



FIME®

One Action. A billion transactions.

Enabling nexo standards for payments

May 27, 2020



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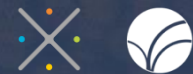
One Action. A billion transactions.

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FIME within the nexo organization

FIME as Principal Member

- participates in the work of the organization, with voting rights.
- has access to the organization's deliverables, working documents and reports.

Arnaud Crouzet, FIME VP Consulting, is member of the Board of Directors of nexo organization



FIME is a global leader in payment consulting and secure transaction testing

Big enough to be global
small enough to be reactive



We speak your language

450+ Experts	9 Labs	18 Locations	2 Development centers	40+ Industry accreditations	3000+ Customers	180 Countries
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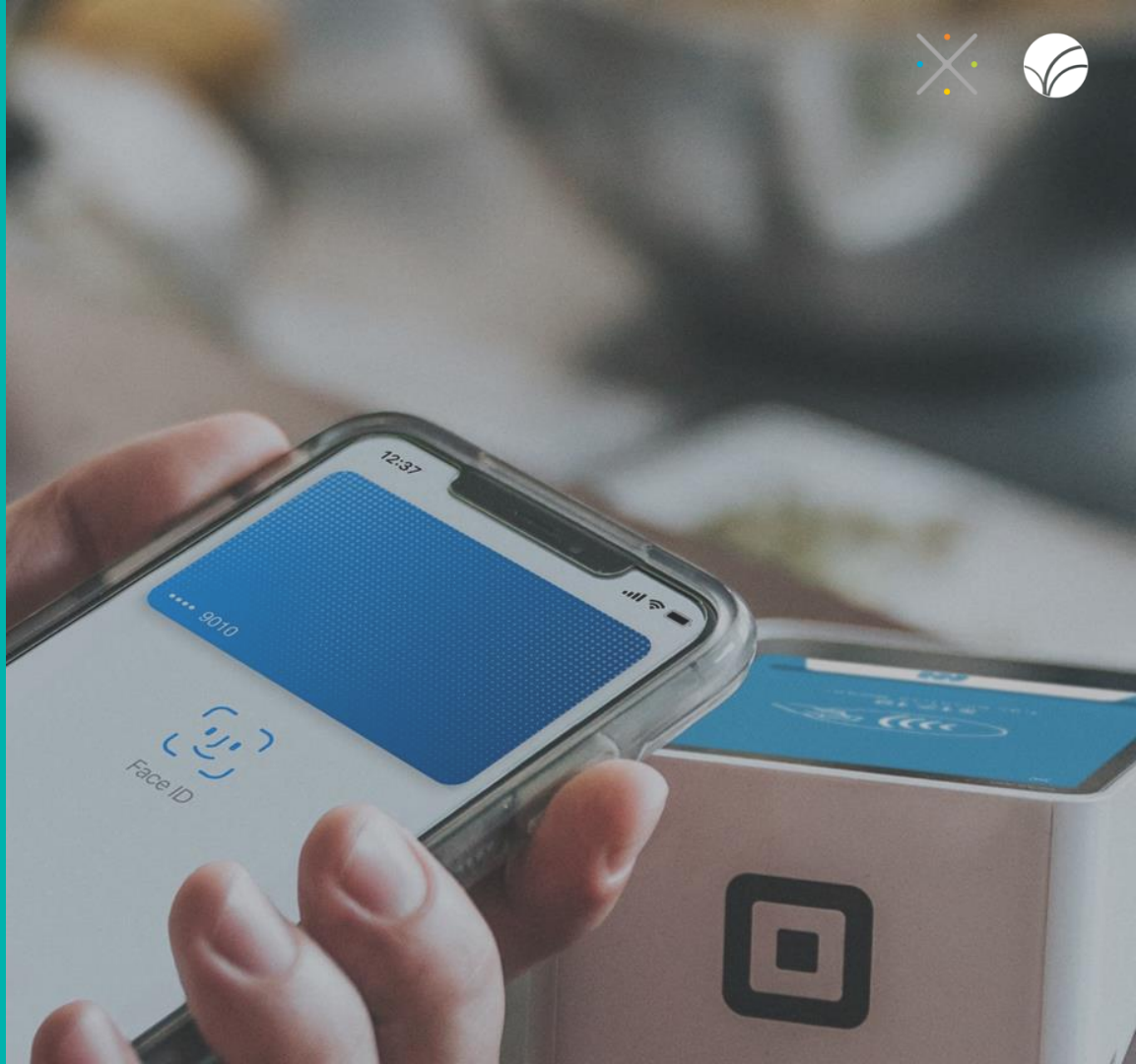
We enable our customers to bring user friendly, reliable and secure solutions to the Payment and Transport markets.

We are a Trusted Adviser.



We do that by combining our global expertise with disruptive testing.

We go beyond testing.

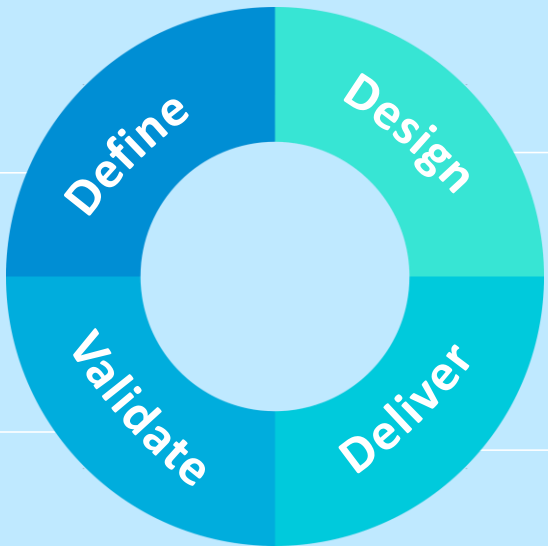




We define, design, deliver and validate pioneering products across payments, transport, biometrics, authentication and open banking.

We help our clients answer critical business questions formulate their strategy to grasp new business opportunities

We help our clients test their solutions for compliance and quality assurance purposes



We help our customer choose the best technical and cost effective options and design an efficient test strategy (automation & digitalization)

We help our clients roll out the chosen solutions and develop the ad-hoc test plan and testing tools

End-to-end services 3DV



SDK

OPEN LOOP

AFC

EMV

3DS

ANDROID

NFC



PAYMENT SCHEMES



FINANCIAL INSTITUTIONS



MERCHANTS



VENDORS



TRANSPORT

QR CODE



Biometrics

SRC

SCA

HCE

API



Welcome from
Claude Brun
Chairman of nexo standards

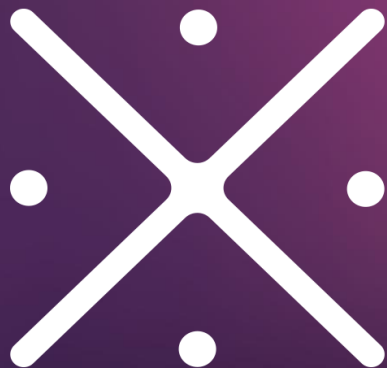


nexo
STANDARDS

nexo standards webinar



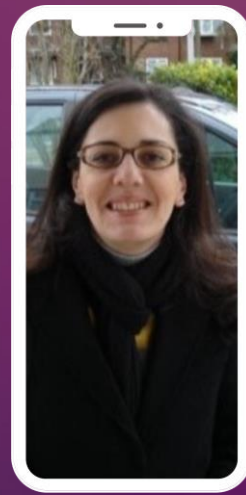
SPEAKERS PANEL



Arnaud Crouzet
VP Consulting



Gomathi Shankar U.
Technical PM



Nadine Kanaan
Senior Consultant
& nexo SME



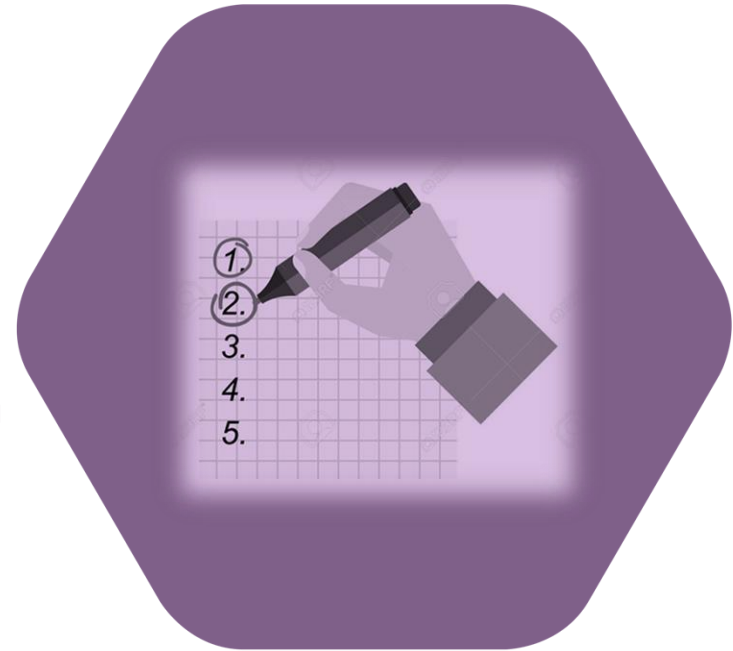
Sylvain Fromager
Project Manager

Ecosystem stakeholders . User experience . Standards . Collaborative . Payments . Acceptors . Processors . Vendors . PSP . Card Schemes . International . ISO20022 . Interoperability . POI . TMS . POS . Acquirer . Foster Innovations .



Agenda

- nexo organization in a nutshell
- Benefits for the ecosystem
- nexo specifications overview
- Typical nexo project organization
- Case studies
- Q&A





Creating an international ecosystem for harmonized
and interoperable payments

ENABLING GLOBAL INTEROPERABILITY IN PAYMENT ACCEPTANCE

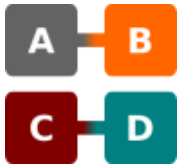


- nexo is a not-for-profit, open association; its membership represents the full spectrum of payment stakeholders.
- nexo standards is the association dedicated to removing the barriers present in today's fragmented global payment acceptance ecosystem.
- It enables fast, borderless and global payments acceptance by standardizing the exchange of data between all payment acceptance stakeholders.
- The nexo specifications and messaging protocols adhere to ISO 20022 standards, are universally applicable and fully open.

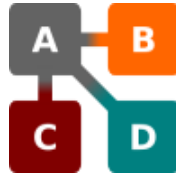


From interoperability to global standards

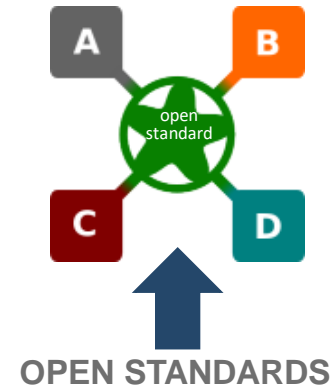
Compatibility



de facto Standard



Interoperability





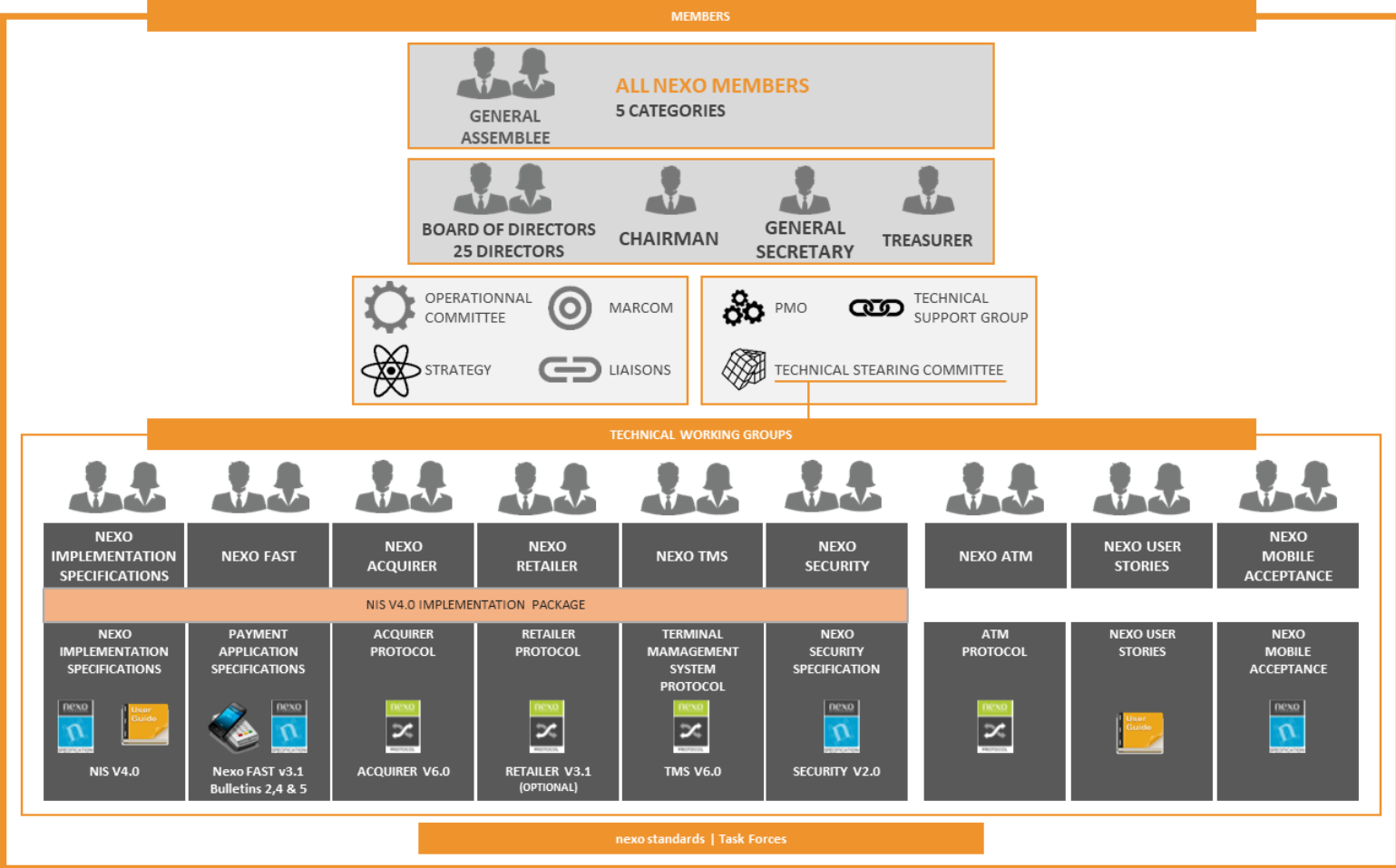
The collaborative ecosystem

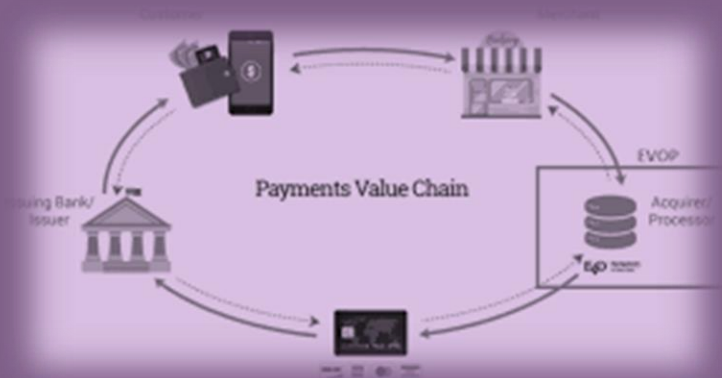
A worldwide collaborative ecosystem is crucial to representing and addressing the needs of the market



nexo members represent the full spectrum of card payment stakeholders including acceptors, processors, vendors, payment service providers and card schemes.

nexo organization





**nexo benefits
for the
ecosystem**



India Market: main trends



5 key merchant acquiring trends

- E-commerce
- Contactless
- mPOS
- Omni-retailing
(Consumers initiate and complete purchase using multiple devices)

Emerging trends in POS merchant acquiring

- Segment growing at 35% – 40% YoY
- GST Adoption, which requires commercial POS.
- Merchant cashflow based lending is driving mid-end adoption



Main features of mPOS

- Wireless
- Accept online payments
- Receipts through E-mail
- EMI Options
- Utility payments



India Market: various implementations and habits becoming constraints and barriers

Market context

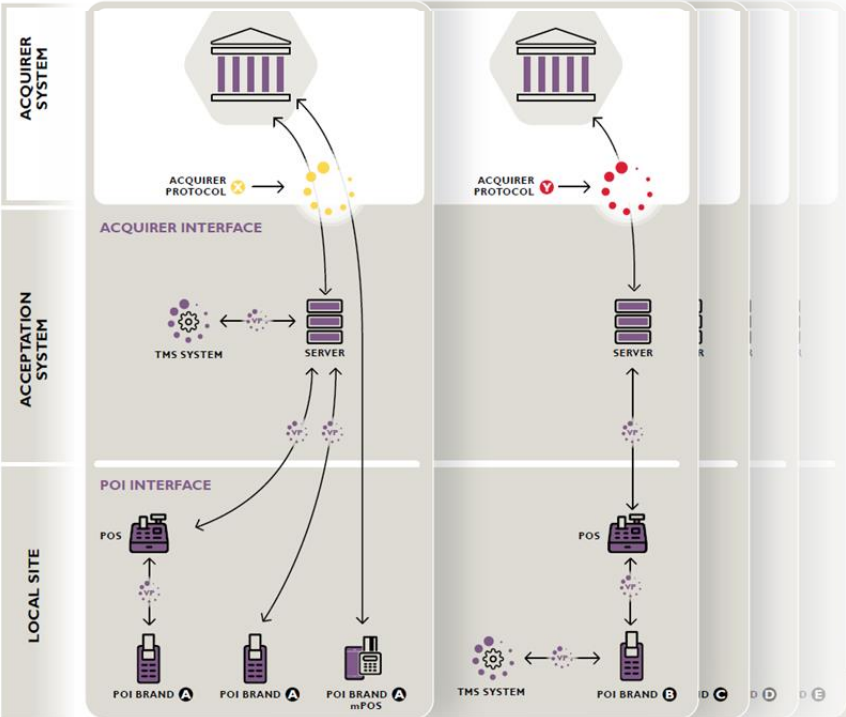
- **India has 51 Lakh POS Terminals (5.1 Millions)**
 - ~ .003 POS terminals for every inhabitant, lower than in Brazil, Indonesia, & Turkey
 - Each POS Terminal have their own payment applications, with dedicated Terminal Management Systems
- **Payment solutions are not interoperable**
 - Need to develop, integrate, maintain several protocols, which is costly and time consuming
- **Acquirers and PSPs have their own specifications**
 - no global standard used, need to adapt each time

Main reasons for inhibiting digital payments in India

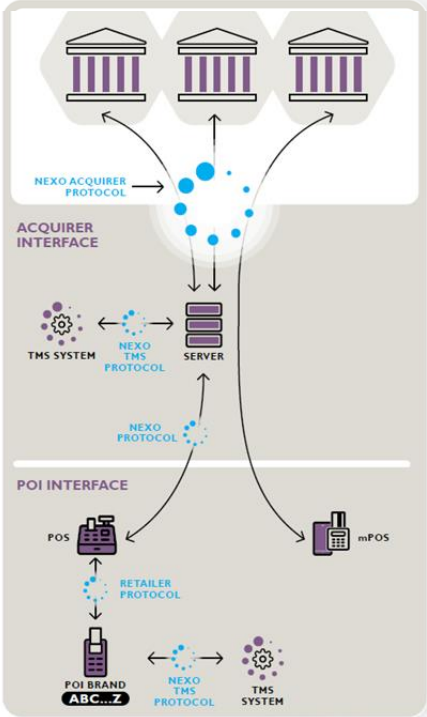
- Inadequate acceptance
- Infrastructure
- Lack of familiarity with newer, alternative payment methods. Innovations are difficult to be deployed on various heterogeneous payment systems
- Delay in getting complaints resolved

What does a nexo-compliant infrastructure look like?

LEGACY RETAIL
A FRAGMENTED ECOSYSTEM



NEXO RETAIL
A CENTRALIZED ECOSYSTEM



VP: VENDORS PROTOCOL



Benefits for all card payment actors

- **Easier deployment and faster time-to-market**
- **Centralize card payment acceptance and acquisition**
- **Reduce costs, economies of scale**
- **Simplification of terminal management**
- **Foster the quality of service, competition and innovation**
- **Flexibility, Security**
- **Vendors champion innovation on a level playing field**
- **Acquirers strike bigger, volume based deals with retailers**
- **Merchants deliver a consistent POI UX & deliver more value-added services**
- **Payment schemes free capacity to support more innovative services & increase acceptance abroad**

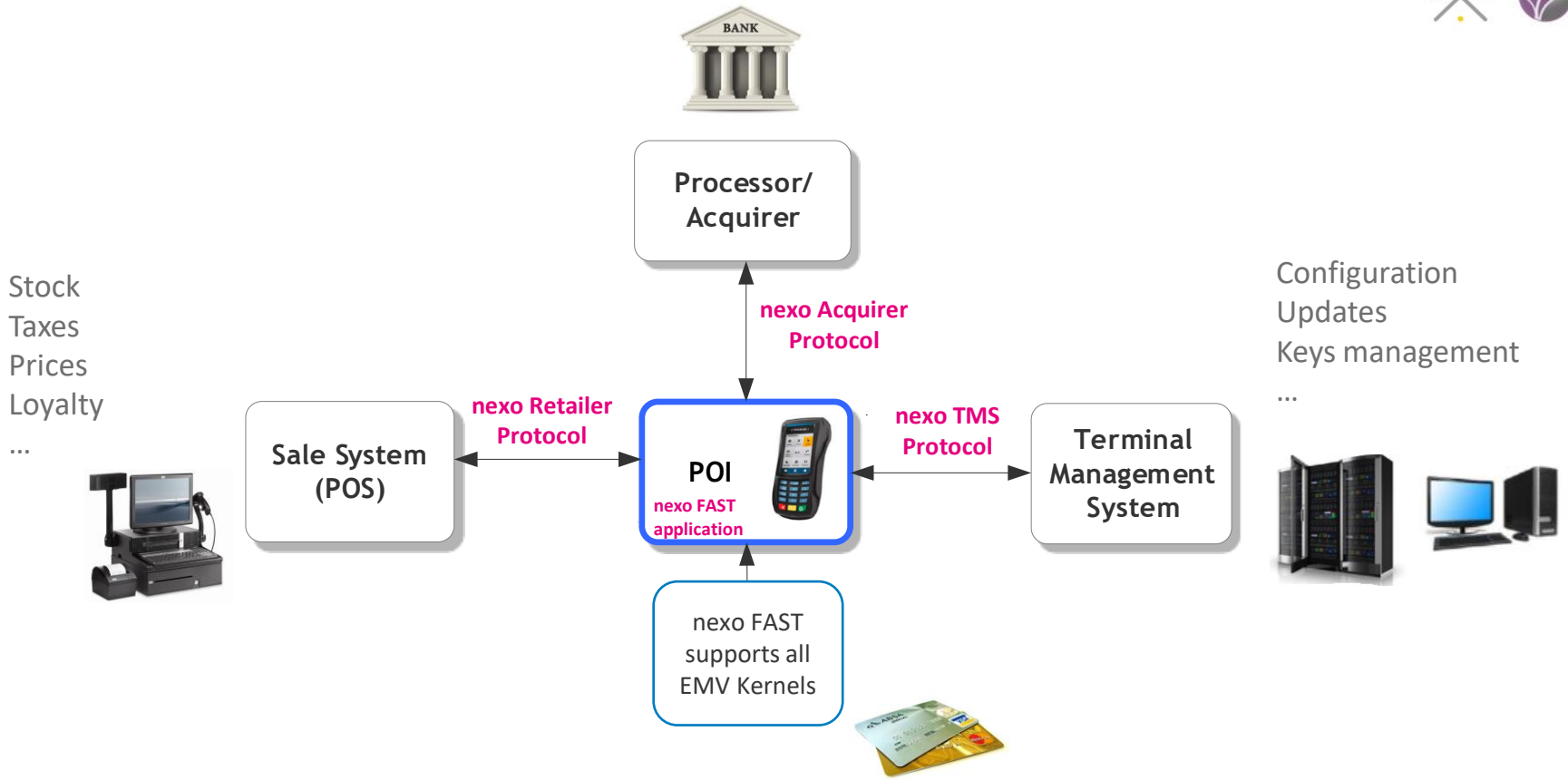
BENEFITS





nexo specifications overview

NEXO INTEGRATION WITHIN THE PAYMENT ECOSYSTEM





nexo specifications overview & scope



nexo retailer protocol

MDR (ISO 2022)
MUG (nexo)



nexo FAST

POI Application Specifications



nexo acquirer protocol

MDR (ISO 2022) &
MUG (nexo)



nexo TMS protocol

MDR (ISO 2022) &
MUG (nexo)

nexo security specifications

nexo IS specifications



Services & features

Card services & features

- Payment
- Cancellation (Attended POI)
- Refund (Attended POI)
- Pre-Authorization
- Payment with Increased Amount
- Payment with Cashback
- Voice Authorization
- Deferred Payment (e.g. Petrol Pumps)
- ...

Technologies

- Contact
- Contactless
- MagStripe
- e/m-commerce
- MOTO (Mail Order/tel order)

Cardholder verification

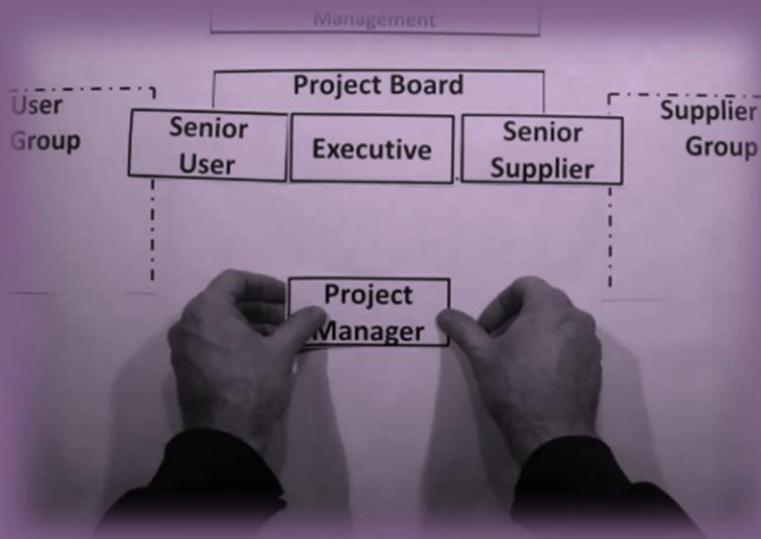
- All EMV defined methods (Online PIN, Offline PIN, Signature, Mobile code/CDCVM,...)

Transaction acquisition

- Multi-acquiring feature
- Single message (data capture & authorization performed within the same message)
- Dual message:
 - Data Capture through completion message,
 - Data Capture through batch.

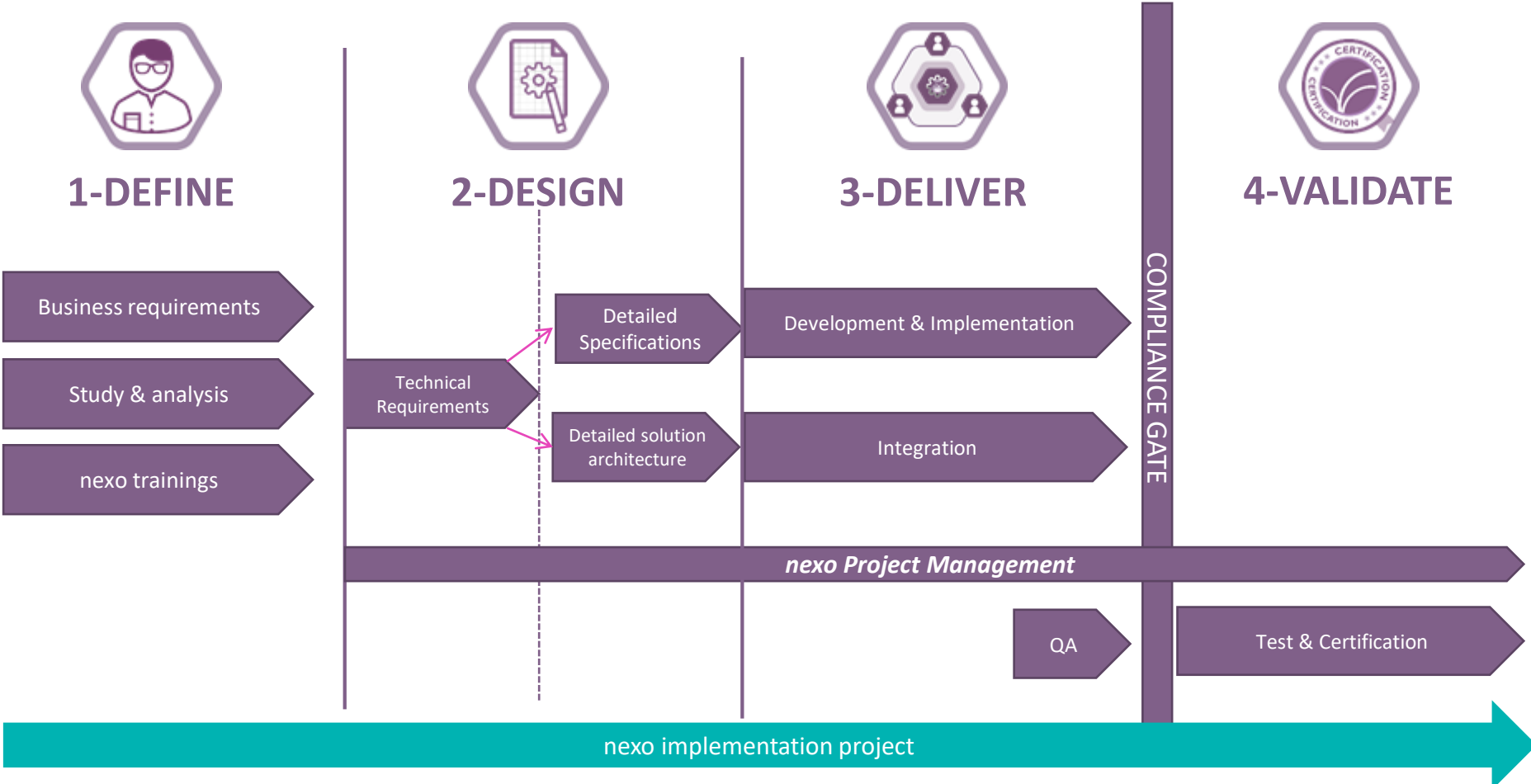
POI configuration

- POI Application parameters,
- Protocol parameters (e.g. choice of data capture mode: single, dual,...),
- Keys download
- ...



Typical nexo project organization

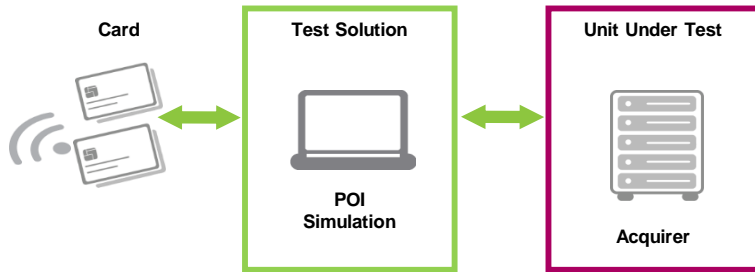
A typical nexo project implementation flow



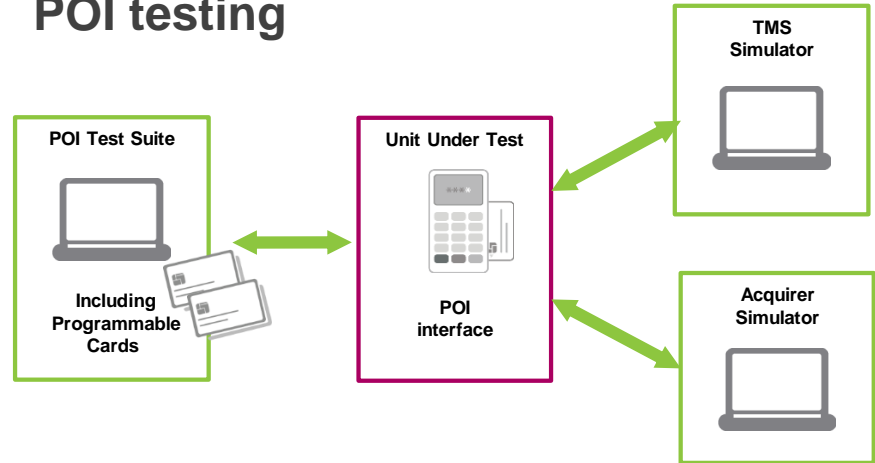


nexo testing solutions (NISv4)

Acquirer testing



POI testing



FIME received latest nexo standards lab accreditation





Cases studies



nexo case studies





Lots of interesting nexo case studies

3 are detailed in the following presentation

nexo Use Cases	Category	Zone
1 → DEPLOYMENT OF THE BANKING ACQUIRING SERVICES ON OTHER EUROPEAN COUNTRIES	PSP	Europe
<i>Migration of the park of terminals to nexo, and management of certifications with the schemes</i>	PSP	Europe
<i>Certification plan of a new nexo solution, taking into account the schemes to be accepted and the existing nexo certification tools.</i>	PSP	Europe
<i>Need for the managers to build skills on nexo to be able to better understand the market development, and to face to customer requests.</i>	PSP	Europe
<i>For an international solution, strategic choice to be taken between implementing the existing domestic protocols in each country versus to go to nexo</i>	Vendor	Europe+Int
<i>Question on how implementing nexo in a centralized solution, and especially regarding the payment application.</i>	Vendor	Europe+Int
<i>Work on a dedicated nexo implementation plan for a fast time to market, and a deployment at the international level (EU + US)</i>	Vendor	Europe+Int
<i>Opportunity Study for the US and Canada Market</i>	Vendor	US+Canada
<i>Need to remove bespoke protocols for automated fuel dispenser in the us</i>	Vendor	US
<i>Considering the different issues and opportunities to implement nexo according to the countries targeted in the deployment.</i>	Vendor	Europe
2 → OPPORTUNITY ANALYSIS FOR NEXO AND ATICA FOR AN ASIAN INTERNATIONAL SCHEME	Scheme	International
<i>Opportunity for a domestic and exotic protocol gateway conversion service to nexo for banks and vendors.</i>	Processor	France
3 → MANAGE THE IMPLEMENTATION ISSUES ON THE MERCHANT SIDE AND ON THE BANKS SIDE	Processor	France
<i>Study to build an entire payment solution based on nexo standards dedicated for the Asian market</i>	Processor	Asia
<i>How to manage country specificities with local actors</i>	Processor	France
<i>Rationalization of multi-country payment management</i>	Merchant	Europe
<i>Opportunity of nexo for a domestic implementation</i>	Merchant	France

Deployment of the banking acquiring services on other countries



Acquiring bank with two main activities:

- Direct POS terminal management
- Acquiring services

Willingness to expand their services in other countries

Actions

- Step 1: To **take a step back** and to **identify the main activities** that are interesting to **develop outside of their country** + educational support & **training**
- Step 2: Analysis with action plan to **shorten time to market** and to **faster responses**
- Step 3: **Decision -> Two steps implementation**
The implementation of the nexo acquirer **FIRST**.
The POS terminal will be upgraded to nexo later.

Return of experience

- For those who discover nexo for the first time, it may not be easy to well understand the standards (several nexo components, Lot of technical specifications).
- The initial training allowed managers to understand nexo, in a concrete and updated way, with key business objectives.
 - Additional expertise to support the bank's technical experts, and to write adapted specifications to their own needs for implementation.

ISO 20022 opportunity analysis (nexo standards, ATICA) for an Asian scheme



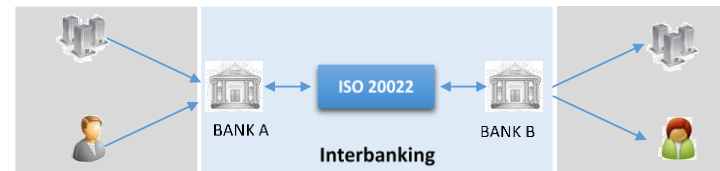
ISO 20022 is growing all over the world and is considered as the 'lingua franca' of the whole financial ecosystem. It is used for cards and non-cards transactions.

The scheme needed to understand:

- Any potential **impacts on the card certification** and on **Acquirer to Issuer** domain
- The development of the **Instant Payment** and the **impact on the Point of Interaction**



ISO 20022 for cards



ISO 20022 for payments

Actions

- Analysis of **the evolutions of the market**, and the links between **ISO 20022, nexo, ATICA, Instant Payment, ...**
- Advantage for the scheme to be naturally supported by nexo, to ease the deployment of their card acceptance.
 - No need for a dedicated payment application
 - No need for protocols adaptations

Return of experience

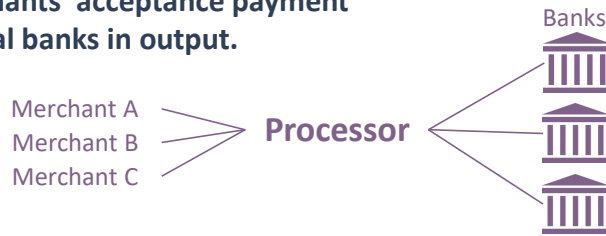
The detailed market study has allowed the scheme to **better understand the current status of the evolution of the market on these subjects**, and to **define their own action plan accordingly**.

The use of ISO20022 for the whole chain of the payment is more and more required, and nexo is the main contributor for the cards' payment domain.

Manage the implementation issues on the merchant side and on the banks side



Processor connecting merchants' acceptance payment systems in input, and several banks in output.



- Each payment systems are using different types of protocols and message handling
- Connections to banks under proprietary ISO 8583 protocol
- Need to manage certifications with schemes
- Estimation that 80% of their R&D are dedicated to the maintenance and update of the various protocols

Actions

- **Step 1: Define the exact scope of the project**
 - Analyse the situation and payment methods used, on the acceptance side and with the banks selected
- **Step 2: Design the targeted solution**
 - Define the potential partner(s) and gateway(s), with nexo acquirer protocol by default
- **Step 3: Develop / update the targeted solution, and PM**
- **Step 4: Validate the solution**
 - Execute the tests with the solution, and pass the certification and type approval with the schemes

Return of experience

The use of nexo standards is helping to save time and cost on the project integration. This is now part of their by-default standard.

- A local proprietary payment didn't wanted to implement nexo, keeping their current proprietary protocol.
- A private payment method agreed to implement nexo, see as an opportunity to renew their payment services based on a twenty years old proprietary protocol.

The use of a temporary gateway was needed to connect with 2 banks not yet nexo compliant. Based on their feedback, the migration to nexo is planned and currently on-going



Return on experience

nexo standards implementations are successful and are more and more requested in various part of the world

Europe, India, Asia, Africa, US, Canada, Russia



**nexo is not just a technical approach,
it's mostly a business one.**

As nexo specifications are very technical, it is important to understand the business requirements of the customer to define the adapted strategic plan for the nexo deployment.



Thank you



Contact FIME

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