



FMS Advanced Maintenance -training

This onsite training course concentrates on understanding the architecture of Fastems FMS better. Attendance gives customer's maintenance personnel access to MMS Service Tool software that can be used to adjust various system control parameters.

"I want my maintenance personnel to be able to adjust the most important system parameters on their own."

✔ Gain access to system parameters via MMS Service Tool

"I want to learn how utilize PLC in troubleshooting."

✔ Includes introduction to Fastems PLC control

Training topics

- Safety instructions for the FMS
- MMS Service Tool
 - Introduction
 - Service user for maintenance
 - Crane reference points
 - Adjusting device addresses
- Introduction to Beckhoff TwinCAT
 - I/O Status
 - Safety PLC status
- Troubleshooting tips, contacting Fastems service

Good to know

- Target group: Service and maintenance personnel
- Maximum number of participants: 4 persons
- Length of the training: 1 day
- Prerequisites: FMS Maintenance course

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4000 installed systems

1982 first system installed – it's still running

24/7 worldwide technical support

85 % of support cases solved remotely



FMS Advanced -training

Aim of the FMS Advanced -course is to strengthen the old skills learned in FMS Standard course. In addition, the course concentrates on understanding how the MMS scheduling works and how system settings and master data can be adjusted to optimize system output in different production situations. After passing the final exam, participants are certified as Fastems FMS Super Users. The superuser status helps person to work as a first line support in FMS's daily operation.

"I want my shift team leaders to know the whole system thoroughly so that they can work as a first line support in the production."

✔ Fastems FMS Super User among customer personnel

"I want to gain better understanding on how the MMS schedules the production and what I can do to improve its performance."

✔ Better understanding on how Fastems MMS works

Training content

- Interviewing participants and clear metrics definition
- Controlling production with MMS Scheduling
- Advanced fixture management
- Managing material flows
- Advanced NC program and tool management
- Fastems FMS Superuser certification test

Frequency

Few months after the production start up

Good to know

- Target group: Production engineers and planners
- Maximum number of participants: 4 persons
- Length of the training: 2–3 days
- Prerequisites: FMS Standard course

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FMS Maintenance -training

This course introduces the basic maintenance tasks that are needed to maintain system's high availability. The course is aimed for customer's maintenance personnel and is always given as an onsite training.

"I want to keep system availability as high as possible."

✓ Knowhow for local maintenance personnel

"I want to create periodical maintenance plan for the system."

✓ Presents all basic maintenance tasks for system operators and service engineers

Training topics

- Introduction to the FMS and its maintenance
- Safety instructions for the FMS
- Basic operation of the FMS
- FMS Maintenance
 - Maintenance intervals
 - Crane Manual modes
 - Crane reference points
 - IT maintenance
- Troubleshooting tips, contacting Fastems service

Frequency

Immediately after system commissioning

Good to know

- Target group: Service and maintenance personnel
- Maximum number of participants: 4 persons
- Length of the training: 1 day
- Prerequisites: Basic skills about maintenance and service work
- Own versions available for FPC and MLS/FMS ONE products

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FMS Pretraining

FMS Pretraining -course is held few months before the system commissioning. The course helps customer to speed up the production ramp-up process. The course presents a bunch of preparative actions that can be taken before the system start-up. The training can take place at Fastems' premises or it can be given as an online course using virtual MMS and video conference tools.

"I have just ordered a new FMS. I want to know how to prepare before the system is ready for production."

"I'm interested to receive pre-training but I don't have time to travel."

✔ **Online training available utilizing virtual MMS and video conference tools**

"I want to create and import part and other production data to MMS beforehand."

✔ **Created production data can be imported from virtual MMS to the actual system during the system commissioning**

Training content

- Introduction to FMS
- FMS Philosophy
- Starting production with MMS
- Basics of NC programs and Tool management
- Preparations for smoother production ramp-up

Frequency

Preferably few months before the system start-up

Good to know

- Target group: Production engineers and planners, management
- Maximum number of participants: 4 persons
- Length of the training: 2–3 days
- Prerequisites: Basic knowledge about machining processes

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FMS Standard -training

FMS Standard -course has been designed for everyone who has used Fastems FMS in normal production and knows the basic features. Aim of this course is to both strengthen the old skills learned in the FMS Starter -course and to give capability to utilize more advanced MMS features in real production.

"I have used my FMS for some time now and want to know more about its capabilities."

✔ Understand the full potential of the FMS

"I want to take my production flow to the next level by using the MMS fine scheduling."

✔ Learn how to increase productivity through utilizing MMS fine scheduling and resource management

"I want to learn how to better manage NC programs and tool data in the production."

✔ Skills for more coherent NC program and tool management

Training content

- Discussion and clear metrics definition
- Pallet management
- Master data management
- MMS fine scheduling and resource management
- MMS reporting
- NC program and tool management
- Troubleshooting and error recovery

Frequency

Few weeks after commissioning

Good to know

- Target group: System operators, Production engineers and planners
- Maximum number of participants: 6 persons
- Length of the training: 2–3 days
- Prerequisites: FMS Starter -course

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FMS Starter Training

After attending this course participants can start production with a Flexible Manufacturing System (FMS) utilizing the core functionalities of Fastems Manufacturing Management Software (MMS). The training happens on-site and is usually given right after the system commissioning phase. This ensures efficient and swift production ramp-up for the system.

"I want to ensure that my personnel have capability to operate our new FMS."

✓ Smooth production ramp-up using the core features of MMS

"I want to first learn the basics and then get more information about MMS scheduling and NC program and tool management."

✓ Good base for extension level FMS training courses

"I have hired a lot of new personnel and they don't know how to use the system."

✓ Suitable for new and existing systems

Training content

- Familiarization to the system in practice
- Introduction to FMS philosophy
- Safety instructions for the FMS
- Starting production with MMS
- NC program and Tool management basics
- Basic troubleshooting and error recovery

Frequency

Immediately after the system commissioning or later as a refresher course

Good to know

- Target group: System operators, production engineers and planners
- Maximum number of participants: 6 persons
- Length of the training: 2 days
- Prerequisites: Basic knowledge about machining processes
- Provides readiness to continue to the advanced level courses.
- Trainings available for FPC and MLS/FMS ONE products

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GTS/CTS Starter -training

This on-site course introduces participants to the basic operation principles of Fastems' most advanced tool automation systems Central Tool Storage (CTS) and Gantry Tool Storage (GTS). After the course, customer is able to start production utilizing the CTS/GTS' core functionalities in the daily operations.

"I want to take my new Central Tool Storage into production."

- ✓ **Gives capability to use CTS/GTS efficiently in the daily production**

"I have hired new personnel and they don't know how to use the existing Central Tool Storage."

- ✓ **Suitable for new and existing systems**

Training content

- Introduction to CTS/GTS
- Safety instructions for the CTS/GTS
- Starting production with CTS/GTS
- Tool system settings
- Introduction to robotics
- Error recovery

Frequency

Immediately after system commissioning or later as a refresher course.

Good to know

- Target group: System operators, production engineers
- Maximum number of participants: 6 persons
- Length of the training: 2 days
- Prerequisites: Basic course about industrial robots

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