

Pharma Software

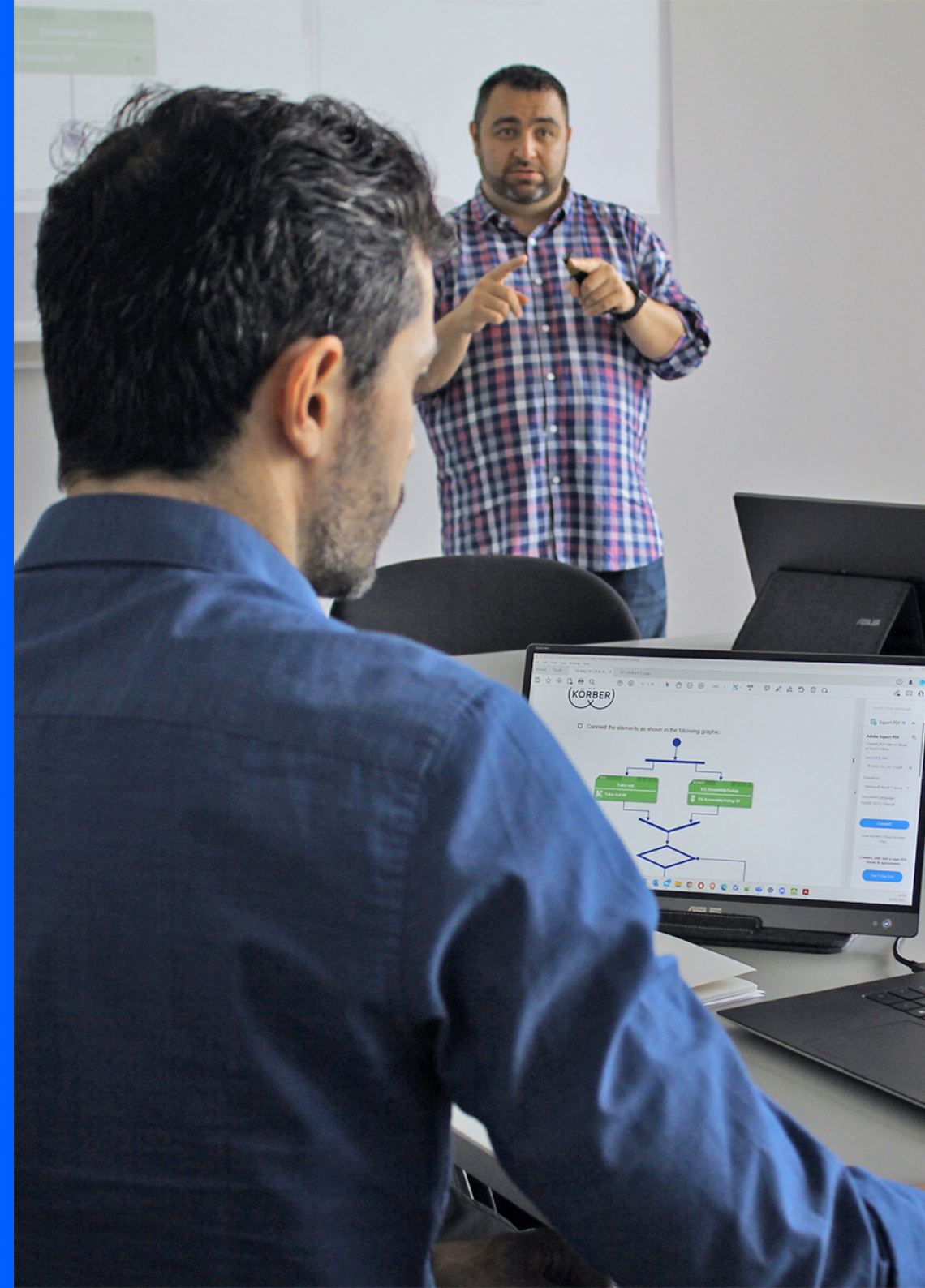
Training Program 2024

Our comprehensive PAS-X trainings ensure the success of your MES projects in the pharma, biotech, and cell & gene therapy industries



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Contact

koerber-pharma.com/en/services/academy

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Registration & information

Would you like to learn more about our training offerings? Do you have questions about a specific course, or would you like to book a training promptly? Feel free to contact us directly, providing details of your training interest.

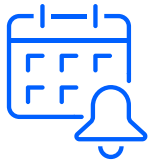
Training when and where you need it

Are you interested in digital learning formats and want to start right away? Our Academy offers a wide range of interactive e-learning and remote trainer-led courses at your fingertips. In addition, the learning platform provides helpful study guides and learning materials that effectively support your learning progress.

Academy

Training anywhere you need it

Whatever your need, whether you are just starting your MES project or you are ready to advance to the next level, we support you with a suitable training approach. We offer Instructor-led Training, E-Learning and Blended Learning for a variety of roles.



⇒ Instructor-led Training

Open Classroom

Standard trainings are held at one of our locations or remotely on a fixed date and time. Single seats can be booked, providing a financial benefit if you want to train fewer than 4 employees.

⇒ Jump to Training schedules

On-site training

Are you looking to train a group of employees? We deliver the training at your location or remotely. Together we will find a schedule that fits your team.



⇒ Interactive E-learning

Interactive digital training that can be flexibly integrated into your daily work routine, no travel necessary.



⇒ Blended Learning

Combine the benefits of both learning worlds by gathering theoretical knowledge through e-learning and then efficiently developing deeper understanding in a remote instructor-led training.

Our training courses are certifiable, which means that every participant in a training course will take an exam at the end to ensure that the content taught has been understood. Each successful exam is confirmed with a certificate.



We herewith confirm that
John Doe

has successfully participated in the training PAS-X MES Basic

This certificate is personalized, not transferable and only valid for the respective trained PAS-X Version and expires 24 months after the date of issue.

Contents of this training:

- PAS-X Concept & User Interface
- Central Login
- Master Data Management
 - Equipment
 - Material
- Master Batch Records
 - MBR Designer
 - System Libraries
 - Material Flow
 - Use of Equipment
- Electronic Batch Recording
 - Exception Handling
 - Batch Record Review & Release

Körber Pharma Software GmbH

Lüneburg, 22/11/2023

Certificate

From **Key User** to **End User** training

+3.250
people trained
globally
(2023)

Our training methods are tailored to individual learning targets.

Key User – Personnel tasked to implement, configure, design and set up of PAS-X MES

End User – Personnel tasked to operate the system in their daily work based on the Key User's setup

Based on your role, individual learning paths are laid out, preparing you and your team to work with PAS-X MES in your specialized areas.



– **Key Users**

Basic training

Start your training journey by learning about the functions and capabilities that PAS-X MES has to offer and train your team on all the fundamentals.



– **Key Users**

Professional training Administration training

Enable your Key Users with advanced PAS-X MES knowledge and experience to implement complex use cases and scenarios in your system, whether it is MBR Design, Master Data or other configurations.



– **End Users**

Tailored training

Adapted training concept based on your manufacturing processes to ensure hands-on preparation of End Users for a smooth go-live.



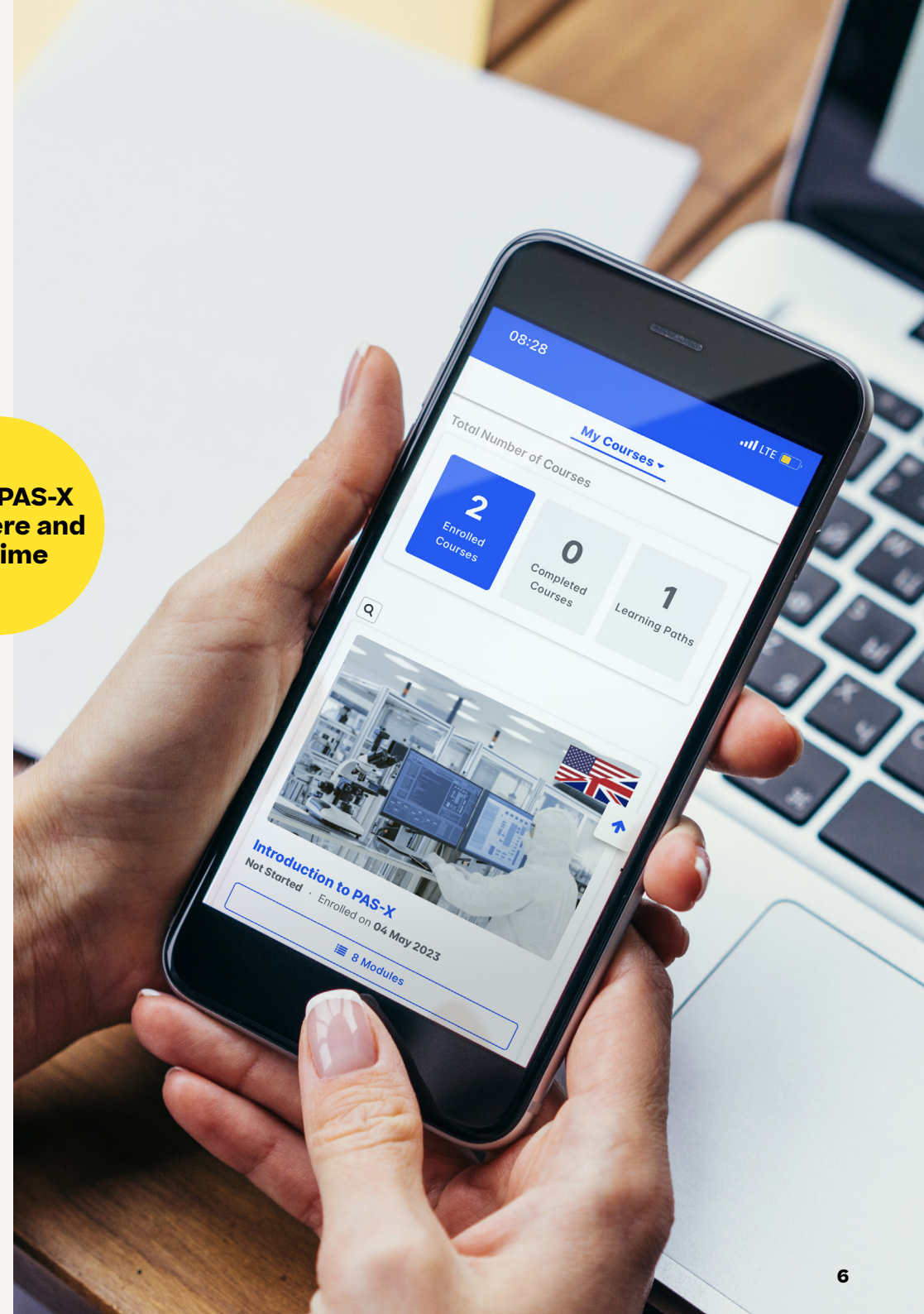
PAS-X Version update / Refresher trainings

Digital training platform

academy.koerber-pharma.com

Learn PAS-X
anywhere and
anytime

The desktop interface features a blue header with the KOERBER logo, navigation links for Dashboard and Catalog, and a search bar. Below the header, there are tabs for My Courses, My Live Sessions, and Training History. The main content area includes a 'Welcome to the Academy' banner with a 'Course catalogue' button and a video player showing a presentation titled 'The Academy - the digital learning platform...'. A 'Total Number of Courses' section displays four metrics: 9 Enrolled Courses, 0 Learning Journeys, 11 Completed Courses, and 1 Learning Paths. A featured course card for 'PAS-X V3.3.1 Basic (Blended Learning)' is shown, indicating it is completed on 09 May 2023. A 'Recent Activity' section at the bottom shows a notification: 'You launched the course Creating Master Batch Records 6 days ago'.



Key User specific training

PAS-X MES training

MBR Designer / MES Engineer

- Basic
- Version Update
- Professional
 - Weighing & Dispensing
 - Material Flow
 - EQ Management
 - Library Elements & GMBR
 - Order Network & CX
 - Formulas
 - MBR Design
 - ERP Integration

System Administrator

- Basic¹
- System Administration
- Version Update

Label Designer

- Basic¹
- Reports & Labels Administration

Automation Engineer

- Basic
- SCADA Administration
- SCADA Professional MBR Design
- Professional MSI

Quality Manager

- Basic for QA
- Version Update

Project Manager

- Basic
- Version Update

Additional training

Track & Trace

- Basic
- Administration

Monitoring

- Monitoring²

KPI

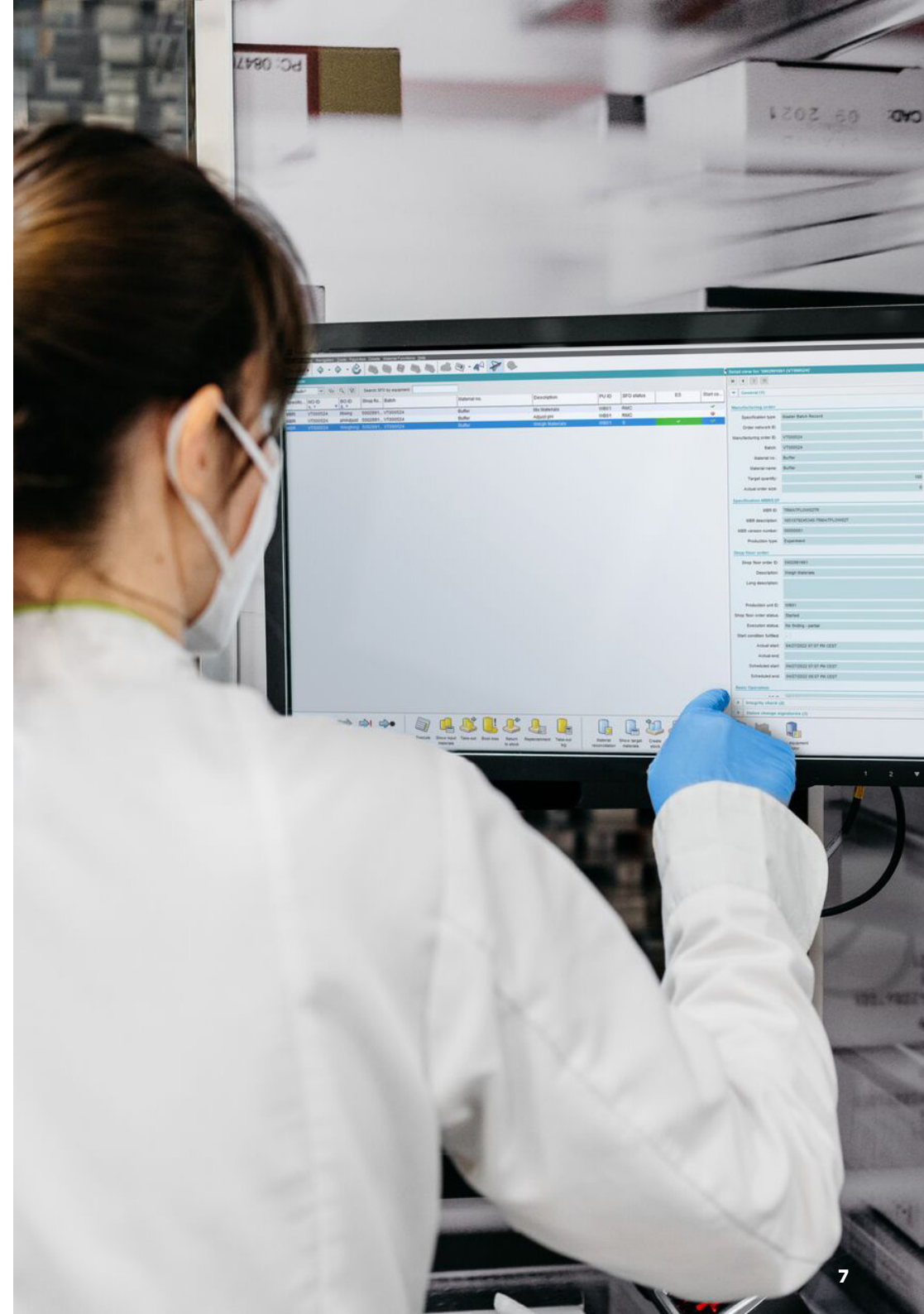
- Administration²

PAS-X Savvy

- Basic
- Administration
- Programming

¹ Optional for this role

² Subject to availability, Upon request



Tailored End User training

Shop floor Operator

- End User Basic Training
- Operator Training

Manufacturing Supervisor

- End User Basic Training
- Supervisor Training

Do you wish for a smooth MES implementation and effective preparation of all employees?

We help you minimize production downtime by familiarizing your team with the system and preparing them accordingly for their tasks. This is how you ensure a successful start with PAS-X.

In our training courses, we link the basic understanding of the system and its functions to the tasks to be performed, reflecting customer-specific processes and production steps. Therefore, we offer training courses that are individually tailored to your needs, designed to fit your production processes.

Shop floor QA

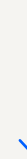
- End User Basic Training
- Shop floor QA Training

Would you like to train your employees yourself?

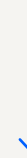
We also support you in conducting training for your end users with our train-the-trainer approach. In these, key users are enabled to conduct the training themselves for all relevant team members. Of course, we can also take care of the end-user training for you.

However, you choose, a workshop to assess your needs and determine the scope of training is the starting point for tailored training, followed by close collaboration between your team and our trainers. Together, we develop the appropriate training program and materials

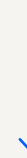
Concept Workshop



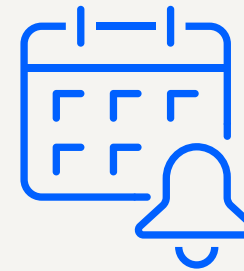
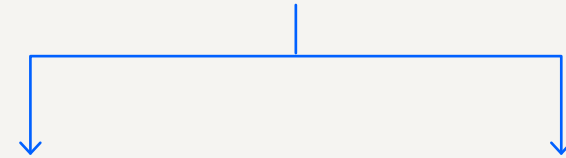
Identifying Roles & Content



Training creation



Training execution



Instructor-led Training



Interactive E-learning

Available as



Recommended training for

- MBR Designer
- MES Engineer
- Automation Engineer
- Project Manager

PAS-X MES Basic		TR-BAS		
Training objectives	<ul style="list-style-type: none"> → General knowledge of and skills in using PAS-X MES, modeling processes and executing the main system functionalities → Overview of PAS-X MES functionalities covering the whole production process 			
Target audience	Users and administrators of the PAS-X system, project manager and key users as supervisors, team leaders, quality personnel, head of production			
Required qualifications	None			
Required equipment	Laptop			
Duration	3 days /09:00 a.m. – 05:00 p.m.			
Language	English			
Certification valid for	2 years			
Training content	<table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> <p>PAS-X MES concept</p> <ul style="list-style-type: none"> • PAS-X MES product concept <p>User interface</p> <ul style="list-style-type: none"> • Overview of the general structure of the user interface • Dialogs & forms • Use of filters <p>Master data management</p> <ul style="list-style-type: none"> • Equipment management & material master data <p>Master Batch Record – management</p> <ul style="list-style-type: none"> • Concept and structure • Basic recipe • MBR designer • Creating recipes • Bill of material • Material flow concept & use of equipment </td> <td style="vertical-align: top; width: 50%; border-left: 1px solid black;"> <p>Master Batch Record – release workflow</p> <p>Electronic Batch Recording – EBR</p> <ul style="list-style-type: none"> • Order Management • Recipe execution • Exception handling <p>Batch Record Review</p> <ul style="list-style-type: none"> • Exception Review • Review of critical parameters • Batch Record release </td> </tr> </table>		<p>PAS-X MES concept</p> <ul style="list-style-type: none"> • PAS-X MES product concept <p>User interface</p> <ul style="list-style-type: none"> • Overview of the general structure of the user interface • Dialogs & forms • Use of filters <p>Master data management</p> <ul style="list-style-type: none"> • Equipment management & material master data <p>Master Batch Record – management</p> <ul style="list-style-type: none"> • Concept and structure • Basic recipe • MBR designer • Creating recipes • Bill of material • Material flow concept & use of equipment 	<p>Master Batch Record – release workflow</p> <p>Electronic Batch Recording – EBR</p> <ul style="list-style-type: none"> • Order Management • Recipe execution • Exception handling <p>Batch Record Review</p> <ul style="list-style-type: none"> • Exception Review • Review of critical parameters • Batch Record release
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Available as



Recommended training for

→ Quality Manager

PAS-X MES Basic for QA		TR-BAS-QA				
Training objectives	<ul style="list-style-type: none"> → Detailed knowledge of and skills in using PAS-X for QA purposes → Using PAS-X in real-life scenarios 					
Target audience	Key users as quality managers, supervisors and head of production.					
Required qualifications	<table border="1"> <thead> <tr> <th>mandatory</th> <th>optional</th> </tr> </thead> <tbody> <tr> <td>-</td> <td>-</td> </tr> </tbody> </table>	mandatory	optional	-	-	
mandatory	optional					
-	-					
Required equipment	Laptop					
Duration	2 days /09:00 a.m. – 05:00 p.m.					
Language	English					
Certification valid for	2 years					
Training content	<p>Quality Assurance with PAS-X</p> <ul style="list-style-type: none"> • Life cycle management of master batch records • Critical parameters • Exception handling • Review by Excpetion • Batch record review & approval • Archiving of batch record reports • Batch quality attributes 					

Available as



Recommended training for

- MBR Designer
- MES Engineer

PAS-X MES Professional Weighing & Dispensing		TR-PRO-WD		
Training objectives	<ul style="list-style-type: none"> → Detailed knowledge of and skills in weighing and dispensing of materials in the context of the MBR modeling and EBR execution process → Usage of PAS-X MES in real life scenarios 			
Target audience	Key users as recipe designers, supervisors and team leaders.			
Required qualifications	mandatory	optional		
	Basic training	-		
Required equipment	Laptop			
Duration	1 day / 09:00 a.m. – 05:00 p.m.			
Language	English			
Certification valid for	2 years			
Training content	<table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> <p>Weighing recipe & administration</p> <ul style="list-style-type: none"> • Bill of material • Container Management • Weighing configuration <p>Weighing preparation</p> <ul style="list-style-type: none"> • Prepare production • Shop floor order dialog • Material item setting </td> <td style="vertical-align: top; width: 50%; border-left: 1px solid black;"> <p>Weighing recipe execution</p> <ul style="list-style-type: none"> • Different weighing modes • Manual take-out • Weighing procedures • Material takeouts • Yield weighing <p>Post-weighing activities</p> <ul style="list-style-type: none"> • Inventory adjustment • Takeout log information • Managing material returns & losses </td> </tr> </table>		<p>Weighing recipe & administration</p> <ul style="list-style-type: none"> • Bill of material • Container Management • Weighing configuration <p>Weighing preparation</p> <ul style="list-style-type: none"> • Prepare production • Shop floor order dialog • Material item setting 	<p>Weighing recipe execution</p> <ul style="list-style-type: none"> • Different weighing modes • Manual take-out • Weighing procedures • Material takeouts • Yield weighing <p>Post-weighing activities</p> <ul style="list-style-type: none"> • Inventory adjustment • Takeout log information • Managing material returns & losses
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Available as



Recommended training for

- MBR Designer
- MES Engineer

PAS-X MES Professional Material Flow		TR-PRO-MATFLOW		
Training objectives	<ul style="list-style-type: none"> → Detailed knowledge of and skills in using the material flow within PAS-X MES → Using PAS-X in real-life scenarios 			
Target audience	Key users as recipe designers, supervisors and team leaders.			
Required qualifications	mandatory	optional		
	Basic training	Formula training		
Required equipment	Laptop			
Duration	1 day / 09:00 a.m. – 05:00 p.m.			
Language	English			
Certification valid for	2 years			
Training content	<table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> <p>Material management</p> <ul style="list-style-type: none"> • Material master data • Handling unit management • Work in process material </td> <td style="vertical-align: top; width: 50%;"> <p>Material flow within MBRs</p> <ul style="list-style-type: none"> • Design material flow • Material quantification types • Hand over material • Holding time • Automated material flow functions </td> </tr> </table>		<p>Material management</p> <ul style="list-style-type: none"> • Material master data • Handling unit management • Work in process material 	<p>Material flow within MBRs</p> <ul style="list-style-type: none"> • Design material flow • Material quantification types • Hand over material • Holding time • Automated material flow functions
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Available as



Recommended training for

- MBR Designer
- MES Engineer

PAS-X MES Professional EQ Management		TR-PRO-EQM		
Training objectives	<ul style="list-style-type: none"> → Detailed knowledge of and skills in configuring and using equipment as well as reusable equipment → Using PAS-X MES in real-life scenarios 			
Target audience	Key users as recipe designers, supervisors and team leaders.			
Required qualifications	mandatory	optional		
	Basic training	Formula training		
Required equipment	Laptop			
Duration	1 day / 09:00 a.m. – 05:00 p.m.			
Language	English			
Certification valid for	2 years			
Training content	<table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> <p>Equipment management</p> <ul style="list-style-type: none"> • Equipment concept • Equipment specific properties • Equipment cleaning rules • State diagrams • Equipment logbook </td> <td style="vertical-align: top; width: 50%; border-left: 1px solid black;"> <p>Equipment usage within Master Batch Record</p> <ul style="list-style-type: none"> • Using the equipment library • Creating ESPs • Defining equipment list • Automated equipment functions </td> </tr> </table>		<p>Equipment management</p> <ul style="list-style-type: none"> • Equipment concept • Equipment specific properties • Equipment cleaning rules • State diagrams • Equipment logbook 	<p>Equipment usage within Master Batch Record</p> <ul style="list-style-type: none"> • Using the equipment library • Creating ESPs • Defining equipment list • Automated equipment functions
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Available as



Recommended training for

- MBR Designer
- MES Engineer

PAS-X MES Professional Library Element & GMBR		TR-PRO-GMBR		
Training objectives	<ul style="list-style-type: none"> → Detailed knowledge of and skills in using GMBRs and libraries in the context of MBR modeling and EBR execution processes → Usage of PAS-X MES in real life scenarios 			
Target audience	Key users as recipe designers, supervisors and team leaders.			
Required qualifications	mandatory	optional		
	Basic training	Formula training		
Required equipment	Laptop			
Duration	1 day / 09:00 a.m. – 05:00 p.m.			
Language	English			
Certification valid for	2 years			
Training content	<table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> <p>Generic Master Batch Records</p> <ul style="list-style-type: none"> • Concept of generic master batch records • Parameterization of GMBRs • Managing parameter value lists • Defining global parameters • Life cycle management of GMBRs </td> <td style="vertical-align: top; width: 50%;"> <p>Library administration</p> <ul style="list-style-type: none"> • Library concept • Creating libraries and library elements • Formula variable in library elements • Using library elements • Life cycle management of library elements </td> </tr> </table>		<p>Generic Master Batch Records</p> <ul style="list-style-type: none"> • Concept of generic master batch records • Parameterization of GMBRs • Managing parameter value lists • Defining global parameters • Life cycle management of GMBRs 	<p>Library administration</p> <ul style="list-style-type: none"> • Library concept • Creating libraries and library elements • Formula variable in library elements • Using library elements • Life cycle management of library elements
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Available as



Recommended training for

- MBR Designer
- MES Engineer

PAS-X MES Professional Order Network & CX		TR-PRO-CX		
Training objectives	<ul style="list-style-type: none"> → Detailed knowledge of and skills in setting up, configuring and using the characteristics functionality within PAS-X for propagating information between different manufacturing orders → Using PAS-X MES in real-life scenarios 			
Target audience	Key users as recipe designers, supervisors and team leaders.			
Required qualifications	mandatory	optional		
	Basic training Formula training	-		
Required equipment	Laptop			
Duration	1 day / 09:00 a.m. – 05:00 p.m.			
Language	English			
Certification valid for	2 years			
Training content	<table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> <p>Characteristics & Order Network</p> <ul style="list-style-type: none"> • Concept of CX and order network • Data propagation using CX <p>Administration of characteristics</p> <ul style="list-style-type: none"> • Defining characteristics (CX) • Managing CX for equipment and material • Maintaining characteristics </td> <td style="vertical-align: top; width: 50%;"> <p>Usage of characteristics within recipes</p> <ul style="list-style-type: none"> • Parameterization of characteristics • Using of CX basic function • Using CX within activities <p>Recipe Execution using characteristics</p> <ul style="list-style-type: none"> • Writing characteristics to equipment • Reviewing characteristics </td> </tr> </table>		<p>Characteristics & Order Network</p> <ul style="list-style-type: none"> • Concept of CX and order network • Data propagation using CX <p>Administration of characteristics</p> <ul style="list-style-type: none"> • Defining characteristics (CX) • Managing CX for equipment and material • Maintaining characteristics 	<p>Usage of characteristics within recipes</p> <ul style="list-style-type: none"> • Parameterization of characteristics • Using of CX basic function • Using CX within activities <p>Recipe Execution using characteristics</p> <ul style="list-style-type: none"> • Writing characteristics to equipment • Reviewing characteristics
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Available as



Recommended training for

- MBR Designer
- MES Engineer

PAS-X MES Professional Formulas		TR-PRO-FORM
Training objectives	<ul style="list-style-type: none"> → Detailed knowledge of and skills in using the formula editor in PAS-X → Using PAS-X MES in real-life scenarios 	
Target audience	Key users as recipe designers, supervisors and team leaders.	
Required qualifications	mandatory	optional
	Basic training	MBR design training
Required equipment	Laptop	
Duration	1 day / 09:00 a.m. – 05:00 p.m.	
Language	English	
Certification valid for	2 years	
Training content	<p>Managing Formulas</p> <ul style="list-style-type: none"> • Overview of formula editor • Formula verification in master batch record • Using formulas for different use cases • Formula simulation in batch execution 	

Available as



Recommended training for

- MBR Designer
- MES Engineer

PAS-X MES Professional MBR Design		TR-PRO-MBR
Training objectives	<ul style="list-style-type: none"> → Specific knowledge on material flow design aspects as well as on event driven workflows → Detailed knowledge of and skills in using signal sender and signal receiver → Using PAS-X MES in real-life scenarios 	
Target audience	Key users as recipe designers, supervisors, team leaders and quality personnel.	
Required qualifications	mandatory	optional
	Basic training	Formula training
Required equipment	Laptop	
Duration	1 day / 09:00 a.m. – 05:00 p.m.	
Language	English	
Certification valid for	2 years	
Training content	<p>Master Batch Record</p> <ul style="list-style-type: none"> • Simulation tools • Recipe dependencies ERP / MES • Material flow design aspects based on factory layout • Workflow design for parallel, sequential or repeatable processes • Usage of the layer concept for structuring workflows • Specific design patterns 	<p>Managing Signals</p> <ul style="list-style-type: none"> • Concept of signals • Signal buffering • Signal usage within workflow design

Available as



Recommended training for

- MBR Designer
- MES Engineer

**Available
for 3.3**

PAS-X MES Professional ERP Integration		TR-PRO-ERP
Training objectives	<ul style="list-style-type: none"> → Understanding the concept of the MES ERP interface → Understanding capabilities of utilizing the ERP interface → Gaining knowledge on the usage of ERP messages in PAS-X → Acquiring knowledge to efficiently troubleshooting failed messages in MES 	
Target audience	Key users as recipe designer, supervisors and team leaders	
Required qualifications	mandatory	optional
	Basic training	-
Required equipment	Laptop	
Duration	1 day / 09:00 a.m. – 05:00 p.m.	
Language	English	
Certification valid for	2 years	
Training content	<ul style="list-style-type: none"> • iDocs • Master Data • MBR Data • Batch Data/Stock • Process Orders • External Parameters • Notifications • Other Message Types 	

Available as



Recommended training for

- MBR Designer
- MES Engineer
- Automation Engineer

PAS-X MES SCADA Professional MBR Design		TR-PRO-SCADA
Training objectives	<ul style="list-style-type: none"> → Detailed knowledge of and skills in using PCS MBR elements → Using PAS-X in real-life scenarios 	
Target audience	Key users as recipe designers and automation engineers.	
Required qualifications	mandatory	optional
	Basic training	Formula training
Required equipment	Laptop	
Duration	1 day / 09:00 a.m. – 05:00 p.m.	
Language	English	
Certification valid for	2 years	
Training content	<p>SCADA (OPC) MBR Design</p> <ul style="list-style-type: none"> • Introduction to SCADA (OPC) Integration • Managing PCS MBR elements • Recipe design using PCS MBR elements • Using alias resolution within the recipe • Signal handling to drive recipe execution • Recipe execution with PCS MBR elements • Alarm & Event handling 	

Available as



Recommended training for

- MBR Designer
- MES Engineer

PAS-X MES Professional MSI		TR-PRO-MSI		
Training objectives	<ul style="list-style-type: none"> → Setting up, configuring and maintaining the PAS-X MES client system as well as messages – the administrative perspective → Detailed knowledge of and skills in setting up and connecting PAS-X MES to external systems for automatic data exchange (SCADA, DCS, Smart EQM) → Using PAS-X MES in context of MSI in real-life scenarios 			
Target audience	Key users as automation engineers, system administrators as well as recipe designers			
Required qualifications	mandatory	optional		
	Basic training	PAS-X MES formulas training PAS-X MES SCADA (OPC) MBR design training PAS-X MES SCADA (OPC) administration Training		
Required equipment	Laptop			
Duration	1 day / 09:00 a.m. – 05:00 p.m.			
Language	English			
Certification valid for	2 years			
Training content	<table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> Introduction of MSI: <ul style="list-style-type: none"> • Concept of Level 2 integration • Concept of message-based shopfloor integration • MSI adapter configuration • Communication monitoring as well as trouble-shooting </td> <td style="vertical-align: top; width: 50%; border-left: 1px solid black;"> Message administration and MBR design: <ul style="list-style-type: none"> • Creation and administration of message • Recipe design and execution of Interface BF • Discussion and design of use cases </td> </tr> </table>		Introduction of MSI: <ul style="list-style-type: none"> • Concept of Level 2 integration • Concept of message-based shopfloor integration • MSI adapter configuration • Communication monitoring as well as trouble-shooting 	Message administration and MBR design: <ul style="list-style-type: none"> • Creation and administration of message • Recipe design and execution of Interface BF • Discussion and design of use cases
Introduction of MSI: <ul style="list-style-type: none"> • Concept of Level 2 integration • Concept of message-based shopfloor integration • MSI adapter configuration • Communication monitoring as well as trouble-shooting 	Message administration and MBR design: <ul style="list-style-type: none"> • Creation and administration of message • Recipe design and execution of Interface BF • Discussion and design of use cases 			

Available as



Recommended training for

- All Key Users
- MBR Designer
- MES Engineer
- Automation Engineer
- Project Manager

PAS-X MES Version Update

Training objectives	<ul style="list-style-type: none"> → Knowledge of new functionalities implemented in a new PAS-X MES version → Understanding of the motivation, idea and concept of these functionalities 	
Target audience	Key users as recipe designers, supervisors and team leaders	
Required qualifications	mandatory Knowledge of the system that is upgrade from	optional -
Required equipment	Laptop	
Duration	1 day /09:00 a.m. – 05:00 p.m.	
Language	English	
Certification valid for	2 years	
Training content	Depending on the versions the content differs. The delta between two PAS-X MES Versions is explained, this can include: <ul style="list-style-type: none"> • New functionalities and how those can be used within the system • New dialogs and their purpose • Already existing functionalities with a changed behavior • Functionalities and/or dialogs which are not available any longer due to e.g. replacement • Software architecture 	

Available as



Recommended training for

- System Administrator
- MBR Designer
- MES Engineer

PAS-X MES System Administration		TR-ADMIN-SYS		
Training objectives	<ul style="list-style-type: none"> → Setting up, configuring and maintaining the PAS-X MES client system – the administrative perspective → Detailed knowledge of and skills in system administration of a PAS-X MES client environment → Using PAS-X MES in real-life scenarios 			
Target audience	Administrators of the PAS-X system.			
Required qualifications	mandatory –	optional Basic training		
Required equipment	Laptop			
Duration	2 days /09:00 a.m. – 05:00 p.m.			
Language	English			
Certification valid for	2 years			
Training content	<table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> <p>System overview</p> <ul style="list-style-type: none"> • System architecture <p>User administration</p> <ul style="list-style-type: none"> • Management of users/user groups • Rights management <p>PAS-X MES GUI configuration</p> <p>Audit trail</p> <p>PAS-X MES printing/reporting</p> <ul style="list-style-type: none"> • Printing architecture • Printing configuration </td> <td style="vertical-align: top; width: 50%; border-left: 1px solid black;"> <p>System monitoring</p> <p>PAS-X MES communication</p> <ul style="list-style-type: none"> • ERP-interface – principles • Monitoring of the ERP interface <p>PAS-X MES client configuration</p> <ul style="list-style-type: none"> • Scale configuration • Client configuration </td> </tr> </table>		<p>System overview</p> <ul style="list-style-type: none"> • System architecture <p>User administration</p> <ul style="list-style-type: none"> • Management of users/user groups • Rights management <p>PAS-X MES GUI configuration</p> <p>Audit trail</p> <p>PAS-X MES printing/reporting</p> <ul style="list-style-type: none"> • Printing architecture • Printing configuration 	<p>System monitoring</p> <p>PAS-X MES communication</p> <ul style="list-style-type: none"> • ERP-interface – principles • Monitoring of the ERP interface <p>PAS-X MES client configuration</p> <ul style="list-style-type: none"> • Scale configuration • Client configuration
<p>System overview</p> <ul style="list-style-type: none"> • System architecture <p>User administration</p> <ul style="list-style-type: none"> • Management of users/user groups • Rights management <p>PAS-X MES GUI configuration</p> <p>Audit trail</p> <p>PAS-X MES printing/reporting</p> <ul style="list-style-type: none"> • Printing architecture • Printing configuration 	<p>System monitoring</p> <p>PAS-X MES communication</p> <ul style="list-style-type: none"> • ERP-interface – principles • Monitoring of the ERP interface <p>PAS-X MES client configuration</p> <ul style="list-style-type: none"> • Scale configuration • Client configuration 			

Available as



Recommended training for

- MBR Designer
- MES Engineer
- Project Manager

PAS-X MES SCADA Administration		TR-ADMIN-SCADA
Training objectives	<ul style="list-style-type: none"> → Setting up, configuring and maintaining the PAS-X MES client system – the administrative perspective → Detailed knowledge of and skills in setting up and connecting PAS-X MES to external systems for automatic data exchange (Scada, DCS) 	
Target audience	Key users as automation engineers, system administrators as well as recipe designers.	
Required qualifications	mandatory	optional
	–	Basic training
Required equipment	Laptop	
Duration	2 days /09:00 a.m. – 05:00 p.m.	
Language	English	
Certification valid for	2 years	
Training content	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Introduction to SCADA (OPC) Integration</p> <ul style="list-style-type: none"> • Concepts of process control integration (PCS) • PCS system setup • Communication monitoring within PAS-X MES </div> <div style="width: 45%;"> <p>PCS MBR elements</p> <ul style="list-style-type: none"> • Setup of PCS MBR elements • PCS recipe information within PAS-X MES • Concept and usage of aliasing • Configuration of state machines • Synchronization of level 2 systems and PAS-X MES • Using state mapping to drive state transitions • Authoring of PCS MBR elements • Recipe execution with PCS MBR elements </div> </div>	

Available as



Recommended training for

→ Label Designer

PAS-X MES Reports & Labels Administration		TR-ADMIN-REP		
Training objectives	<ul style="list-style-type: none"> → Setting up, configuring and maintaining the PAS-X MES client system – the administrative perspective → Detailed knowledge of and skills in setting up and configuring the report management in PAS-X MES, including Crystal Reports and related SQL queries → Using PAS-X in real-life scenarios 			
Target audience	Administrators of the PAS-X MES system.			
Required qualifications	mandatory –	optional Basic training		
Required equipment	Laptop			
Duration	2 days /09:00 a.m. – 05:00 p.m.			
Language	English			
Certification valid for	2 years			
Training content	<table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> <p>Introduction</p> <ul style="list-style-type: none"> • Basics of reporting • Using SQL • Basics of crystal report <p>Label design</p> <ul style="list-style-type: none"> • Data model for labels • Label design with crystal report • Printing configuration </td> <td style="vertical-align: top; width: 50%; border-left: 1px solid black;"> <p>Batch Record Report</p> <ul style="list-style-type: none"> • Data model for batch report • Batch Record Report design • Printing configuration </td> </tr> </table>		<p>Introduction</p> <ul style="list-style-type: none"> • Basics of reporting • Using SQL • Basics of crystal report <p>Label design</p> <ul style="list-style-type: none"> • Data model for labels • Label design with crystal report • Printing configuration 	<p>Batch Record Report</p> <ul style="list-style-type: none"> • Data model for batch report • Batch Record Report design • Printing configuration
<p>Introduction</p> <ul style="list-style-type: none"> • Basics of reporting • Using SQL • Basics of crystal report <p>Label design</p> <ul style="list-style-type: none"> • Data model for labels • Label design with crystal report • Printing configuration 	<p>Batch Record Report</p> <ul style="list-style-type: none"> • Data model for batch report • Batch Record Report design • Printing configuration 			

Available as



Recommended training for

→ All Software Key Users

PAS-X MES Track & Trace Basic		TR-FP-TT				
Training objectives	<ul style="list-style-type: none"> → Detailed knowledge of and skills in setting up, configuring and using the Track & Trace software → Using Track & Trace in real-life scenarios 					
Target audience	Key users as team leaders and production leads.					
Required qualifications	<table border="1"> <thead> <tr> <th>mandatory</th> <th>optional</th> </tr> </thead> <tbody> <tr> <td>-</td> <td>-</td> </tr> </tbody> </table>	mandatory	optional	-	-	
mandatory	optional					
-	-					
Required equipment	Laptop					
Duration	1 day / 09:00 a.m. – 05:00 p.m.					
Language	English					
Certification valid for	2 years					
Training content	<ul style="list-style-type: none"> • Concept of serialization • PAS-X Track & Trace – features and architecture • User interface • Dialog overview • Process order workflow 					

Available as



Recommended training for

- All Software Key Users
- Administrators

PAS-X MES Track & Trace Administration		TR-ADMIN-TT
Training objectives	<ul style="list-style-type: none"> → Setting up, configuring and maintaining the PAS-X MES client system – the administrative perspective → Detailed knowledge of and skills in setting up and connecting PAS-X MES Track & Trace and line controller as well as configuring and monitoring the connection → Using PAS-X MES X in real-life scenarios 	
Target audience	Administrators of the PAS-X system.	
Required qualifications	mandatory –	optional Basic training
Required equipment	Laptop	
Duration	1 day / 09:00 a.m. – 05:00 p.m.	
Language	English	
Certification valid for	2 years	
Training content	<ul style="list-style-type: none"> • Configuration • User/Rights management • Audit trail • Control data • Background processes • Monitoring • Interfaces 	

Available as



Recommended training for

→ All Software Key Users

PAS-X Savvy Basic

Training objectives	<ul style="list-style-type: none"> → Navigation within PAS-X Savvy → General understanding of the functionality and usability of PAS-X Savvy → Data Visualization and Data Analysis approaches of my data → Result Reporting and Collaboration in PAS-X Savvy 	
Target audience	All users which are going to work with PAS-X Savvy, any roles.	
Required qualifications	mandatory <hr/> -	optional <hr/> -
Required equipment	Laptop	
Duration	4 hours	
Language	English	
Certification valid for	2 years	
Training content	<ul style="list-style-type: none"> • Savvy Introduction • Savvy Glossary • Navigation within PAS-X Savvy • Filtering and finding the required data • Data Visualization • Data Analysis • Result Reporting 	

Available as



Recommended training for

- All Software Key Users
- Administrators

PAS-X Savvy Administration

Training objectives	<ul style="list-style-type: none"> → Detailed knowledge of PAS-X Savvy administration → Tracking data import and troubleshooting → User and access management 	
Target audience	Core users, team leaders and process experts.	
Required qualifications	mandatory	optional
	PAS-X Savvy Basic training	-
Required equipment	Laptop	
Duration	3 hours	
Language	English	
Certification valid for	2 years	
Training content	<ul style="list-style-type: none"> • Access and Navigation in PAS-X Savvy Administration • Tracking data import and how to troubleshoot • Global System Settings • User Groups and User Management 	

Available as



Recommended training for

- Software Product Managers
- Data Scientists
- Programmers

PAS-X Savvy Programming

Training objectives	<ul style="list-style-type: none"> → Python programming in PAS-X Savvy → Develop your own Algorithm → Develop your own GUI 	
Target audience	Data Scientist, Data Analysts	
Required qualifications	mandatory Python 3 (Numpy, Pandas, Ploty, statsmodel, Scipy)	optional SQL, REST API
Required equipment	Laptop	
Duration	4 – 8 hours	
Language	English	
Certification valid for	2 years	
Training content	Depending on request <ul style="list-style-type: none"> • Introduction and using of Python API in PAS-X Savvy • Develop your own algorithm • Building a GUI to make developed algorithms accessible to other users • Sustainable algorithm development in PAS-X Savvy • Introduction of Savvy Python functions 	

Instructor-led training schedule

Americas 2024

Training courses:
PAS-X V3.1.8 /
PAS-X V3.3

January

Basic	
22–24	🇺🇸 Apex, NC, USA
System Administration	
25–26	🇺🇸 Apex, NC, USA
Professional Library Elements & GMBR	
29	🇺🇸 Apex, NC, USA
Professional MBR Design	
30	🇺🇸 Apex, NC, USA
Professional Material Flow	
31	🇺🇸 Apex, NC, USA

February

Professional Formulas	
01	🇺🇸 Apex, NC, USA
Professional Order Network & CX	
02	🇺🇸 Apex, NC, USA

March

Basic	
11–13	🇺🇸 Parsippany, NJ, USA
System Administration	
14–15	🇺🇸 Parsippany, NJ, USA
Professional Library Elements & GMBR	
18	🇺🇸 Parsippany, NJ, USA
Professional MBR Design	
19	🇺🇸 Parsippany, NJ, USA
Professional Material Flow	
20	🇺🇸 Parsippany, NJ, USA
Professional Formulas	
21	🇺🇸 Parsippany, NJ, USA
Professional Order Network & CX	
22	🇺🇸 Parsippany, NJ, USA

April

Sorry, no trainings this month

May

Basic	
06–08	Remote
System Administration	
09–10	Remote
Professional Library Elements & GMBR	
13	Remote
Professional EQ Management	
14	Remote
Professional Material Flow	
15	Remote
Professional Formulas	
16	Remote
Professional Order Network & CX	
17	Remote

June

Sorry, no trainings this month

July

Basic	
08–10	🇺🇸 Apex, NC, USA
System Administration	
11–12	🇺🇸 Apex, NC, USA
Professional Library Elements & GMBR	
15	🇺🇸 Apex, NC, USA
Professional EQ Management	
16	🇺🇸 Apex, NC, USA
Professional Material Flow	
17	🇺🇸 Apex, NC, USA
Professional Formulas	
18	🇺🇸 Apex, NC, USA
Professional Order Network & CX	
19	🇺🇸 Apex, NC, USA

August

Sorry, no trainings this month

September

Basic	
09–11	🇺🇸 Parsippany, NJ, USA
System Administration	
12–13	🇺🇸 Parsippany, NJ, USA
Professional Library Elements & GMBR	
16	🇺🇸 Parsippany, NJ, USA
Professional EQ Management	
17	🇺🇸 Parsippany, NJ, USA
Professional Material Flow	
18	🇺🇸 Parsippany, NJ, USA
Professional Formulas	
19	🇺🇸 Parsippany, NJ, USA
Professional Order Network & CX	
20	🇺🇸 Parsippany, NJ, USA

October

Sorry, no trainings this month

November

Basic	
11–13	Remote
System Administration	
14–15	Remote
Professional Library Elements & GMBR	
18	Remote
Professional EQ Management	
19	Remote
Professional Material Flow	
20	Remote
Professional Formulas	
21	Remote
Professional Order Network & CX	
22	Remote

December

Sorry, no trainings this month

Instructor-led training schedule

Asia 2024



January

Sorry, no trainings this month

February

Sorry, no trainings this month

March

Basic	
05–07	Remote
Professional Material Flow	
12	Remote
Professional EQ Management	
14	Remote
Professional Library Elements & GMBR	
18	Remote
Professional Formulas	
20	Remote
Professional Order Network & CX	
22	Remote
System Administration	
26–27	Remote

April

Sorry, no trainings this month

May

Sorry, no trainings this month

June

Basic	
17–19	● Tokyo, Japan
Basic	
18–20	Remote
Professional EQ Management	
20	● Tokyo, Japan
Professional Material Flow	
21	● Tokyo, Japan
Professional Material Flow	
25	Remote
Professional Library Elements & GMBR	
25	● Tokyo, Japan
Professional MBR Design	
26	● Tokyo, Japan
Professional Formulas	
27	● Tokyo, Japan
Professional EQ Management	
27	Remote
Professional Order Network & CX	
28	● Tokyo, Japan

July

Professional MBR Design	
01	Remote
Professional Library Elements & GMBR	
03	Remote
Professional Formulas	
05	Remote
Professional Order Network & CX	
09	Remote
System Administration	
09–10	● Tokyo, Japan
Professional ERP Integration	
11	Remote
System Administration	
16–17	Remote

August

Sorry, no trainings this month

September

Basic	
30–02 October	● Tokyo, Japan

October

Professional EQ Management	
03	● Tokyo, Japan
Professional Material Flow	
04	● Tokyo, Japan
Professional Library Elements & GMBR	
08	● Tokyo, Japan
Professional MBR Design	
09	● Tokyo, Japan
Professional Formulas	
10	● Tokyo, Japan
Professional Order Network & CX	
11	● Tokyo, Japan
System Administration	
22–23	● Tokyo, Japan

November

Sorry, no trainings this month

December

Sorry, no trainings this month

Instructor-led training schedule

Europe 2024



January

Sorry, no trainings this month

February

Basic	
05–07	🇩🇪 Lüneburg, Germany
Professional ERP Integration	
08	🇩🇪 Lüneburg, Germany
Professional MBR Design	
09	🇩🇪 Lüneburg, Germany
Professional Library Elements & GMBR	
12	🇩🇪 Lüneburg, Germany
Professional EQ Management	
13	🇩🇪 Lüneburg, Germany
Professional Material Flow	
14	🇩🇪 Lüneburg, Germany
Professional Formulas	
15	🇩🇪 Lüneburg, Germany
Professional Order Network & CX	
16	🇩🇪 Lüneburg, Germany
System Administration	
19–20	🇩🇪 Lüneburg, Germany

March

Basic	
04–06	🇮🇪 Cork/Dublin, Ireland
System Administration	
07–08	🇮🇪 Cork/Dublin, Ireland
Professional Library Elements & GMBR	
11	🇮🇪 Cork/Dublin, Ireland
Professional EQ Management	
12	🇮🇪 Cork/Dublin, Ireland
Professional Material Flow	
13	🇮🇪 Cork/Dublin, Ireland
Professional Formulas	
14	🇮🇪 Cork/Dublin, Ireland
Professional Order Network & CX	
15	🇮🇪 Cork/Dublin, Ireland

April

Basic	
08–10	🇩🇪 Lüneburg, Germany
System Administration	
11–12	🇩🇪 Lüneburg, Germany
Professional Library Elements & GMBR	
15	🇩🇪 Lüneburg, Germany
Professional EQ Management	
16	🇩🇪 Lüneburg, Germany
Professional Material Flow	
17	🇩🇪 Lüneburg, Germany
Professional Formulas	
18	🇩🇪 Lüneburg, Germany
Professional Order Network & CX	
19	🇩🇪 Lüneburg, Germany

May

Sorry, no trainings this month

June

Basic	
03–05	🇩🇪 Lüneburg, Germany
Professional ERP Integration	
06	🇩🇪 Lüneburg, Germany
Professional MBR Design	
07	🇩🇪 Lüneburg, Germany
Professional Library Elements & GMBR	
10	🇩🇪 Lüneburg, Germany
Professional EQ Management	
11	🇩🇪 Lüneburg, Germany
Professional Material Flow	
12	🇩🇪 Lüneburg, Germany
Professional Formulas	
13	🇩🇪 Lüneburg, Germany
Professional Order Network & CX	
14	🇩🇪 Lüneburg, Germany
System Administration	
17–18	🇩🇪 Lüneburg, Germany

July

Sorry, no trainings this month

August

Basic	
26–28	🇩🇪 Lüneburg, Germany
Professional ERP Integration	
29	🇩🇪 Lüneburg, Germany
Professional MBR Design	
30	🇩🇪 Lüneburg, Germany

September

Professional Library Elements & GMBR	
02	🇩🇪 Lüneburg, Germany
Professional EQ Management	
03	🇩🇪 Lüneburg, Germany
Professional Material Flow	
04	🇩🇪 Lüneburg, Germany
Professional Formulas	
05	🇩🇪 Lüneburg, Germany
Professional Order Network & CX	
06	🇩🇪 Lüneburg, Germany
System Administration	
09–10	🇩🇪 Lüneburg, Germany
Basic	
16–18	🇮🇪 Cork/Dublin, Ireland
Professional EQ Management	
19	🇮🇪 Cork/Dublin, Ireland
Professional Material Flow	
20	🇮🇪 Cork/Dublin, Ireland
Professional Library Elements & GMBR	
23	🇮🇪 Cork/Dublin, Ireland
Professional MBR Design	
24	🇮🇪 Cork/Dublin, Ireland
Professional Formulas	
25	🇮🇪 Cork/Dublin, Ireland
Professional Order Network & CX	
26	🇮🇪 Cork/Dublin, Ireland

October

Sorry, no trainings this month

November

Basic	
04–06	🇩🇪 Lüneburg, Germany
System Administration	
07–08	🇩🇪 Lüneburg, Germany
Professional Library Elements & GMBR	
11	🇩🇪 Lüneburg, Germany
Professional EQ Management	
12	🇩🇪 Lüneburg, Germany
Professional Material Flow	
13	🇩🇪 Lüneburg, Germany
Professional Formulas	
14	🇩🇪 Lüneburg, Germany
Professional Order Network & CX	
15	🇩🇪 Lüneburg, Germany
Basic	
25–17	🇩🇪 Lüneburg, Germany
Professional ERP Integration	
28	🇩🇪 Lüneburg, Germany
Professional MBR Design	
29	🇩🇪 Lüneburg, Germany

December

Professional Library Elements & GMBR	
02	🇩🇪 Lüneburg, Germany
Professional EQ Management	
03	🇩🇪 Lüneburg, Germany
Professional Material Flow	
04	🇩🇪 Lüneburg, Germany
Professional Formulas	
05	🇩🇪 Lüneburg, Germany
Professional Order Network & CX	
06	🇩🇪 Lüneburg, Germany
System Administration	
09–10	🇩🇪 Lüneburg, Germany

Your PAS-X MES training team

Well-trained and qualified users thanks to our experienced subject matter experts.

Europe

Europe



Sarah Zimmer
Head of Business
Consulting

Language: English,
German



Svenja Griewaldt
Senior Trainer &
Consultant

Language: English,
German



Tomas Lenton
Trainer

Language: English



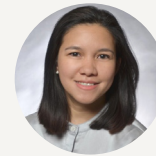
Rana Mousa
Manager End User
Training

Language: English,
German



Michel Eberhardt
Senior Trainer

Language: English,
German



Ana de la Rosa Bosch
Associate Trainer

Language: English



Philipp Bochert
Senior Trainer

Language: English,
German



Valeriia Kapkova
Trainer

Language: English,
Russian



Michael Hentschel
Consultant

Language: English,
German

Your PAS-X MES training team



Well-trained and qualified users thanks to our experienced subject matter experts.

North America



Kristi Korson
Head of Training

Language: English



Brandon Gabany
Senior Trainer

Language: English



Keri Murphy
Senior Trainer

Language: English



Mike Bani
Senior Trainer

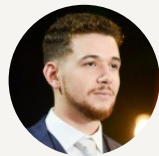
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Latin America



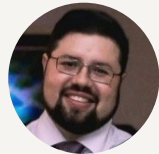
Marcio Vilas Boas
Trainer & Senior Consultant

Language: English,
Portuguese-BR, Spanish



Flávio Silva
Trainer & Consultant

Language: English,
Portuguese-BR, Spanish



Cayo Guiné
Trainer & Consultant

Language: English,
Portuguese-BR

Your PAS-X MES training team

Well-trained and qualified users thanks to our experienced subject matter experts.



Thailand



Sariya Dechamethakun (Gig)
Consultant & Trainer

Language: English, Thai, Japanese



Pairoj Grover (Roj)
Trainer & Consultant

Language: English, Thai



Chayut Vaikasi (Gap)
Trainer & Consultant

Language: English, Thai

China



Amy Wang
Senior Consultant & Trainer

Language: English, Mandarin



Dara Wang
Trainer & Project Engineer

Language: English, Mandarin

India



Harshitha Pusapuri
Consultant & Trainer

Language: English, Hindi



Gowthamapriya Palanisamy (Priya)
Trainer & Consultant

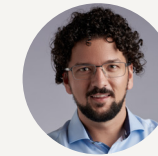
Language: English, Hindi



Manish Kumar
Trainer & System Engineer

Language: English, Hindi

Japan



Martin Brillowski
Head of MES Consulting and Project Services

Language: English, German



Takanobu Amano
Trainer & MES Consultant

Language: English, Japanese



Eiji Miyamoto
MES Trainer

Language: English, Japanese

Our locations

