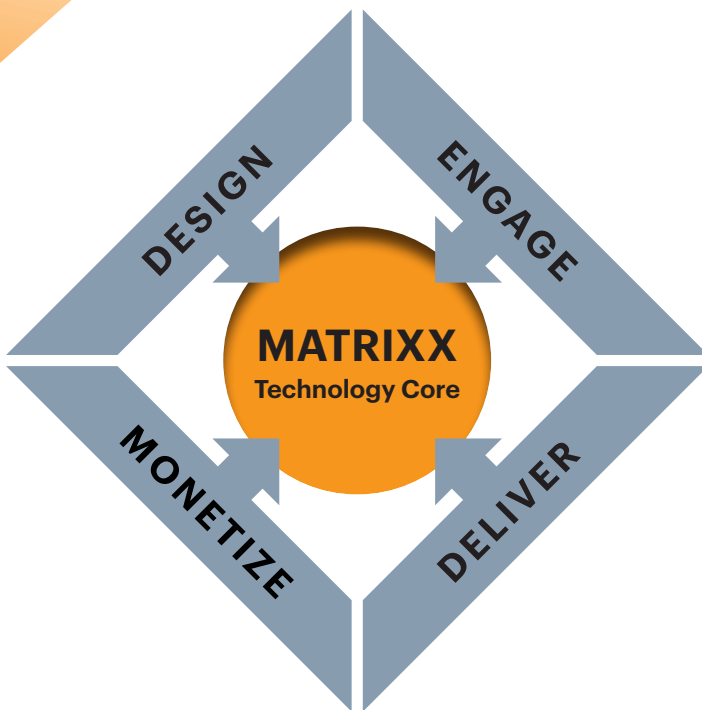# MATRIXX Digital Commerce

A single platform for rapid digital transformation that brings together disparate network and IT functions. By automating processes and streamlining operations, service providers can replace outdated and complex technology with a simpler architecture that will add strategic value and deliver a much-improved experience to customers.

SUMMARY

The MATRIXX Digital Commerce Platform is a comprehensive solution bringing together traditionally separate functions around product design and lifecycle management, customer engagement, service delivery and monetization into a single platform.

Service providers can unwind the tangled web of outdated systems and cumbersome processes by moving to a modern platform that enables a single source of truth for customer transactions and a simpler, more agile operating model. With MATRIXX Digital Commerce, service providers can redefine their value proposition to continuously deliver innovation, and new products and services, to their customers.

Customers will enjoy a seamless service experience with services that are easily customized with instant access and transparent pricing. By streamlining and simplifying how customers find, buy and pay for services, MATRIXX Digital Commerce enables service providers to deliver the type of personalized experience that customers love.

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SOLUTION OVERVIEW

MATRIXX Digital Commerce provides a comprehensive solution to quickly set-up and run a digital telco business.
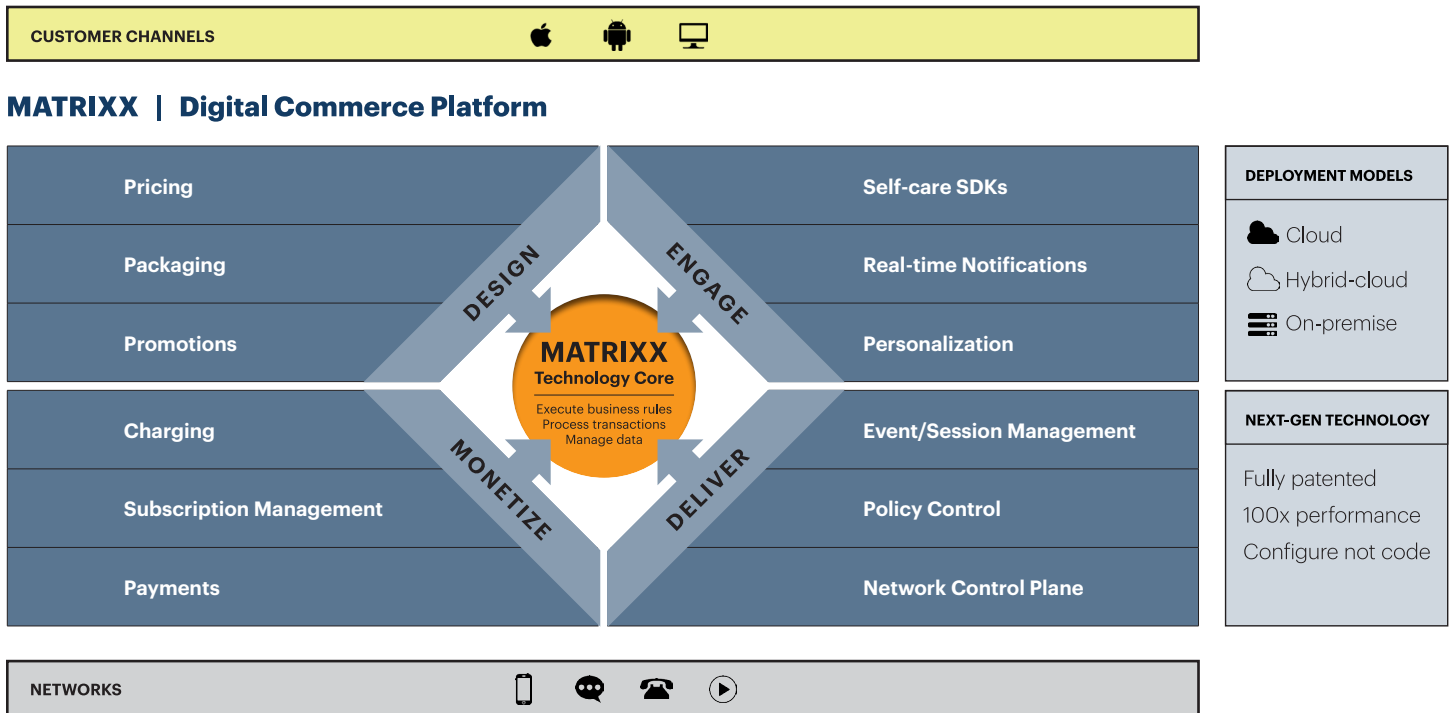

Figure 1: MATRIXX Digital Commerce summary view

Digital Commerce Platform

- **DESIGN** Define your digital product catalog, build pricing via reusable templates, configure policy and call control rules, package products into propositions and set triggers for real-time event-based promotions.

- **ENGAGE** Deliver best-in-class digital care, including accurate balances, full transaction history, contextual push notifications and personalized products. Build loyalty and rewards programs to operate in real-time alongside cash balances and purchases.

- **DELIVER** Create new digital customer journeys, with on-demand access to services while simplifying network operations and architecture by managing data, voice, messaging, content and new digital services on a single platform.

- **MONETIZE** Eliminate traditional silos by letting customers pay on their terms for different services instead of locking them into prepaid or postpaid payment methods. Charge and collect for services in real-time based on creative pricing and consumption models.

MATRIXX Technology Core Our proprietary high-speed decision engine and in-memory database technologies are combined to execute business rules, process transactions and manage all data in a single, extensible data store. A patented decision-table architecture enables a click not code capability, eliminating the need for custom development to support new business requirements.

Customer Channels

Rapidly integrate mobile apps, web self-care, CRM and other channels via a flexible business API gateway. Front-end interactions and on-demand purchases are instantly reflected in the back-end platform providing a single, always accurate, customer view.

Network

Integrate quickly to core network components via configurable gateways including DIAMETER (all Traffic) and SIGTRAN-CAMEL (Circuit switched voice and SMS). Our gateways can be adapted quickly via simple configuration for flexible integration across network types and equipment from different providers.

Deployment models

Deploy as a cloud solution (public, private or hybrid) or as an on-premise pre-certified hardware configuration.

PRODUCT FEATURES

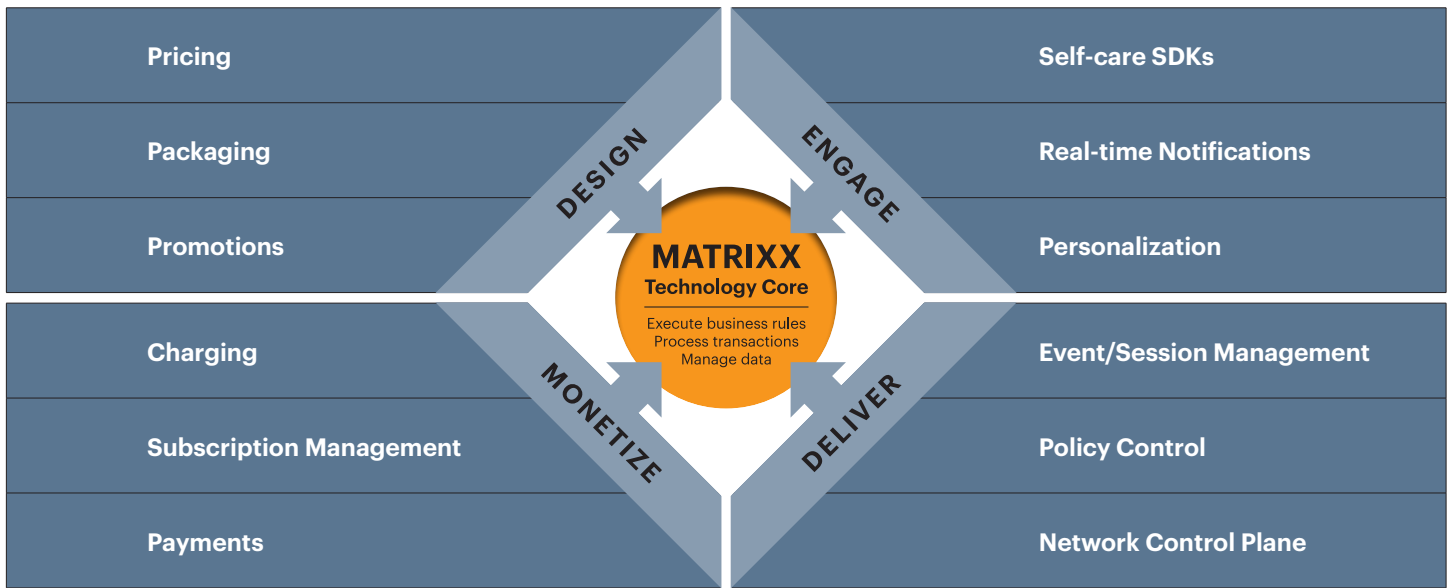## MATRIXX | Digital Commerce Platform

Pricing	**Self-care SDKs**
Packaging	**Real-time Notifications**
Promotions	**Personalization**
Charging	**Event/Session Management**
Subscription Management	**Policy Control**
Payments	**Network Control Plane**

MATRIXX Technology Core
Execute business rules
Process transactions
Manage data

DESIGN · ENGAGE · MONETIZE · DELIVER

Figure 2: MATRIXX Digital Commerce component view

Design your product offering

Pricing A template-driven approach for creating products, services and associated pricing rules with support for: recurring, one-off and usage-based pricing; native policy and call control configuration.

Packaging Flexible packaging of traditional voice, text and data bundles alongside more innovative offerings including content subscriptions, application passes and other emerging digital services.

Promotions Capabilities for enabling flexible promotions including: flexible tracking and metering; aggregation; contextual and event-based triggers; time and date-based discounts; and event enrichment.

Engage your customers

Self-care SDKs Java-based channel server and mobile client SDK's enabling mobile app developers to rapidly develop, and integrate apps using native MATRIXX technology. Functionality includes: an authentication and authorization security framework; abstraction and aggregation of REST calls to the MATRIXX platform; support for 3rd party API calls; and mobile client SDKs with a library and sample code for both Android and iOS.

Real-time Notifications Support for push, SMS, USSD and email delivery of system and customer notifications with templates for personalized messages. Triggers can be set for promotions, spend control, and regulatory compliance with actionable information delivered via URL/meta-data.

Personalization Customers can purchase offers on-demand to fit their needs, functionality includes real-time visibility to highly accurate balances; user set notifications and spend limits; build-your-own plan functionality; and dynamic sharing with user controls.

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PRODUCT FEATURES (continued)

Deliver great experiences

Event / Session Management Events can be published to other downstream systems, with support for real-time aggregations, low-latency streaming for real-time analytics and campaign management, and combined real-time and historic event queries for self-care and notifications. Events are stored in both the real-time database and a longer-term Event Repository with a single query API spanning both sources.

Policy Control Native policy control for managing subscriber quality of service including application based policy and support for parental controls.

Network Gateways and Control Plane Capabilities include session control; network integration; a field configurable DIAMETER and CAMEL gateways; circuit switched voice and VoLTE charging; and adaptive quota management, a patented approach for adapting quota sizes and validity times for each customer, to reduce core network loads

Monetize in new ways

Charging A single platform for charging, rating and balance management for all voice and data services. Capabilities include rating, discounting, sharing, gifting, asset exchange, balance management and a sophisticated wallet infrastructure with support for hierarchical charging, sharing, aggregation and advice of charge.

Subscription Management Flexible management of single and recurring subscriptions, customers can self-manage their subscriptions with full transparency via purchase notifications and payment history for one-off and recurring fees.

Payments Comprehensive payment-method support including pre-paid, post-paid, hybrid Pay Now for instant purchases and multiple payment types per customer. Interface to support external payment gateway integration (e.g. Braintree).

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MATRIXX INTEGRATION

Digital Telcos are redefining the model for customer acquisition, engagement and care. This requires a redesign of traditional IT architectures to focus on mobile-first business and operational processes. The systems that support these processes must be 'leaner and meaner' than their predecessors, moving away from traditional silo-based architectures with many different components, multiple databases with subscriber information and the heavy use of middleware platforms. This diagram reflects how MATRIXX Digital Commerce is integrated into a traditional enterprise architecture.
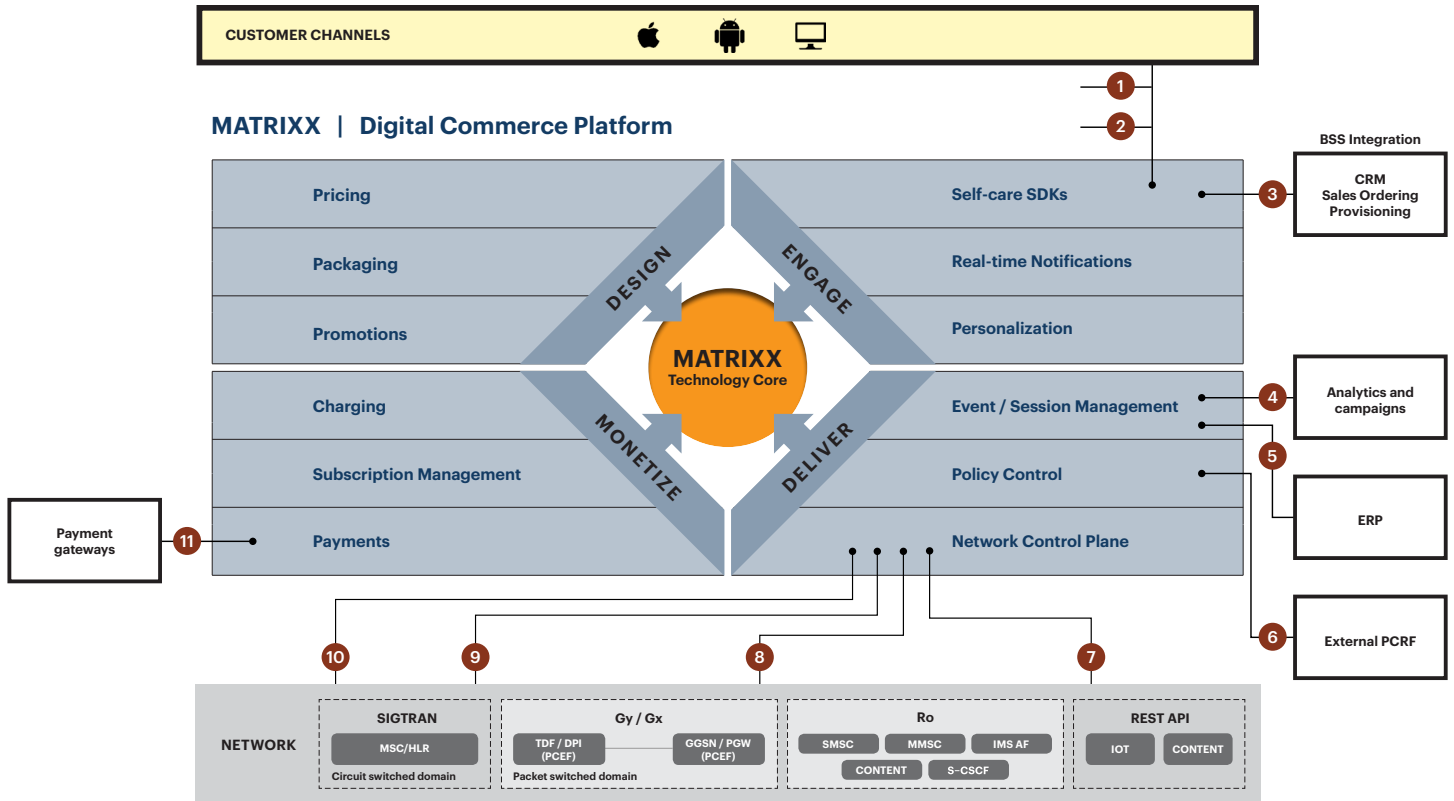

Figure 3: Digital Operator Solution Architecture

Key interfaces

1. **Customer Support / Self-care** The Business API Gateway provides a robust and secure framework with REST/XML, REST/JSON and Java APIs for mobile self-care apps and other customer facing channels to interact with the MATRIXX platform.

2. **Notifications** Notifications are generated based on threshold breaches, low balance, offer purchases and lifecycle changes which may be sent via SMPP, USSD (MAP-SIGTRAN), SMTP or published using a native JMS/XML framework.

3. **Subscriber Provisioning** A Provisioning API simplifies the integration of CRM, sales ordering, provisioning and BSS systems by performing data model translation, interface abstraction, error checking and catering for multiple integration protocols.

4. **Analytics enablement** Events or aggregated events are generated for every session and interaction, and these can be integrated into campaign management and analytics platforms via MATRIXX Event Files and notifications.
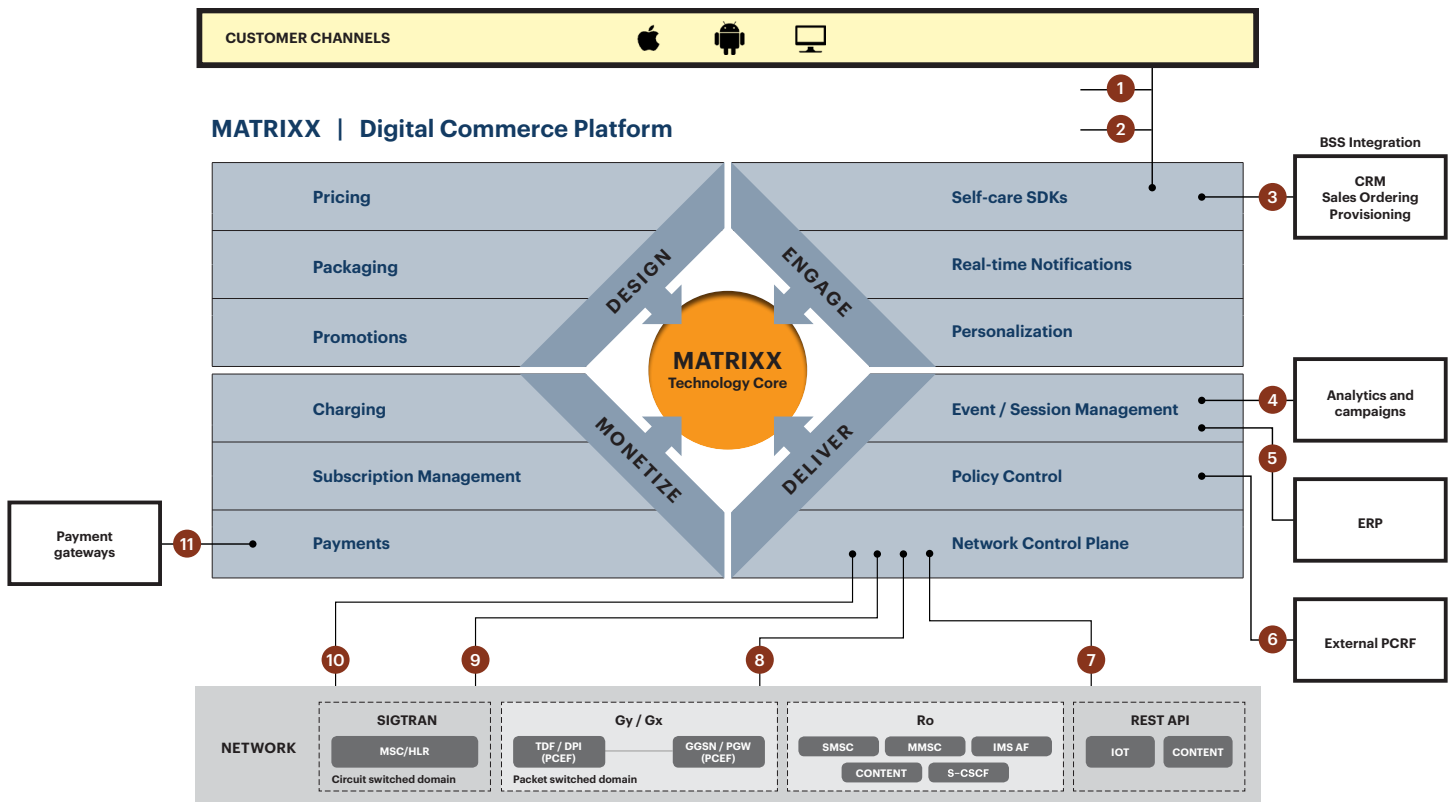
MATRIXX INTEGRATION (continued)

Figure 3: Digital Operator Solution Architecture

Key interfaces (continued)

5. General Ledger Posting ERP Event Detail Records (EDRs) are generated for all General Ledger (G/L) balance changes and DIAMETER charging transactions. EDRs can be generated in XML, CSV or a compact and efficient MATRIXX format (MDC). EDR files can either be temporarily stored locally or can be published to an external server using ssh/rsync.

6. External PCRF The MATRIXX platform can interact with a third party PCRF via Sy to query counters and via Sh (acting as an Sp reference point) to retrieve subscriber offer details in both pull and push modes. The third party PCRF (and other Diameter based clients) can also use the Sh interface to retrieve subscriber information using an agreed XML format.

7. Non-network usage The MATRIXX platform can also support event based charging for non-network usage via a REST API for content, IOT and other services.

8. Configurable DIAMETER Gateway The MATRIXX platform is compliant with 3GPP compliant online charging system (OCS) standards and supports real-time charging for all services using Ro or Gy interfaces. 3GPP compliant policy and charging rules function (PCRF) functionality is supported natively via Gx. All DIAMETER integration is based on local configuration and can be performed without any coding.

9. Configurable CAMEL Gateway Real-time circuit-switched charging is supported using CAP 2, 3, 4 for voice and CAP 3 for SMS with MAP supported for network queries (MNP and USSD query services support).

10. File based stream / TAP Offline rating is supported by converting CDRs and TAP records into Diameter Ro requests.

11. Payment processing An extendable payment framework is pre-integrated into the Braintree (PayPal) payment gateway and can be adapted for other payment gateways.

BENEFITS OF MATRIXX DIGITAL COMMERCE

A platform for rapidly creating a differentiated proposition that will meet the needs of digital customers. MATRIXX delivers benefits in months, not years and these include:

Creating a New Operating model

Mobile first interaction Customers will find it easier to find, buy and pay for services. Operators can simplify the IT architecture, streamline operations and reset the cost base.

Agile to deploy and operate A modern platform that enables a rapid deployment cycle and ongoing offer delivery by eliminating the need for custom-coding and complex IT integration.

Simplified IT Architecture Streamlined workflows and simplified architecture that minimizes latency and improves processing efficiency for large volume, complex transactions.

Digital-grade performance Patented technology delivering predictable, scalable and cost-efficient performance across billions of complex customer and network interactions day.

Building a Better Business Model

Improve NPS via customer experience MATRIXX delivers a real-time digital experience that improves company NPS, at one of our customers the increase was 30 NPS points.

Grow new revenues Transparent data usage and one-click data top-ups via a mobile app have led to ARPU increases, one customer recorded a 5% APRU increase over 12 months.

Lower cost to serve Highly accurate customer balances, increased self-care and simplified processes can reduce care costs, one customer reduced call centre complaints by 40%.

Extensive savings in IT costs The cost to install and run MATRIXX Software is up to 95% lower than other traditional vendors with outdated technology and delivery models.

See our **ROI cheat-sheet** for more metrics

ABOUT MATRIXX SOFTWARE

Silicon Valley based MATRIXX Software is committed to helping Telco's reinvent themselves into leaders of the digital economy. Our multi-patented MATRIXX Digital Commerce platform was built from scratch to serve as the foundation for next-generation IT architectures capable of powering rapid transformation. Through innovations in engineering, product, sales and deployment, we empower Communications Service Providers with the speed, agility and autonomy they need to give their customers modern, digital experiences.

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