



Training Course Portfolio

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Education Services Overview

Objective

The primary objective of MATRIXX Education Services is to ensure that our customers and partners gain the greatest possible benefit from their investment in MATRIXX Software systems. Through our training programs, a comprehensive, structured set of courses are available using a variety of training media and blended learning approaches.

All MATRIXX training courses are modular in nature. Each module has specific objectives and training paths that have been designed from extensive analysis of well-defined user roles. At the end of each module, learners are asked to complete either a self-assessment or hands-on lab exercise to reinforce the topics taught.

Delivery Formats

Training courses from MATRIXX Education Services are supported through several delivery formats:

- Web-Based Training (WBT)
- Instructor-Led Training (ILT)
- Virtual Classroom (VC)
- eLearning (ELT)
- Mentoring
- MATRIXX Micro-Learning
- Briefings
- Open Enrollment

Web-Based Training

Informative and engaging, each WBT module is made up from a series of presentations, demonstrations and simulations. Voiceovers are used on all WBT along with interactive tests following each unit.

Instructor-Led Training

Traditional classroom-based training is still the most efficient and interactive way to conduct knowledge transfer programs. Class sizes are restricted to ensure productive learner/instructor interaction. All MATRIXX instructors have real-world rating and billing backgrounds to bring personal experience to the course. On-site, customized and tailored training options exist under the ILT banner.

Virtual Classroom

Travel to a venue for a widely dispersed team is not always viable. MATRIXX offers all ILT course deliveries through virtual classroom technology. Lab exercises are conducted in a hosted environment with instructor monitoring facilities to ensure all learners can complete the necessary challenges.



eLearning

Our core disciplines of Operations, Installation, Integration and Pricing Configuration are covered to a Specialist-Level through self-paced eLearning courses. All modules in our full Instructor Led Training courses are reflected in these time-bounded programs. Hands-on lab exercises are supported by preconfigured Virtual Machines. These VMs are available for the duration of the course, however for a fixed runtime. Support is given through user groups and lab environment problem resolution by email/direct intervention.

Workplace Mentoring

Part of the on-going knowledge transfer that is intrinsic to becoming proficient in the platform is the mentoring program. If a learner is employed on a project with MATRIXX Professional Services in attendance, then a mentor will be assigned. This mentor is the learner's "buddy" and helps the learner with practical use of the knowledge gained in formal training.

MATRIXX Life-Long-Learning

To ensure that learners are progressing in their development to becoming successful practitioners, MATRIXX provides the Life-Long-Learning program. This program runs continuously for all learners registered and is delivered using "Micro-Learning". Micro-learning is a series of Learning Pods. Each Pod is designed to last no more than 15 minutes in duration and presents key information with a self-assessment quiz. There is a micro-learning program for the core technical disciplines - Operations, Integration, Installation and Pricing Configuration - and another specifically for the Business teams. The objective is to reinforce knowledge, bring awareness of new areas of the product and provide a path to success for customers and their staff with MATRIXX. The micro-learning program is constantly being updated with new Pods so learners can regularly return to refresh or update knowledge.

Briefings

A *Briefing* is a short duration course, typically ranging from one hour to half a day. *Briefings* are typically used to deliver New Functionality training following a major release of the MATRIXX software.

Open Enrollment

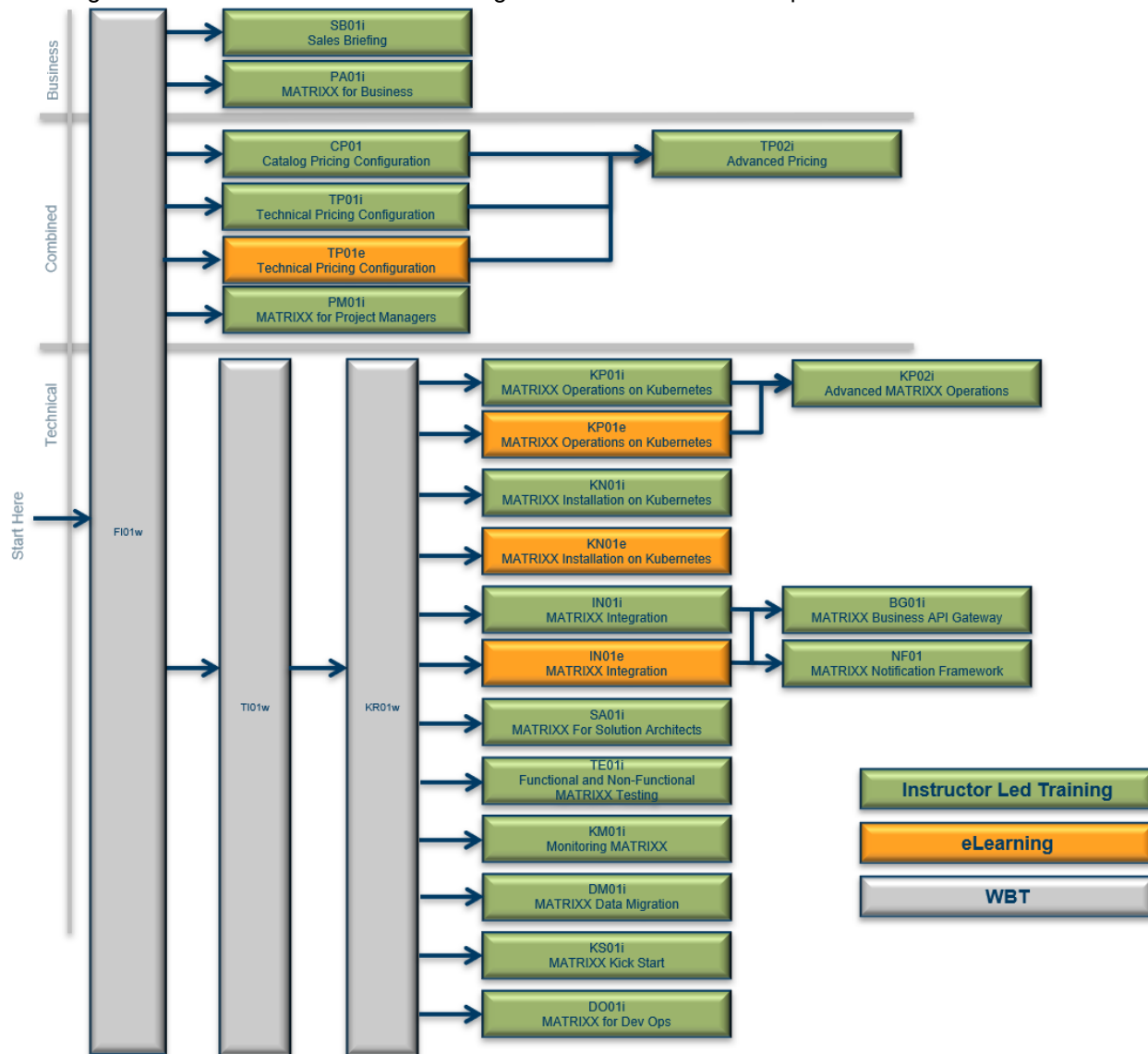
MATRIXX runs scheduled Open Enrollment courses in time-zones around the world to meet local, low-volume demand. Please see <https://www.matrixx.com/open-enrollment-courses/> or contact education@matrixx.com for the latest listings.

Training Portfolio

MATRIXX training courses are loosely divided into two streams – **Business** and **Technical**. The **Business** stream includes courses that are typically followed by staff actively involved with either selling MATRIXX solutions, managing projects or creating/updating price plans. All graphical user interface training is conducted under this heading. The **Technical** side is focused on the implementation and operation of MATRIXX-based solutions. Usual roles for this type of training are solution architects, integration engineers, installation and operations staff. There may be crossover between the two streams where a senior implementation engineer is also trained on developing and implementing price plans.

Training Course Structure

The diagram below shows each of the training courses in the MATRIXX portfolio.



Any courses suffixed with a 'w' are *Web-Based Training (WBT)*, those suffixed with an 'i' are *Instructor-Led Training (ILT)* and 'e' indicates *eLearning (ELT)*.

Course Descriptions

All training courses are fully defined in the training data sheets. These sheets give details on the benefits of taking the course, target audience, goals, objectives, modules, duration and prerequisites. A summary of each course is included below. Duration of the ILT is given and, where ELT is available, in brackets as overall time-bounding and VM runtime lease.



Prerequisite Courses

MATRIXX Functional Introduction – FI01w

Duration – One to one and a half hours

As the name suggests, this *Web-Based Training* module introduces learners to the features and functions supported by the MATRIXX platform. Where MATRIXX fits into a Digital Service Provider's systems landscape is discussed along with who could use the system and in what way. Details are given on the charging and policy aspects, concepts, how they are configured and used.

MATRIXX Technical Introduction – TI01w

Duration – One to one and a half hours

This introductory course is intended for anyone who will be involved with the implementation, or operation, of a MATRIXX system. The course describes the hardware and software architecture, standard installation layouts and the (limited) external dependencies. All key terms used in the MATRIXX platform are defined and basic operational activities are also discussed.

MATRIXX Kubernetes Primer – KR01w

Duration – One to one and a half hours

As a foundation to a successful participation in both KP01i and KN01i, this prerequisite course introduces the key concepts of Kubernetes and the configuration approaches used by MATRIXX.

Business Courses

Sales Briefing – SB01i

Duration – Half day

Operator challenges, market trends, motivations and MATRIXX USPs are covered in this *Briefing*. Reference customers are reviewed with details on their MATRIXX implementations.

This course is reserved for MATRIXX partners only.

MATRIXX for Business – PA01i

Duration – One day

The goal of this course is to make learners aware of the flexibility and capability of the MATRIXX Platform so that innovative product offers can be defined. Pricing concepts and case studies are the main focus with real-world examples everywhere. In addition, Hands-On exercises show how the My MATRIXX GUI can be used by business teams to create now Catalog Items and define eligibility rules.

Combined Technical and Business Courses

MATRIXX Catalog Pricing Configuration – CP01i

Duration – Two days / one day

This is a foundation level course for people involved in the development of a Digital Communication Provider's catalog. The course enables learners to create MATRIXX Catalog Items based on templates from Product Offers and Bundles defined in the Technical Catalog. Also considered in detail are



MATRIXX Catalogs and Eligibility Rules to control the visibility of Catalog Items to subscribers. This *Instructor-Led Training* course is classroom-based with 50% hands-on lab time. If the learner takes this course following TP01 the duration is reduced to one day.

Technical Pricing Configuration – TP01i/e

Duration – ILT four days, ELT must complete within 4 weeks/18 hours

Even though this is considered a foundation level course, the level of detail is significant and even experienced pricing configuration implementers will find it challenging. The course is designed for teams responsible for the technical configuration of MATRIXX Pricing and enables learners to create, test and deploy simple to moderately complex plans. Over the four days, learners will investigate the basics of Pricing Configuration and go on to build ever more complex Offers and Bundles. Testing is considered in detail and all plans are rigorously examined using predefined test cases.

Advanced Pricing – TP02i (Spring 2025)

Duration – Two days

Building on the foundation given in TP01 and CP01, this course investigates additional features of the MATRIXX pricing environment including product offer versions and revisions, cancellation, tax, validity periods and priorities. Also included are deep dives on normalizers and normalizer chains, and balances/meters. An extensive test module allows learners to investigate shared balances amongst group subscribers.

When delivered as a closed course at a customer's site, implementation details of the customer's pricing configuration are investigated to reveal both the architecture of the pricing configuration and maintenance recommendations.

MATRIXX for Project Managers – PM01i

Duration – One day

This course introduces project managers to the project management details that are specific to a MATRIXX implementation project. Typical implementation phases are considered along with all recommended deliverables. Staffing skill sets are defined, and example staff levels considered. A small case study is given showing original requirements, implementation plan and example deliverable documents.

Technical

MATRIXX Operations on Kubernetes – KP01i/e

Duration – ILT four days, ELT must complete within 4 weeks/16 hours

This operations course enables learners to conduct the day-to-day administration operations on the MATRIXX platform in a Kubernetes environment. The hands-on course covers all MATRIXX components, their management and monitoring capabilities plus extends a default Grafana Dashboard with additional MATRIXX specific panels.

MATRIXX Advanced Operations on Kubernetes – KP02i (Spring 2025)

Duration – TBD



This advanced operations course builds on the foundation of KP01i/e. A course description will be available late 2024.

MATRIXX Installation on Kubernetes – KN01i/e

Duration – ILT two days, ELT must complete within 2 days/8 hours

This course enables learners to conduct the installation, configuration and management of MATRIXX on a vanilla Kubernetes platform. Default Helm charts are examined and used to install both core Engine and ancillary MATRIXX components. Upgrade options are considered using CI/CD technologies.

MATRIXX Integration – IN01i/e

Duration – ILT four days, ELT must complete within 4 weeks/20 hours

The MATRIXX platform has many key interface points, and this course has been designed to enable learners to use them all. Hands-on lab exercises are the backbone of this course which takes a learner through the extension of the network interfaces including CAMEL, Diameter and 5G CHF, through to mapping new parameters to internal data structures and on to the north facing APIs. Also included are sections on interfacing with billing and revenue management systems through MATRIXX's MEF files. Details are studied on the notification framework and how it can be used in practical installations.

MATRIXX Business API Gateway – BG01i

Duration – Three days

To simplify and speed the integration of the MATRIXX platform to external north-side systems, we have developed a configurable, customizable integration framework. This framework is the Business API Gateway and through its facilities, integrators can create business-like API calls to support CRM, web-app and mobile app provisioning/self-care systems. This course investigates how new API calls can be developed and deployed in the Gateway and enables learners to create and test their own extensions to the integration elements of MATRIXX. IDEs, GitLab and CI/CD Pipelines are considered through examples.

Configuring MATRIXX Notification Framework – NF01i

Duration – One day

To enable learners to set up and manage a MATRIXX Notification Framework for successful delivery of notifications against configured channels is the goal of this two-day course. Learners will learn to construct notification messaging components to work together to publish and receive messages, configure notification templates and message routing to external systems. The course also investigates the backwards compatibility facilities of the framework and how these can be used in mature environments.

MATRIXX for Solution Architects – SA01i

Duration – One day

This course has been designed to enable solution architects to create high-level MATRIXX-based designs against pre-defined requirement specifications. A review of the architecture of the MATRIXX platform is conducted followed by a detailed investigation of the various interfaces available for



integration. Case studies support the main theory and there is a group exercise in developing a proposed solution.

Functional and Non-Functional MATRIXX Testing – TE01i

Duration – Three days

This course has been designed to give learners sufficient knowledge to test the implementation of MATRIXX to confirm requirements in pricing configuration have been met. A technology review/ investigation is followed by detailed pricing studies. This enables learners to identify edge case scenarios and conduct the test labs using MATRIXX supplied test and monitoring tools.

Monitoring MATRIXX – KM01i (spring 2025)

Duration – Two days / one day

Monitoring is a key element of all MATRIXX implementations. This course has been designed to enable partners and customers to set up their own monitoring system to display key parameters. If the learner takes this course following KP01 the duration is reduced to one day.

MATRIXX Data Migration – DM01i

Duration – Two days

Transitioning from legacy systems to MATRIXX by transfer of subscriber data is the subject of this course. Strategies and approaches from both the technical and business perspective are considered along with the necessary planning for a successful execution. This is a hands-on course and the tools available for bulk and API loading of data into MATRIXX are taught.

MATRIXX Kick-Start – KS01i

Duration – Five days

Designed as an intensive hands-on course for anyone who needs technical details on the basics of MATRIXX. This course reviews the overall architecture of the MATRIXX platform and continues with basic operations on the core engine. Integration techniques are explained along with the key integration points and overall configuration process. Finally, MATRIXX Pricing configuration is examined with details of the main pricing components. 50/50 theory/hands-on.

This course is reserved for MATRIXX partners only.

MATRIXX for Dev Ops – DO01i

Duration – Three days

To enable application admins and system admins to automate tasks related to MATRIXX. CI/CD pipelines are springing up in many of our customer's environments and this course will introduce learners on how to use a Jenkins platform to automate such things as pricing deployment, reconfiguration of MATRIXX and software upgrade.



Training Selection

Overview

This section identifies the main roles seen in many MATRIXX implementation projects. Included are brief details of the tasks conducted and the skills recommended. Also included is a selection matrix. Customer and Partner roles do vary - contact education@matrixx.com for a detailed Training Needs Analysis (TNA).

Project Manager

Knowledge	3GPP standards including Diameter/5G. Mobile/Fixed-Line network technologies.
Experience	At least 5 years project management experience in a highly technical service provider environment.
Skills	Plan programs Report progress Resolve project related issues Resolve interpersonal issues Arbitrate Multi-task A good 'people person' A good 'technical shoulder' Chair meetings

Solution Architect

Knowledge	3GPP standards including Diameter and 5G. SIGTRAN/SS7 standards Mobile/Fixed-Line network technologies. Messaging systems Authentication and authorization systems Telco data modeling standards Load balancing solutions Network technologies including Ethernet Kubernetes CI/CD Pipelines
Experience	At least 5 years as a Solution Architect in a highly technical environment in the Telecoms domain preferably in the charging sphere
Skills	Technically creative Design ability



Integration Engineer

Knowledge	Linux Java Apache ActiveMQ, CAMEL, KAFKA Network technologies including Ethernet Kubernetes
Experience	At least 3 years integrating complex technology systems in the Telco domain
Skills	Linux Shell, vi, sed, XML, JMS, Kubernetes

Installation Engineer

Knowledge	RedHat Enterprise Linux Apache ActiveMQ Network technologies including Ethernet Kubernetes Helm Charts CI/CD Pipelines K8s monitoring solutions including Prometheus, Grafana, FluentBit/FluentD
Experience	At least 3 years installation and configuration of complex OSS/BSS
Skills	Linux Shell, vi, sed, XML, rpm, Kubernetes, Jenkins or similar

Pricing Analyst

Knowledge	Market view of current and future trends in Telco product development
Experience	At least 3 years analysis and design of Telco Product Offers
Skills	General computer skills Subscriber usage pattern interpretation Market research interpretation Imagination Creativity



Pricing Implementer

Knowledge	General computer application functionality BSS user interface techniques Charging system interface capabilities Detailed knowledge of Telco pricing techniques
Experience	At least 3 years implementation of Telco Product Offers
Skills	Technically creative Programming in any language is a benefit

Operations Engineer

Knowledge	RedHat Enterprise Linux Apache ActiveMQ Network technologies including Ethernet/REST Kubernetes CI/CD Pipelines K8s Monitoring solutions such as Prometheus, Grafana
Experience	At least 3 years Operational experience
Skills	Linux shell, vi, sed, Kubernetes, XML

Test Engineer

Knowledge	RedHat Enterprise Linux Kubernetes 5G Automated Test Environments Diameter and SS7 Interpretation of logs
Experience	At least 3 years' experience in a high-tech telco test environment
Skills	Linux shell, SSH, vi, sed, Kubernetes, 5G, YAML, XML, scripting.



Training Paths

The following training paths are provided as suggestions for each major project role. Further options are available from MATRIXX Education Services.

Note – a **green cross** indicates a suggested course for an initial training program and the **red** for a follow-up or advanced series.

	Partner-Specific	Project Manager	Solution Architect	Pricing Analyst	Product Expert	Operations Engineer	Installation Engineer	Integration Engineer	Pricing Implementer	Tester
SB01i	X									
KS01i	X									
FI01w		X	X	X	X	X	X	X	X	X
TI01w		X	X		X	X	X	X		X
KR01w		X	X		X	X	X	X		X
PA01i			X	X						
CP01i				X	X				X	
TP01i/e					X				X	
TP02i (spring 2025)					X				X	
PM01i		X								
KP01i/e					X	X				
KP02i (spring 2025)					X	X				
KN01i/e					X		X			
IN01i/e					X			X		
BG01i					X			X		
NF01i					X			X		
SA01i			X							
TE01i										X
KM01i (spring 2025)							X	X		
DM01i					X			X		
DO01i						X	X			

Further Information

Delivery Options

On-Site

Instructor Led Training and *Briefings* may be held at customer premises. Each venue used to run a MATRIXX course must meet the minimum on-site requirements which, for all hands-on courses, includes a high-speed internet access facility. Full details are given in the *On-Site Logistics* document available from your account manager or direct from MATRIXX Education Services at education@matrixx.com.



Open Enrollment Courses

Where sufficient demand exists in a particular region, open enrollment courses at mutually convenient locations are scheduled. These courses will be standard off-the-shelf deliveries with no reference to any specific customer implementation details.

Virtual Classroom

As described in the paragraph headed *Delivery Formats* above, all MATRIXX *Instructor-Led Training* courses may be delivered across the internet as *Virtual Classroom* events.

eLearning

Knowledge and skills in the MATRIXX core disciplines may be gained through Self-Paced eLearning courses. These courses cover the same objectives as the traditional ILT courses and are available through the MATRIXX LMS.

Tailored and Customized Training

MATRIXX Education Programs have been built to cover most training required by our customers and partners. However, if you need something more specific, we can adjust a program to your requirements. We categorize this aspect of our offering into two groups – **Tailored** and **Customized**.

Tailored Courses

A tailored course is built from modules taken from our existing library including the WBT material. Courses may be built from any modules from any current courses, however, please be aware that some modules do have other module dependencies.

Customized Courses

If you need training on a particular implementation – for example maintaining a specific pricing plan – then a customized class is for you. Together, we can define the objectives and build a course or program that fits your needs exactly.

Professional Certification

It is a challenging task to be certain that the staff you place on a project can fill the role you assign. MATRIXX Professional Certification provides a clear, objective assessment of an individual's abilities. Our examinations are both comprehension and skill-based – online exams provide a quantifiable demonstration of the amount of knowledge an individual has retained from the courses they have attended, and our lab-based exams demonstrate skills acquired. For further information on staff certification, please see the document titled MATRIXX Professional Services – Professional Certification. For further information on certification in general, please see <https://www.matrixx.com/training-and-certification>.



Next Steps

For more information, availability and bookings, please see Open Enrollment schedule at <https://www.matrixx.com/open-enrollment-courses>, contact your local Client Executive, or email education@matrixx.com.