Academy

COURSE CATALOG

FORCAM™
ACADEMY

Table of Content

FORCAM Academy

ABOUT US

OUR VISION	**FORCAM Academy** builds bridges between people and systems by translating hidden and technical information into knowledge that can be understood and used by the requesting target group.

OUR MISSION	**FORCAM Academy** provides customers with specific knowledge to enhance and maximize their efforts in transforming to World Class Shop Floor Management

- ■ FORCAM Academy delivers well-structured information to provide knowledge gain for internals, partners and customers.

- ■ We provide worldwide transparency and availability of course material for all stakeholders using innovative digital collaboration solutions.

- ■ We use multiple instructional methods to distribute course contents that fit to the recipient's needs and requirements.

- ■ We support customer satisfaction and partner relationship with high quality courses.

OUR STRATEGY	**FORCAM Academy** is a key pillar to enhance FORCAM customer satisfaction as well as partner relationship. That is why FORCAM Academy offers standardized curse structure to every stakeholder.

■ *Customer*

We want our customers to use our products as successfully as possible. Therefore, FORCAM Academy offers both – product specific Courses and process and generic shop floor management Courses. To reach this common target FORCAM Academy offers several possibilities to get trained in a face-to-face Course or in some sessions a self-paced online training.

■ *Partner*

FORCAM partners are as important as our own employees. Our partners support us as multipliers, with project management and project implementation. FORCAM Academy ensures the continuous delivery of partner qualification and competencies by delivering role-based information.

■ *Employees*

As we train our customers and partners we provide this offer to our employees as well. We want our employees to be a competent partner to our customers.

OUR DELIVERY CONCEPT	**FORCAM Academy** aims to make course participants more than just satisfied. Focusing on a standardized and scenario-based course delivery we offer several opportunities and approaches to gain and improve your knowledge about FORCAM products:

- ■ Blended-Learning approach focusing on an interconnectivity of e-Learning and face-to-face classroom courses based on a modular FORCAM approach.
- ■ We offer standardized course content delivery and quality all over the world
- ■ Open courses with room and time for collaboration with participants

COURSE CATALOG HANDLING

Intention
The following list of Courses covers the Course topics offered by FORCAM Academy based on sustainable knowledge delivery and innovative learning methods.

FORCAM Academy accommodates various learning environments and methods, participants can decide which courses are necessary and delivery approach depending on how they learn best. The FORCAM Academy provides a variety of training approaches including trainer guided learning, individualized self-paced e-learning and remote webinar sessions.

Nomenclature and Structure
Courses are structured in two skill categories: BASIC and ADVANCED. These categories are used to outline the courses on the basis of the delivered content (learning targets).

The courses themselves are all named with a nomenclature that describes the course title in a self-explaining abbreviation, e.g. FORCE-SFM – Basics of Shop Floor Management or FORCE-REP – Basics of Reporting.

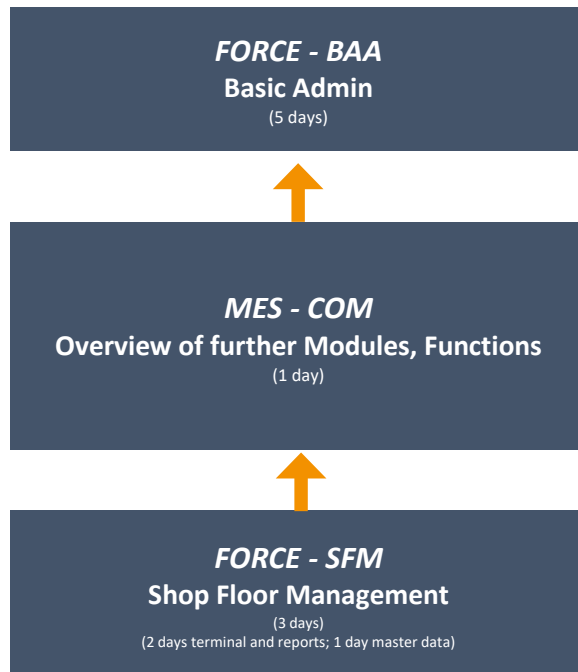|	
Course Dates & Locations	**Course dates and locations** can be found on the FORCAM Academy webpage (http://academy.forcam.com).
Pricing	**Prices** are listed in US$/EUR€/RMB¥. The currency relates to the delivery region. Euro pricing relates to Europe up to Russia, Middle East, Africa. US$ apply Canada, US, South America. RMB¥ apply to Asia Pacific Region
Validity	**Older versions** of the catalog expire with a newer version.

Role based curriculum

Sales (Technical Positioning and value)

This sales curriculum focuses on the technical education of sales personnel. Further topics like pricing, oder structure and partner conditions will be handled by the responsible partner/sales support.

FORCE - BAA
Basic Admin
(5 days)

↑

MES - COM
Overview of further Modules, Functions
(1 day)

↑

FORCE - SFM
Shop Floor Management
(3 days)
(2 days terminal and reports; 1 day master data)

This course is highly recommended for technical sales. It explains the standards available (best practices) and shows as well the ideas and concepts what is possible beyond that.

FORCAM and ENSICO offer a wide range of tools and services to support production. This course provides an overview how customers use those offerings and the value they get out of it. Covered solutions are FORCAM FORCE IIoT and EDGE, ENISCO E-MES and SAP Digital Manufacturing Cloud.

This course covers the activities done when a new project starts. It includes the story for shop floor personnel, management, IT, project management and other production supporting personnel.

Technical and Business Consultants/Presales

This curriculum is mandatory baseline for each technical and business consultant to understand the solution. Further courses based on the areas of interest are available within the Advanced Courses section.

FORCE - SFT
Shop Floor Terminal Configuration
(2 days)

↑

FORCE - BAA
Basic Admin
(5 days)

↑

MES - COM
Overview of further Modules, Functions
(1 day)

↑

FORCE - SFM
Shop Floor Management
(3 days)
(2 days terminal and reports; 1 day master data)

The terminal does not only provide data and allows the handling of operations, it includes a very powerful workflow engine that allows highly flexible customization based on customer requirements.
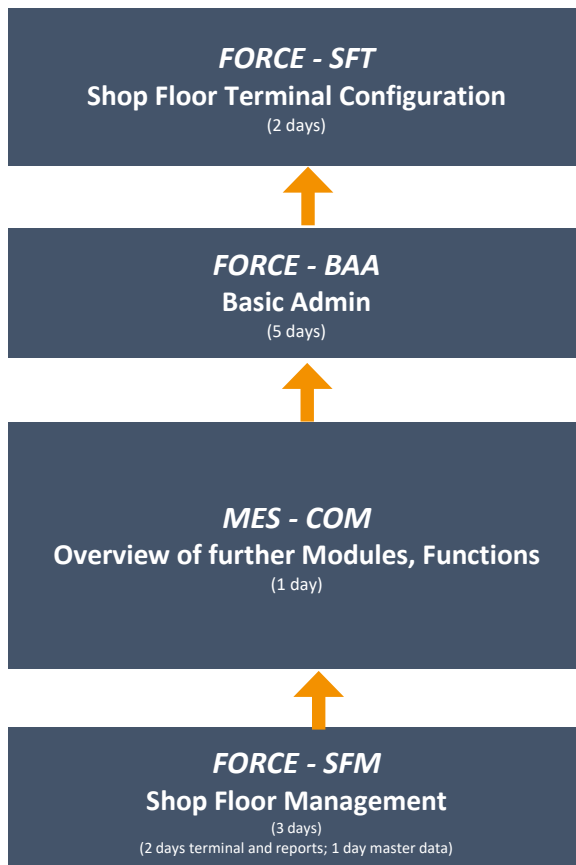
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FORCAM and ENSICO offer a wide range of tools and services to support production. This course provides an overview how customers use those offerings and the value they get out of it. Covered solutions are FORCAM FORCE IIoT and EDGE, ENISCO E-MES and SAP Digital Manufacturing Cloud.

This course covers the activities done when a new project starts. It includes the story for shop floor personnel, management, IT, project management and other production supporting personnel.

FORCAM FORCE™ BASIC COURSES

FORCE-Force™ Basic Courses

A BASIC COUSE is the best and recommended way to start with before using FORCAM solutions.

A basic manufacturing course takes you to an understanding of SFM and how FORCAM facilitates SFM *(prerequisite for all other Courses).* Courses are set up to provide a basic knowledge of all FORCAM FORCE™ modules for key users (by module e.g. MDC, ODM). BASIC COURSES create fundamental knowledge of Shop Floor Management (SFM) and how to use FORCAM FORCE™ software.

All courses are delivered by the FORCAM Academy Team, FORCAM Business Consultant, or a certified FORCAM Partner.

FORCE - SFM
Shop Floor Management
(3 days)
(2 days terminal and reports; 1 day master data)

This starter into the projects covers the use of the standard use cases, meaning of the most important reports and the relevant audience and how to turn the data into value. The third day is a configuration quick starter into most important master data like workplaces, shifts, stoppage reasons and personnel.

MES - COM
Complete I4.0 Values, Features, Requirements
(1 day)

FORCAM and ENSICO offer a wide range of tools and services to support production. This course provides an overview how customers use those offerings and the value they get out of it. Covered solutions are FORCAM FORCE IIoT and EDGE, ENISCO E-MES and SAP Digital Manufacturing Cloud.

FORCE - BAA
Basic Admin
(5 days)

Rollout out a system based on existing templates. The existing standard templates are discussed in detail. This includes MDC, Rule, Terminals, Reports and ERP Interface.

FORCE - PDU
Document Control User
(1 days)

The production data user course teaches how to create, modify, distribute packets that include production relevant documents. The workflow of document release is an essential part of the course

FORCE-SFM – Basics of Shop Floor Management

Course Identifier	**Duration**	**Language**
Forcam-SFM	3 Days	German / English

Content overview
This course is set up as the first introduction to FORCAM FORCE™. It delivers the basic ideas and value-add of Shop Floor Management (SFM) with FORCAM FORCE™. The theoretical approaches behind SFM are important to know for everyone who wants to work with the FORCAM products because the whole software architecture is based on these approaches.

Main Topics
- FORCAM SFM Approach
- Software Architecture
- Basics of Machine Data Collection
- SFM Performance indicator Overall Equipment Effectiveness (OEE)
- Master data and general settings of FORCAM
- General Workplace Configuration
- Basic configuration parameters
- Terminology & basic configuration of Order Data Management with FORCAM
- Basics of Reporting & Visualization
- Shop Floor Terminal basics

The Course is the baseline of all FORCAM solutions and explains how to benefit with a structured SFM system.

Available Delivery Design
☒ Leader-lead Course
☐ Webinar
☐ Web Based Training (WBT)

Target Group
- Project Team members and key users who are involved in the implementation of FORCAM into the production area
- People who wish to get an overview of FORCAM shop floor management
- Future FORCAM administrators

Prerequisites
- None

Prices

Standard Training delivered as a scheduled public course (costs per participant)	1350 US$/EUR* 8100 RMB¥
Standard Training delivered at a customer/partner location and an individual time slot (not scheduled; plus expenses; maximum 8 students)	5775 US$/EUR* 34650 RMB¥

Course Dates
Refer to course schedule overview

MES Complete – Value of MES based on FORCAM/ENISCO offerings

Course Identifier	Duration	Language
MES-COM	1,5 Day	German / English

Content overview
FORCAM and ENSICO offer a wide range of tools and services to support production. This course provides an overview how customers use those offerings and the value they get out of it. Covered solutions are FORCAM FORCE IIoT and EDGE, ENISCO E-MES and SAP Digital Manufacturing Cloud.

Main Topics
- Basic considerations about production and cost calculations
- Understand the most common production KPIs and the improvement process behind
- Overview of FORCAM Force IIoT (MES)
- Overview of the FORCAM machine connectivity solution called FORCAM FORCE EDGE
- Overview of ENISCO-MES for highly automated production processes
- Overview of SAPs MES solution called SAP DMC (Digital Manufacturing Cloud)

Available Delivery Design
☒ Leader-lead Course
☐ Webinar
☐ Web Based Training (WBT)

Target Group
- Experts who specify the Industrie 4.0/Smart Factory strategy for their company
- Production owner who like to understand which functionality contributes to their requirements best

Prerequisites
- Generic understanding of Production

Prices

Standard Training delivered as a scheduled public course (costs per participant)	450 US$/EUR* 2700 RMB¥
Standard Training delivered at a customer/partner location and an individual time slot (not scheduled; plus expenses; maximum 8 students)	1925 US/EUR* 16500 RMB¥

Course Dates
Refer to course schedule overview

FORCE-BAA – Basic Admin

Course Identifier	Duration	Language
FORCE-BAA	5 Days	German / English

Content overview

This course delivers the fundamental technical concepts of FORCAM FORCE. It provides the knowledge to configure the system based on templates and "use cases". The aim and function of such templates is explained. It is a quick starter into projects and enables the project team to specify requirements more precise or maintain a ready configured solution.

Main Topics

- ■ Software Technical Architecture
- ■ Basics of Machine Data Collection
- ■ Understand and select Rule Engine Templates
- ■ Master data and general settings of FORCAM
- ■ General Workplace Configuration
- ■ Concepts and functions of ERP/SAP interfaces, data structures and relevant parameters
- ■ Trouble shooting, log files, log levels
- ■ Most important KPIs, OEE, Reporting & Visualization Editor introduction
- ■ Understand the most important reporting database views
- ■ Understand the concept behind the Shop Floor Terminal and basic customization of such

Available Delivery Design

- ☒ Leader-lead Course
- ☐ Webinar
- ☐ Web Based Training (WBT)

Target Group

- ■ Project Team members and key users who are involved in the implementation of FORCAM FORCE into the production area
- ■ Subject matter experts who are involved in specifying requirements
- ■ Project manager who need a very solid overview, without configuring details
- ■ FORCE System administrators who will configure the system based on templates
- ■ Future FORCAM administrators

Prerequisites

- ■ FORCE-SFM – Basics of Shop Floor Management or Factory Framework experience

Prices

Standard Training delivered as a scheduled public course (costs per participant)	4500 US\$/EUR*
	27000 RMB¥
Standard Training delivered at a customer/partner location and an individual time slot (not scheduled; plus expenses; maximum 8 students)	19250 US\$/EUR*
	115500 RMB¥

Course Dates

Refer to course schedule overview

FORCE-PDM – Document Control - PDM User

Course Identifier	**Duration**	**Language**
FORCE-PDU	1 Day	German / English

Content overview

This course is designed to provide the detailed knowledge required to use FORCAM FORCE Production Data Management, create and maintain packets and documents. The participants will also discuss and understand the requirements within the organization and related processes.

Main Topics

- Introduction to PDM and related terminology
- PDM Processes and Version Management
- Packet and Element configuration
- Packet and element search

Available Delivery Design

☒ Leader-lead Course
☐ Webinar
☐ Web Based Training (WBT)

Target Group

- Personnel that creates, bundles, distributes and updates production relevant documents.
- Document Control Admins who need to configure and customize the system (this is the prerequisite course)

Prerequisites

- none

Prices

Standard Training delivered as a scheduled public course (costs per participant)	900 US$/EUR* 5400 RMB¥
Standard Training delivered at a customer/partner location and an individual time slot (not scheduled; plus expenses; maximum 8 students)	3850 US$/EUR* 23100 RMB¥

Course Dates

Refer to course schedule overview

Continuous Improvement Workshops (CIP)

Continuous Improvement Workshop (CIP)

Beside technology the real driver for improvements within the production environment are the people and the processes. Turn real data into real value is the objective of the CIP Workshops. Those workshops are done onsite at your premise with involvement of all levels and functions applicable.

CIP – INI
CIP Initialisation Day
(1 day)

Get all levels and production relevant functions aligned to the objectives of the project and motivate the team to support and use the system to increase productivity, workplace security and competitiveness.

CIP – EST
CIP Establishment
(2 days)

Ensure the data within the reports is understood and utilized at all levels. Retrain the teams where needed. Review improvement activities triggered by meaningful data and analyse the effects in the reports.

CIP – LEAN
Real Data Plus
Leading LEAN Consulting
(3 days)

OOur Partner companies STAUFEN. and GROWTHH are the leading player for implementation of effective shop floor management communication and processes. This session combines data with people and processes.

CIP-day1 – Continuous Improvement Initialization Day

Course Identifier	**Duration**	**Language**
CIP-INI	1 Days	German / English

Content Overview

The power of FORCE comes into play if the organization makes efficient use of the meaningful data provided by the system. The main objectives are to achieve acceptance by the shop floor personnel and in depth understanding of reports and their value for all others in the team. Mapping of data into responsibilities and mapping to support fast and efficient decision making is key. Identify first potential for improvement, ensure responsibility and initiate improvements. Discuss KPIs, their meaning, value and limitations.

Main Topics

- Validation of reports before the workshop
- Join the multi level daily/weekly decision meetings
- Validate first reports
- Validate stoppage reasons
- Data to meeting/responsibility mapping
- Gain shop floor level acceptance
- Involve work council
- Position reports and understand their value and target audience
- Empower production responsible personnel with meaningful data
- Discuss and decide on KPIs
- Identify relevant data for top the management
- Trigger first CIP activities

Available Delivery Design

- ☒ Leader-lead Course/Workshop
- ☐ Webinar
- ☐ Web Based Training (WBT)

Target Group

- Complete project team
- Lean team
- Production planner and responsible management
- Shop Floor personnel (important)
- Partially top management

Prerequisites

- **FORCE-Installation, first reports available**

Prices

Workshop delivered at a customer/partner location and an individual time slot (not scheduled; plus expenses)	2700 US$/EUR* 16200 RMB¥

CIP-EST – Continuous Improvement Establishment

Course Identifier	**Duration**	**Language**
CIP-EST	2 * 1 Day (around 4-8 weeks in between)	German/English

Content Overview

This is the follow up of the CIP Starter day. Ensure the meaning and power of the introduced reports is taken on board and utilized in daily/weekly session. Retrain personnel how to read and use the reports to identify the real issues. Ensure the linkage of the meaningful data into the organization. Review first result and encourage where needed.

Main Topics
- Review CIP process
- Review stoppage reasons
- 1:1 sessions with users at all levels
- Retrain and introduce new reports
- Analyze first success and discuss rollout into other units
- Ensure functional communication around meaningful data

Available Delivery Design

☒ Leader-lead Course/Workshop
☐ Webinar
☐ Web Based Training (WBT)

Target Group
- Complete project team
- Lean team
- Production planner and responsible management
- Shop Floor personnel (important)
- Partially top management

Prerequisites
- **CIP-day1 Continuous Improvement Starter Day**

Prices

Workshop delivered at a customer/partner location and an individual time slot (no public schedule; plus expenses)	3600 US$/EUR* 21600 RMB¥

CIP-LEAN – Real Data Plus Leading LEAN Consulting

Course Identifier	**Duration**	**Language**
CIP-STA	3 Days	German/English/French

Content Overview
This workshop combines the power of reports with the methodology from world leading consulting companies like STAUFEN. or GROWTTH. The three days cover the three aspects real data, communication and processes. Focus of the first day is the reports, their meaning and relevance and the mapping to the right audience. Evaluation and improvement of the existing shop floor communication is done at the second day. The third day covers the introduction of the topics from the last two days and the review and implementation of the improvement process.

Main Topics
- Review CIP process
- Review and analyze reports that include customer real world data
- Review existing Shop Floor Management execution.
- Discuss and decide on required data for which audience, including Retrain and introduction of new reports
- Analyze first success and discuss rollout into other units
- Ensure functional communication around meaningful data
- Analyze and improve the improvement cycle

Available Delivery Design
☒ Leader-lead Course/Workshop
☐ Webinar
☐ Web Based Training (WBT)

Target Group
- Complete project team
- Lean team
- Production planner and responsible management
- Shop Floor personnel (important)
- Partially top management

Prerequisites
- **First Reports from project implementation available.**

Prices
Workshop delivered at a customer/partner location and an individual time slot (no public schedule; plus expenses)	5900 US$/EUR*
	35400 RMB¥

FORCAM FORCE™ ADVANCED COURSES

CIP-EST – Continuous Improvement Establishment

Within the BASIC Courses the audience will learn how to use an existing system, configure the most relevant items by themselves and roll a system out based on existing templates. The knowledge from the BASIC courses is prerequisite for the ADVANCED courses.

The emphasis of all ADVANCED COURSES are on configuration of FORCAM FORCE and attached modules and configure such templates.

All courses are delivered by the FORCAM Academy team or a certified FORCAM Academy Partner.

FORCE – REP **Reporting and Visualization** (2 days)	Understand the meaning of all reports available and the concept how timelines for reports are build. The most important database table are explained as well as the report editor. Create Visualizations and Dashboards.
FORCE – SFT **Shop Floor Terminal Configuration** (2 days)	Steps are put together into a button or background process to support customized workflows. This course guides through the configuration of the terminal and workflows.
FORCE – MDC **Machine Data Collection** (3 days)	The concepts of MDC are already covered in the FORCE-BAA. This expert course covers more details on scripting, various controls and additional MDC functions like providing data to the controls.
FORCE – PDA **Document Control Admin** (1 day)	While the course FORCE-PDU (user) shows how to handle production documents the Admin course covers the configuration of workflows, packet headers, packet to workplace assignments etc..
FORCE – DNC **Document Control Admin** (1 day)	Configuration of machine connectivity for the distribution of Numeric Controls is covered in this course. Important topic is the workflow of down-/upload and release management.
FORCE – DS **Detailed Order Scheduling** (2 day)	Detailed Order Scheduling helps to find the best order schedule based on operation sequences, machines and their performance, number of personnel and tools available. It improves delivery performance and identification of critical resources (bottleneck workplaces)
FORCE – TRC **Trace** (2 days)	This course introduced the major trace workflows for serial and batch trace as well as the assembly plan. Objective is to understand those standard workflows including their related configuration.

FORCE-SFT – Advanced Shop Floor Terminal Configuration

Course Identifier	**Duration**	**Language**
FORCE-SFT	2 Days	German/English

Content Overview

This course is designed to explain the structure and configuration of the Shop Floor Terminal. A series of hands-on configuration examples will illustrate in detail all required steps to configure a customized Shop Floor Terminal.

Main Topics

- Architecture and structure
- Terminal layout, Table layouts, operation detail view
- Understanding standard button functionality
- Workflow configuration for buttons and background activities
- Execute various examples how to utilize the functional steps

Available Delivery Design

☒ Leader-lead Course
☐ Webinar
☐ Web Based Training (WBT)

Target Group

- Subject Matter Experts and key users who are involved in the implementation of FORCAM into the production area

Prerequisites

- **FORCE-SFM**
- **FORCE-BAA**

Prices

Standard Training delivered as a scheduled public course (costs per participant)	1800 US$/EUR*
	10800 RMB¥

Standard Training delivered at a customer/partner location and an individual time slot (not scheduled; plus expenses; maximum 8 students)	7700 US$/EUR*
	46200 RMB¥

Course Dates

Refer to course schedule overview

FORCE-REP – Advanced Performance Analysis Configuration

Course Identifier	**Duration**	**Language**
FORCE-REP	2 Days	German/English

Content Overview

This course is designed to give the in-depth knowledge required to create custom reports, visualizations and dashboards. The database structure is explained as well as additional functionality like Auto-Reporting and Alarming.

Main Topics

- Custom Reports
- Custom Visualizations
- Data Filters
- Database Structure
- Mail Server Configuration
- Auto-Reports
- Alarming

Available Delivery Design

- ☒ Leader-lead Course
- ☐ Webinar
- ☐ Web Based Training (WBT)

Target Group

- Subject Matter Experts and key users who are involved in the implementation of FORCAM into the production area

Prerequisites

- **FORCE-SFM**
- **FORCE-BAA**
- **Knowledge of SQL**

Prices

Standard Training delivered as a scheduled public course (costs per participant)	1800 US$/EUR 10800 RMB¥
Standard Training delivered at a customer/partner location and an individual time slot (not scheduled; plus expenses; maximum 8 students)	7700 US$/EUR 46200 RMB¥

Course Dates

Refer to course schedule overview

FORCE-PDA – Document Control PDM Admin

Course Identifier	Duration	Language
FORCE-PDA	1 Day	German/English

Content Overview

This course is designed to provide the detailed knowledge required to implement and maintain FORCAM FORCE Production Data Management in your organization. Besides learning everything about the configuration of the functionality to display all production related documents at the Shop Floor Terminal, the participants will also discuss and understand the requirements within the organization and related processes before implementing such a solution based on FORCE functionality.

Main Topics

- ◼ Introduction to PDM and related terminology
- ◼ PDM Processes and Version Management
- ◼ Packet and Element Configuration
- ◼ Advanced PDM configuration
- ◼ Packet and element search
- ◼ PDM configuration for Shop Floor Terminal

Available Delivery Design

☒ Leader-lead Course
☐ Webinar
☐ Web Based Training (WBT)

Target Group

- ◼ Subject Matter Experts and key users who are involved in the implementation of FORCAM into the production area

Prerequisites

- ◼ **FORCE-SFM** or **FORCE-BAA**

Prices

Standard Training delivered as a scheduled public course (costs per participant)	900 US$/EUR* 5400 RMB￥
Standard Training delivered at a customer/partner location and an individual time slot (not scheduled; plus expenses; maximum 8 students)	3850 US$/EUR 23100 RMB￥

Course Dates

Refer to course schedule overview

FORCE-DNC – Distributing Numerical Control Configuration

Course Identifier	**Duration**	**Language**
FORCE-DNC	1 Day	German/English

Content Overview
This course provides in-depth knowledge about the FORCAM FORCE DNC module. It covers the configuration of machine (NC-Controller) connectivity as well as the basic and advanced configuration of NC-File transfer to/from the FORCE Workbench and Shop Floor Terminal applications. Typical customer use-cases are discussed in order to understand the related processes.

Main Topics
- Introduction to DNC and related terminology
- DNC processes, DNC types and version management
- Configuration of machine connection
- DNC Logs
- Configuration of NC-File transfer to/from Workbench and Shop Floor Terminal
- Delta Export
- Remote DNC

Available Delivery Design
☒ Leader-lead Course
☐ Webinar
☐ Web Based Training (WBT)

Target Group
- Subject Matter Experts and admins who are involved in the implementation of FORCAM into the production area.

Prerequisites
- **FORCE-PDU**
- **FORCE-PDA**
- **Technical knowledge about machine connectivity and file transfer options**

Prices

Standard Training delivered as a scheduled public course (costs per participant)	900 US$/EUR* 5400 RMB¥
Standard Training delivered at a customer/partner location and an individual time slot (not scheduled; plus expenses; maximum 8 students)	3850 US$/EUR 23100 RMB¥

Course Dates
Refer to course schedule overview

FORCE-MDC – Advanced Machine Data Collection

Course Identifier	**Duration**	**Language**
FORCE-MDC	2 Days	German/English

Content Overview
This course is designed to give the in-depth knowledge required to configure a machine with all its settings in FORCAM FORCE™. Different kind of connections are covered and a detailed view into the architecture will be given.

Main Topics
- Machine Data Collection Overview
- Architecture Rule Engine
- DCU & DACQ Architecture
- Configuration of a Workplace
- DACQ Scripting
- Logging Functions
- Troubleshooting MDC
- FORCAM Bridge
- Special Functionalities

Available Delivery Design
☒ Leader-lead Course
☐ Webinar
☐ Web Based Training (WBT)

Target Group
- Subject Matter Experts and key users who are involved in the implementation of FORCAM into the production area

Prerequisites
- **FORCE-SFM**
- **FORCE-BAA**

Prices
Standard Training delivered as a scheduled public course (costs per participant)	1800 US$/EUR 10800 RMB￥
Standard Training delivered at a customer/partner location and an individual time slot (not scheduled; plus expenses; maximum 8 students)	7700 US$/EUR 46200 RMB￥

Course Dates
Refer to course schedule overview

FORCE-DS – Detailed Order Scheduling

Course Identifier	**Duration**	**Language**
FORCE-DS	2 Days	German/English

Content overview
This course is designed to give the in-depth knowledge required to use and configure the Detailed Order Scheduling module in FORCAM FORCE™. After this course the participants will be able to perform the basic configuration, to run and process simulations and to use the available analysis tools

Main topics
- Why DS?
- User Interface & Configuration
- Navigator, Editor and Scheduleboard
- Simulation
- Planning restrictions and extensions
- Manual planning
- Further analysis tools
- Basic configuration options

Available delivery design
☒ Leader-lead Course
☐ Webinar
☐ Web Based Training (WBT)

Target Group
- Users of the FORCAM FORCE™ Detailed Order Scheduling Module

Prerequisites
- **FORCE-SFM**

Prices

Standard Training delivered as a scheduled public course (costs per participant)	1800 US$/EUR 10800 RMB￥
Standard Training delivered at a customer/partner location and an individual time slot (not scheduled; plus expenses; maximum 8 students)	7700 US$/EUR 46200 RMB￥

Course Dates
Refer to course schedule overview

FORCE-TRC – TRACE workflow and reporting

Course Identifier	**Duration**	**Language**
FORCE-TRC	2 Days	German/English

Content overview
This course introduced the major trace workflows for serial and batch trace as well as the assembly plan. Objective is to understand those standard workflows including their related configuration. The results of the workflows are reviewed to learn about the build in reporting and analytics options.

Main Topics
- Serial Trace
  - Manual entry, automated capturing at machines, input via webservices and SQL.
  - Understand the options behind a data capturing point.
  - Understand the reporting options upstream, downstream, process analysis and correlation report.
- Batch Trace
  - Understand container logic and flow of material within/between container.
  - Execute a container workflow for input/output/compliance and quality batch.
  - Review current and past states of container including additional data captured against a container.
- Assembly Plan
  - Execute a preconfigured assembly plan to understand the related elements and options.
  - Review the reporting available.

Available Delivery Design
☒ Leader-lead Course
☐ Webinar
☐ Web Based Training (WBT)

Target Group
- People who are in charge of specifying, configuring and implementing a trace solution.

Prerequisites
- FORCE-BAA
- FORCE-SFT

Prices

Standard Training delivered as a scheduled public course (costs per participant)	1800 US$/EUR* 10800 RMB¥
Standard Training delivered at a customer/partner location and an individual time slot (not scheduled; plus expenses; maximum 8 students)	7700 US$/EUR* 46200 RMB¥

Course Dates
Refer to course schedule overview

FORCAM FORCE™
Expert Sessions

FORCE-SAP – Forcam Adapter for SAP

Course Identifier	**Duration**	**Language**
FORCE-SAP	1 Day	German/English

Content Overview
This course is designed to give a detailed view into the SAP Adapter, its configuration and functionality. As the customizing of SAP Systems are typically very customer specific the session can only run on customers SAP test systems.

Main Topics
- ■ Required Fields
- ■ Data Transfer
- ■ Serialization
- ■ Troubleshooting

Available Delivery Design
☒ Leader-lead Course
☐ Webinar
☐ Web Based Training (WBT)

Target Group
- ■ Subject Matter Experts and key users who are involved in the implementation of FORCAM into the production area

Prerequisites
- ■ **FORCE-SFM**
- ■ **FORCE-BAA**
- ■ **Customer SAP administration skills and privileges**

Prices
Standard Training delivered at a customer/partner location and an individual time slot (not scheduled; plus expenses; maximum 8 students)	3850 US\$/EUR 23100 RMB￥

Course Dates
Upon request

FORCE-ERP – Advanced ERP-Interface

Course Identifier	**Duration**	**Language**
FORCE-ERP	1 Day	German/English

Content Overview

This course is designed to give an overview how FORCAM FORCE™ integrates with ERP systems and how data can be transferred to/from the ERP system to/from FORCAM FORCE™.

Main Topics

- Required Fields
- Field Mapping
- Interface Types
- Integration Procedures

Available Delivery Design

☒ Leader-lead Course
☐ Webinar
☐ Web Based Training (WBT)

Target Group

- Subject Matter Experts and key users who are involved in the implementation of FORCAM into the production area

Prerequisites

- **FORCE-SFM**
- **FORCE-ODM**

Prices

Standard Training delivered as a scheduled public course (costs per participant)	900 US$/EUR 5400 RMB¥
Standard Training delivered at a customer/partner location and an individual time slot (not scheduled; plus expenses; maximum 8 students)	3850 US$/EUR 23100 RMB¥

Course Dates

Upon request

FORCE EDGE CONNECT

EDGE Connect – How to connect a machine

Course Identifier
EDGE-CON
Duration
1 Day
Language
German/English

Content Overview
This course is designed to deliver the basic understanding on how to connect machine controllers (PLCs or other assets) to EDGE Connect. After giving an architecture overview the first part of the training has a strong focus on the process of connecting machine controllers by using templates or individual configuration using the FORCAM plug-ins. The second part of the training is concentrating on the interpretation of the signal values using the flexible EDGE scripting language.

Main Topics
- Understand the architecture of machine level, EDGE Node and Configuration UI, Repository and consuming systems
- Learn the interaction between EDGE Nodes (software close to machines) and EGDE Configuration UI to display, edit and create machines
- Understanding of workplace specific configurations like PLC plug-ins, addresses, signals, user specific fields and signal composition (scripting) to turn raw signals into production relevant messages
- Interworking and workflow to build a Machine Repository with approved templates to speed up global deployments and reduced connection effort
- Learn more details and options provided by the composition (scripting), this section requires basic understanding of programming (variables, if-then-else…)
- Practical Exercises to build new machines including composition script. Major topic is to understand and repeat the task of status and quantity calculation and delivery to consuming systems, including delivered data formats.

Available Delivery Design
☒ Leader-lead Course
☐ Webinar
☐ Web Based Training (WBT)

Target Group
- Subject Matter Experts and key users who are involved in the implementation of EDGE Connect into the production area

Prerequisites
- **Basic understanding of machine controllers and programming languages**

Prices

Standard Training delivered at a customer/partner location and an individual time slot (not scheduled; plus expenses; maximum 8 students)	3850 US$/EUR
	23100 RMB¥

Course Dates
Upon request