### Information

/enue	At your site or at EOS Training Center
Duration	1  day (excl. travelling days) <sup>1)</sup>
Participants	max. 4 participants
anguages	English, German, other languages to be agreed

System	Article N°
EOS M 300-4	0105-0121
EOS P 500	0105-0125
EOS M 400-4	0105-0122

1) The exact duration of the training may vary depending on the very EOS systems and peripherals in the customer facility.



# Training Advanced User Level 1



**Find Your Application** 

**Develop Your Application** 

**Ramp Up Your Production** 

**Certify and Scale Your Production** 

### General

Cross check your first AM experiences with our experts for a deeper understanding of the system, material and process.

#### Objectives

- ✓ Deepen your skills of machine set-up
- ✓ Evaluate the cause-effect relationship of build jobs
- ✓ Gain insight application knowledge through our AM experts
- Broaden your knowledge of orientation, part placement and support\*
- ✓ Review your AM build experiences so far and get practical tips and techniques
- ✓ Experience a hands-on workshop with 1 build job over night

#### **Target Group**

- System Operators
- Data Preparation Experts

#### Prerequisites

- System Operation and Data preparation training accomplished
- System has been installed 4-6 weeks before

## Content

#### Part 1: Advanced system handling

- $\rightarrow$  Repetition of machine set-up
- $\rightarrow\,$  Efficient handling of EOS laser sintering systems and their peripheral components
- ightarrow Improve dimensional-accuracy with fine-tuning
- $\rightarrow$  Powder handling

#### Part 2: Advanced data preparation

- ightarrow Match orientation with technical requirements
- $\rightarrow$  Efficient and productive part placement
- → Choose the right parameters/best fitting for part demands\*\*
- ightarrow Advanced handling of EOS processing software

#### Part 3: Basic trouble shooting

- $\rightarrow$  Learn how to find underlying causes for application problems
- ightarrow Time for questions on parts you have built so far

## Information

Venue	At your site		
Duration	Metal 1.5 days (excl. travelling days) Polymer 2 days (excl. travelling days)		
Participants	max. 4 participants		
Languages	English, German, other languages to be agreed		

 Material	Article N°
Metal	0106-0105
Polymer	0106-0106





**Find Your Application** 

**Develop Your Application** 

**Ramp Up Your Production** 

**Certify and Scale Your Production** 

### General

Enabling the use of Parameter Editor for EOS systems and understanding the cause and effects of parameter modifications

#### Objectives

- ✓ Introduction of basic principles of parameter-set creation using EOS Parameter Editor functionalities
- ✓ Learn how to save and organize parameter sets with self-created values
- Experience a hands-on workshop with one build job over night

#### **Target Group**

- Data Preparation Experts
- AM Designers

#### Prerequisites

- System Operation and Data preparation training accomplished
- Advanced User Level 1 training accomplished
- Deep process understanding needed
- System has been installed 4-6 weeks before

### Content

#### Part 1: Introduction to parameters

- ightarrow Theory of Parameter Editing
- → Cause and effect explanation of individual parameter settings

# Part 2: Parameter Editor Functionality in EOS processing software

- $\rightarrow$  Overview of Parameter Editor features
- → Software user interface for parameter set creation
- $\rightarrow$  Creation of parameters to show software proficiency and understanding

#### Part 3: Illustration of parameter impact

→ Running a training job with varied parameters to explore influences

### Information

Venue	At your site or at EOS Training Center
Duration	Metal 2 days (excl. travelling days) Polymer 1.5 days (excl. travelling days)
Participants	max. 4 participants
Languages	English, German, other languages to be agreed

	Article N°
Metal EOSPRINT 1.x	0106-0102
Metal EOSPRINT 2.x	0106-0103
Polymer	0106-0104
Metal PSW	500001208





**Find Your Application** 

**Develop Your Application** 

 $\rightarrow$  Mechanical properties

**Ramp Up Your Production** 

**Certify and Scale Your Production** 

### General

Using lattice structures to generate the next generation of medical implants, bionic-inspired lightweight components, etc.

#### Objectives

- ✓ Analyzing the customer's application goal
- ✓ Definition of the optimization potentials
- ✓ Selection of critical parameters for test scope
- ✓ Definition of "test scope" based on several iterations and execution of test
- ✓ Documentation of results and follow-up

Target Group / Job Role

AM Design Experts

#### Prerequisites

- Installed EOS Metal system
- Training Parameter Editor accomplished

	Content	Information	
kt Dired	Part 1: Possibilities and limitations of lattice structures → Lattice design & Cleaning methods	Venue	At your site or at EOS Training Center
	→ Software package	Duration	2-4 days (excl. travelling days)
	Part 2: Analysis of customer's application goal → Understand specific needs	Participants	max. 5 participants
pe	→ Highlight limitations of standard parameters Part 3: Highlight lattice exposure strategies	Languages	English, German, other languages to be agreed
	<ul> <li>→ Parameter modification cause and effect</li> <li>→ Limitations and optimization opportunities</li> <li>→ Manufacturability</li> <li>&gt; Lease driven design</li> </ul>	Article N°	Please get in contact with our Additive Minds Team
	<ul> <li>Part 4: Definition of optimization potential related</li> <li>to selected application levels</li> </ul>		
	<ul> <li>→ Build rate</li> <li>→ Mechanical properties</li> <li>→ Surface roughness</li> </ul>	Part 6: Definition several iteration → Lattice porosi	n of "test scope" based on is and execution of test ity
	Part 5: Selection of critical parameters for test	→ Lattice rough	ness
	scope	→ Manufactura	bility
	→ Lattice design & exposure strategies	→ Mechanical p	properties
	Z Cleanability & manufacturability	Cust	omer Training Catalog   FO

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# Ramp Up Your Production Trainings





# Training Advanced User Level 2 Metal



**Find Your Application** 

**Develop Your Application** 

**Ramp Up Your Production** 

**Certify and Scale Your Production** 

#### General: Expand your skills to build successful AM metal parts by choosing the modules you are most interested in.

#### **Objectives**

- ✓ Use your system more efficiently
- Get quickly your newest part up and running  $\checkmark$
- Discuss your AM experience with our AM Experts and get direct feedback
- ✓ Learn the most common mistakes and techniques how to avoid them

#### Module 1: Application specific support

#### Content

- $\rightarrow$  Deeper analyses of part/system specific problems
- $\rightarrow$  Get help to build challenging parts

#### Information

Venue	At your site
Duration	On Demand (excl. travelling days)
Participants	max. 4 participants
Languages	English, German, other languages to be agreed
Article No°	0106-0111

#### Target Group

- System Operators
- Data Preparation Experts
- Application Specialist

#### **Prerequisites**

Training Advanced User Level 1 accomplished

#### Module 2: Advanced Support and Orientation

#### Content

- $\rightarrow$  Understanding advanced data preparation in Magics RP<sup>®</sup> (hands-on exercises and material specific recommendations)
- → Expert knowledge transfer on Support & Support strategies
- $\rightarrow$  Deeper understanding of the correlation between Orientation and process/ part quality
- → Optimize efficiency, success-rate and cost-per-part

#### Information

Venue	At your site
Duration	2 days (excl. travelling days)
Participants	max. 4 participants
Languages	English, German, other languages to be agreed
Article No°	0106-0112

#### Module 3: Post processing for AM

#### Content

- $\rightarrow$  Learn about the possibilities surface finish specific to AM
- $\rightarrow$  Understand the implications it has on building parts
- $\rightarrow$  Discuss options for post processing chains for your application
- $\rightarrow$  Learn more about powder and support removal, conventional and non-conventional post processing

#### Information

Venue	At your site	
Duration	2 days (excl. travelling days)	
Participants	max. 4 participants	
Languages	English	
Article No°	0106-0114	
	Customer Training Catalog	EOS

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# **Training Advanced User Level 2 Polymer**

 $\rightarrow$  Reduce Powder consumption

software for polymer

Module 4: Deep Dive EOS Software

 $\rightarrow$  Understand the features of EOS processing



**Find Your Application Develop Your Application** General Content Expand your skills to build successful AM plastic Module 1: Evalua parts by choosing the modules you are most  $\rightarrow$  Bring your exi interested in. and improven → Focus on mac **Objectives** parameter) ✓ Use your system more efficiently Module 2: Troub ✓ Get quickly your newest part up and running  $\rightarrow$  Learn about t ✓ Discuss your AM experience with our AM Experts machine hand and get direct feedback → Get help to bu  $\checkmark$  Learn the most common mistakes and Module 3: Orient techniques how to avoid them applications ✓ Experience a hands-on Workshop → Understand a **Target Group RP**<sup>®</sup> System Operators  $\rightarrow$  Learn how to **Data Preparation Experts** requirements

#### Prereauisites

Training Advanced User Level 1 accomplished

Ramp Up Your Produc	tion Certify	y and Scale Your Production
	Information	
ation of existing parts sting part and discuss the success nents with our AM Experts	Venue	At your site or at EOS Training Center
hine and data preparation (excl.	Duration	Depending on the chosen modules (excl. travelling days)
<b>leshooting</b> he most common mistakes in	Participants	max. 4 participants
lling and how to avoid them uild challenging parts	Languages	English, German, other languages to be agreed
dvanced data preparation in Magics	Article No°	Please get in contact with our Additive Minds Team to
achieve better results for your	Modulo 5: Dro	and Post processing for AM

- Module 5: Pre- and Post processing for AM
  - $\rightarrow$  Learn about the possibilities of pre and post processing specific to AM
  - $\rightarrow$  Understand the implications it has on building parts
  - $\rightarrow$  Discuss options for pre and post processing chains for your application



# Training EOSPRINT/ EOSCONNECT APIs for Integrators



**Find Your Application** 

**Develop Your Application** 

**Ramp Up Your Production** 

**Certify and Scale Your Production** 

### General

Getting familiar with the EOSPRINT SDK\* and the EOSCONNECT Core API\*\* to enable you for your integration usecase.

#### **Objectives**

- ✓ STL to product in a nutshell
- ✓ Exploration of EOSPRINT SDK
  - ✓ Overview and usecases
  - ✓ Coding samples
  - ✓ Live demo (EOS digital twin simulator)
- ✓ Exploration of EOSCONNECT Core API
  - ✓ Overview and usecases
  - ✓ Coding samples
  - ✓ Live demo (EOS digital twin simulator)

#### **Target Group**

- Developers
- Integrators

#### Prerequisites

C/C++/C# Knowledge/Python

#### \*SDK: Software development kit

 $\rightarrow$  The software development kit provides a number of functions to interact with an EOS machine, to calculate tasks and previews.

\*\*API: Application programming interface

 $\rightarrow$  The programming interface allows you to lookup live and historical data of your jobs on your EOS machine.

Content	Information		
Part 1: Introduction → from STL over Job to Machine-Task → EOS digital twin simulator	Venue	At yo head	our site or at EOS Iquarter Germany
→ Licensing model: Dongles and PrintDomain	Duration	1.5 d	ays (excl. travelling days)
Part 2: EOSPRINT SDK	Participants	max.	5 participants
$\rightarrow$ Overview SDK / usecases in scope $\rightarrow$ Hands-on SDK Sample and	Languages	Engli	sh, German
→ Coding samples & live demo	Article		Article N°
Part 3: EOSCONNECT Core API	Training EOSPRINT EOSCONNECT APIs	/	0105-0142
<ul> <li>→ Overview API / usecases in scope</li> <li>→ Exploration of RESTful api for historical data</li> <li>→ Exploration of OPC/UA api for live data</li> </ul>			





# Dental Special: Training Partial Dentures



**Certify and Scale Your Production Find Your Application Develop Your Application Ramp Up Your Production** Information General Content Proceeding of data preparation with Cambridge® Part 1: Data preparation in Cambridge® At your site or at EOS Venue and building of dental geoemtries from CoCrRPD → Data import into Cambridge® Training Center material.  $\rightarrow$  Part placement and orientation Duration 2.5 days (excl. travelling days)  $\rightarrow$  Support structure generation **Objectives**  $\rightarrow$  Data transformation to sli files ✓ Understand the basic principles of data **Participants** max. 3 participants Part 2: Job preparation in EOS processing software preparation for Additive Manufacturing  $\rightarrow$  Data transfer to the machine Languages English, German, other ✓ Proceed data preparation with Cambridge<sup>®</sup>  $\rightarrow$  Load files languages to be agreed ✓ Build dental geometries from CoCrRPD material  $\rightarrow$  Job configuration Target Group / Job Role Part 3: Post-processing methods for parts Article N System Data preparation experts for dental applications ......  $\rightarrow$  Blasting Prerequisites EOSINT M 270 0105-0047  $\rightarrow$  Heat treatment Basic know how of handling Windows PCs  $\rightarrow$  Solution Annealing





# Monitoring Special: Learning Overview







# E-Learning EOSTATE OT & MeltPool Level 1



**Find Your Application** 

**Develop Your Application** 

Ramp Up Your Production

**Certify and Scale Your Production** 

### General

Understand the basics of process monitoring and how you can generate true benefit.

#### Objectives

- ✓ Strengthen your basic knowledge about data generation and principles of monitoring
- ✓ Understand the differences of EOSTATE monitoring systems
- ✓ Awareness of your learning strategy with monitoring data
- ✓ Understand the possibilities of correlations between part quality, process and MeltPool data

#### Target Group / Job Role

 Everybody interested in process monitoring: engineers, managers, trainees

#### Prerequisites

Advanced knowledge of laser-sintering process

### Content

#### Fundamentals

- ightarrow Learn about the different monitoring systems
- ightarrow How process light is generated and captured
- ightarrow Use cases of monitoring in different industries
- $\rightarrow$  Knowledge management and learning paths

#### Software usage

- $\rightarrow$  Accessing the software
- ightarrow Basic visualization of data

## Information

Venue	E-Learning
Duration	4 hours
Participants	1 participant license
Languages	English

System	Article N°
EOS M 290 OT/MPM EOS M 300-4 OT/MPM EOS M 400-4 OT/MPM	500008527



# E-Learning EOSTATE OT & MeltPool Level 1&2



**Find Your Application** 

**Develop Your Application** 

Content

Ramp Up Your Production

**Certify and Scale Your Production** 

### General

Become an expert of EOSTATE monitoring and generate value with your customized analyses.

#### Objectives

- ✓ Master the software with all its functions
- ✓ Awareness of evaluation job geometries, design of experiments and possible pitfalls
- ✓ Strengthen knowledge about analysis and correlation inside and outside the software
- ✓ Know analysis possibilities and potential defect correlations

#### Target Group / Job Role

- Quality Engineers
- Monitoring power users

#### Prerequisites

- Monitoring E-Learning Level 1 accomplished (part of this training package)
- Training Parameter Editor accomplished
- Advanced knowledge of laser-sintering process

### $\rightarrow$ Content OT & MeltPool Level 2 Software Functions → Visualizations & Data handling → Software set-up and calibration $\rightarrow$ User management $\rightarrow$ Report generation Data generation $\rightarrow$ Hands-on exercises → Sample data & Test geometries Data analysis $\rightarrow$ Algorithms $\rightarrow$ Analysis parameters → Indications & Monitoring phenomena → External data analysis $\rightarrow$ Hands-on exercises

E-Learning OT & MeltPool Level 1

<u>Please note:</u> OT and MPM are combined in one e-learning due to the similar approach. System specific functions are clearly highlighted.

# Information

Venue	E-Learning		
Duration	4 hours + 16 hours		
Participants	1 participant license		
Languages	English		
System		Article N°	
EOS M 290 OT EOS M 300-4 OT/MPM EOS M 400-4 OT/MPM		500008529	
Venue	Remote Training		
Duration	4 hours + 3 x 3 hours*		
Participants	max. 4 participants		
Languages	English, German		
System		Article N°	
EOS M 290 MPM		500008530	

\*Three remote sessions with an Additive Minds expert because no E-Learning is available for this specific software.



# **Remote Expert Session Monitoring**





**Certify and Scale Your Production Find Your Application Develop Your Application Ramp Up Your Production** Information General Content Get direct contact to an EOS Monitoring Expert, **Consolidate Learnings Remote Session** Venue discuss your way forward and gain valuable  $\rightarrow$  Review learnings 4 hours insights Duration  $\rightarrow$  Discuss open questions Objectives  $\rightarrow$  Discuss findings/phenomena within your data **Participants** Max. 4 participants ✓ Review your strategy to apply EOSTATE with our English, German, other Languages Experts Implementation Consulting languages to be agreed ✓ Align with systematic EOS implementation  $\rightarrow$  Review your use cases approaches  $\rightarrow$  Suggest application possibilities ✓ Define your way forward System Article N<sup>6</sup>  $\rightarrow$  Provide expert feedback ...... Target Group / Job Role  $\rightarrow$  Develop next steps EOS M 290 OT/MPM EOS M 300-4 OT/MPM Participants of E-Learning Level 1&2 500009559 EOS M 400-4 OT/MPM **AM Production Managers** ...... Prerequisites E-Learning EOSTATE OT & MeltPool Level 1&2 Customer Training Catalog MPM = EOSTATE MeltPool; OT = EOSTATE Exposure OT EOS 24



# Periphery: Training IPM M Powder Station L Operation





# Certify and Scale Your Production Learning paths and certifications







# Additive Manufacturing Machine Operator Personnel Certification according to DIN 35225 by TÜV SÜD



Find Your Application Deve	elop Your Application Ramp Up Your Pro	oduction Certi	ify and Scale Your Production
General	Content	Information	
Proof your knowledge on operating laser sintering machines with a certificate provided by TÜV SÜD Akademie GmbH.	<ul> <li>Part 1: Theoretical Examination</li> <li>→ Rules and procedures for safe working</li> <li>→ Safety equipment of machine and peripherals</li> </ul>	Venue	At your site or at EOS Training Center
Objectives	→ Powder Handling	Duration	1 day (excl. travelling days)
<ul> <li>Certify system users according to DIN 35225</li> <li>Proof your quality of services with this certification</li> <li>Target Group / Job Role</li> <li>System Operators</li> <li>Other Users</li> <li>Prerequisites</li> <li>Accomplished system operation training</li> </ul>	$\rightarrow$ System Operation	Participants	max. 4 participants
	<ul> <li>Part 2: Practical Examination</li> <li>→ Demonstrate important steps in machine handling</li> </ul>	Languages	English, German, other languages to be agreed
	$\rightarrow$ Demonstrate important safety procedures	Article N°	
		EOS M 400	500000687
		EOS M 400-4	
What is DIN 35225? Welding for aerospace applications – Qualificat for powder bed laser beam machines for additi A recertification is required every two years	ion testing of operators ve manufacturing.		Certification by



# Thank You!



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