Mobile Connect for Mobile Network Operator

Movenda

} **M**ove in digital **{**

mobile connect

Bringing you an end to end
Mobile Connect Solution

What is Mobile Connect for MNO ?

Mobile Connect is the GSMA secure global log-in solution

- Movenda MCX service is the faster, simply and secure way to run your business with the GSMA Mobile Connect for MNO. Its friendly self service user portal is the window to interact with the Identity Gateway ecosystem.

- Movenda MCX service offers Authenticators ready to market (e2e). These can be interconnected directly to 3° parties pre-installed Identity Gateway. Our goal is to meet all level of security required by the MNOs Mobile Connect services: HTTPs + SMS OTP + SIM Applet/MSSP + Mobile App (Android-IoS) + FIDO plus + PKI & biometric solutions.

- Movenda MCX optional services: integrated OTA platform or a dedicate R&D Agile Team for your next innovation.

Movenda

Ready to launch Mobile Connect Services

- Movenda Mobile Connect for MNO platforms are ISO 9001:2008 fully designed and developed under GSMA MC guidelines.

   It is an highly secure 27001:2014 authentication service.

- SIM based solution: 7-12 KB, LoA2/LoA3, OATH/3DES/AES

   designed for eIDAS & NORAM (SMS MO via HTTPs).

- Test Tool SIM Applet Mobile Connect real SIM certification.

- Smartphone App for IoS and Andorid.

- Plus FIDO App multi devices

- Hosting

- Agile platform maintenance & R&D innovation.

SMS

SIM APPLET

SaaS

FIDO

Personal Data

Strong Authentication

Hosting
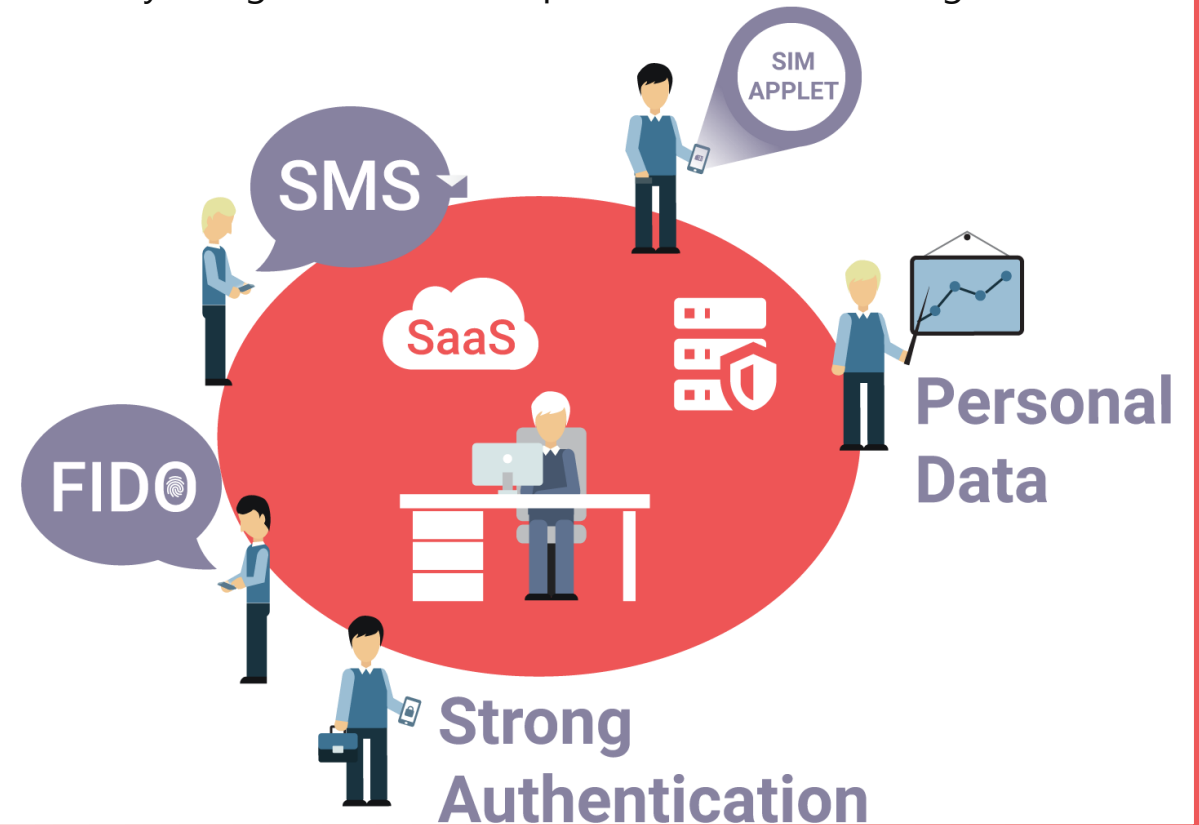
Worldwide connections

1. Public Cloud: service hosted within Movenda or 3th parties environment as a managed cloud-based service.

2. Private Cloud
   A dedicated cloud installation for the MNO, Full configurability, Available immediately

   - Managed by dedicated Movenda resources following ITIL methodology.
   - Global quality of service and SPoC to manage your service.
   - Service level reporting.
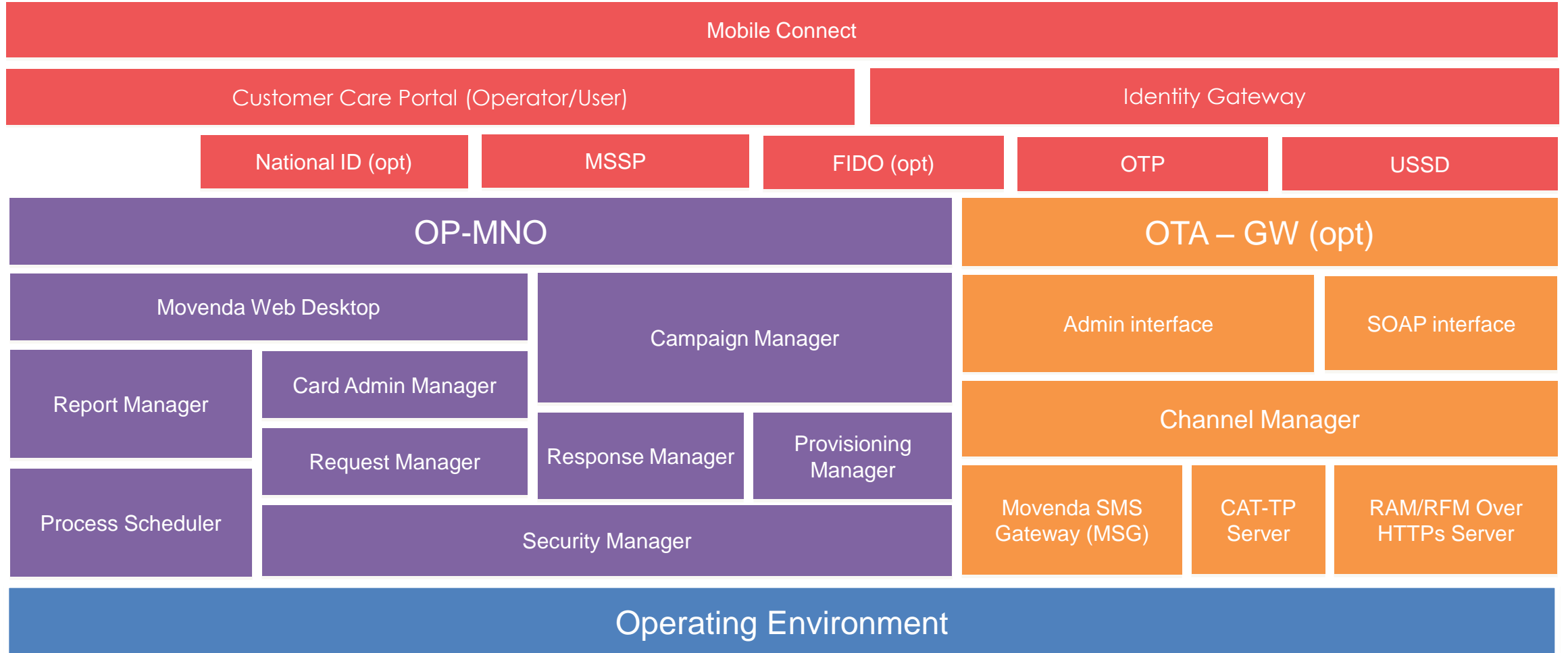   - Movenda R&D Agile team to support MNOs next innovation steps.

Mobile Connect for MNO
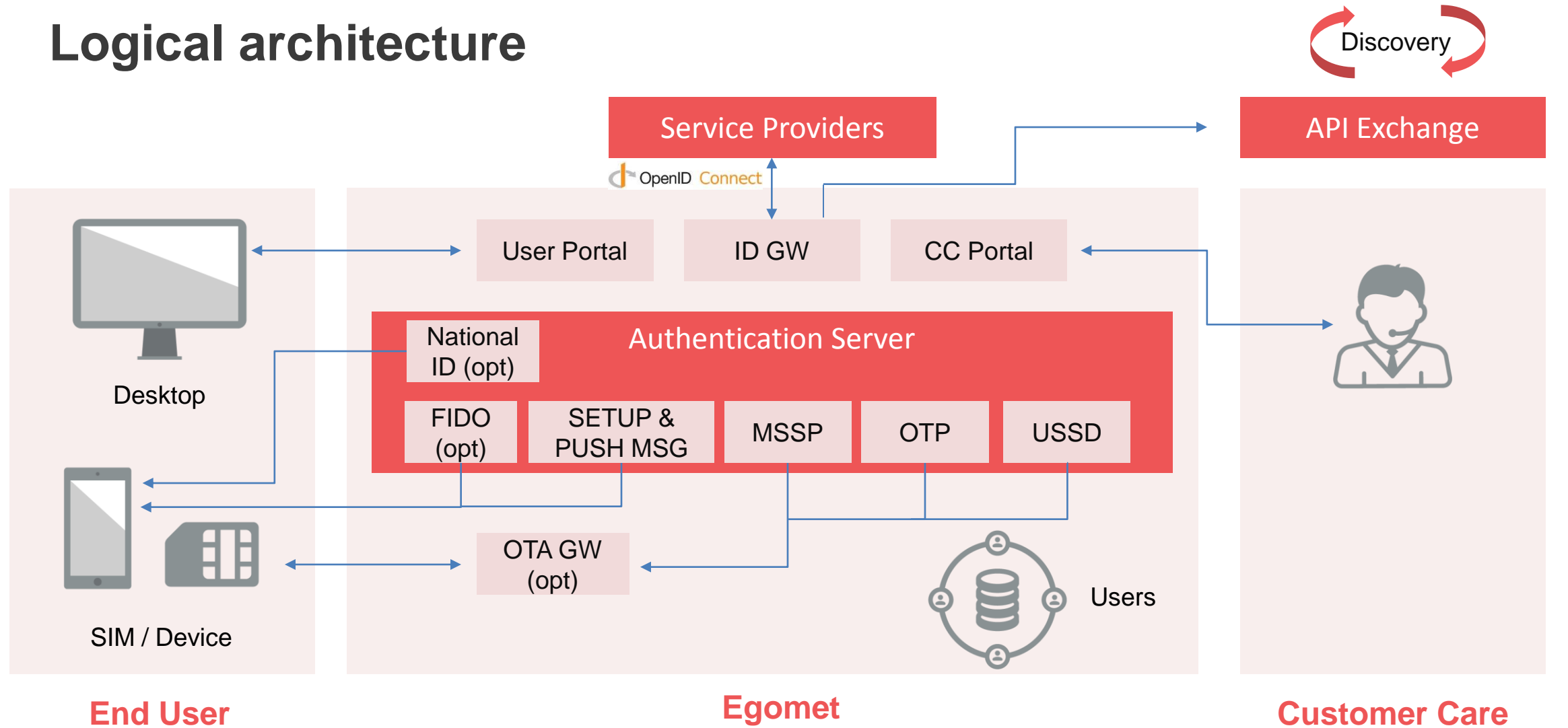
Functional Architecture & Technical Requirements

- OIDC: OpenID Connect protocol based on Oauth 2.0

- OTA: Over The Air (Includes OTA Gateway)

- OTP: One Time Password

- ID GW: Identity Gateway is the connector between OIDC request coming from service providers and the Mobile Connect MNO platform

- OP-MNO: Operation Mobile Network Operators
  - Connector Mobile Connect users to MNOs lifecycle notification system

- MSSP: Mobile Signature Service Provider (ETSI 102.204)

Scheme and Interconnections

Mobile Connect

Customer Care Portal (Operator/User)

Identity Gateway

National ID (opt)

MSSP

FIDO (opt)

OTP

USSD

OP-MNO

OTA – GW (opt)

Movenda Web Desktop

Campaign Manager

Admin interface

SOAP interface

Report Manager

Card Admin Manager

Request Manager

Response Manager

Provisioning Manager

Channel Manager

Process Scheduler

Security Manager

Movenda SMS Gateway (MSG)

CAT-TP Server

RAM/RFM Over HTTPs Server

Operating Environment

Logical architecture

Discovery

Service Providers

OpenID Connect

API Exchange

User Portal | **ID GW** | **CC Portal**

Authentication Server

National ID (opt)

FIDO (opt) | SETUP & PUSH MSG | MSSP | OTP | USSD

OTA GW (opt)

Users

Desktop

SIM / Device

End User | **Egomet** | **Customer Care**

Generic technical requirements

- Movenda will provide a Standardized Service Contract to MNO for integration purposes:

    ✓ Available OTA with VPN connection.

    ✓ In alternative Movenda offers its own OTA Platform directly integrated in the Mobile Connect service (Movenda OTA manages more than 30M active SIM).

- Available SMS-C with VPN connection. Network Connection to MNO Information System – provisioning , customer care, self care & OIDC / IS attribute sharing with VPN connection.

- Cardlet compatible with most ETSI-3GPP SIM releases and with the major SIM Vendors implementation. You can certificate it before to install on your real cards with the interoperable Movenda **Mobile Connect SIM Applet Test Suite** (GSMA and SIM Alliance interop. test specification) for real SIM card certification!

SIM Authenticator technical requirements

	R5	R6	R7	R8	R9
Javacard	2.1.1	2.2.1	2.2.1	2.2.1	2.2.1
3GPP	GSM 03.19 R5 v5.4.0	31.130 R6	31.130 R6	31.130 R6	31.130 R6
ETSI	NA	102.241 R6 v6.7.0	102.241 R6 v6.7.0	102.241 R6 v6.7.0	102.241 R6 v6.7.0
Signature	NA	3DES / AES / OATH	3DES / AES / OATH	3DES / AES / OATH	3DES / AES / OATH
SMS/HTTP	SMS	SMS	SMS	SMS / HTTP	SMS / HTTP

Mobile Connect for MNO

User portal, SIM & Mobile APP authentication levels
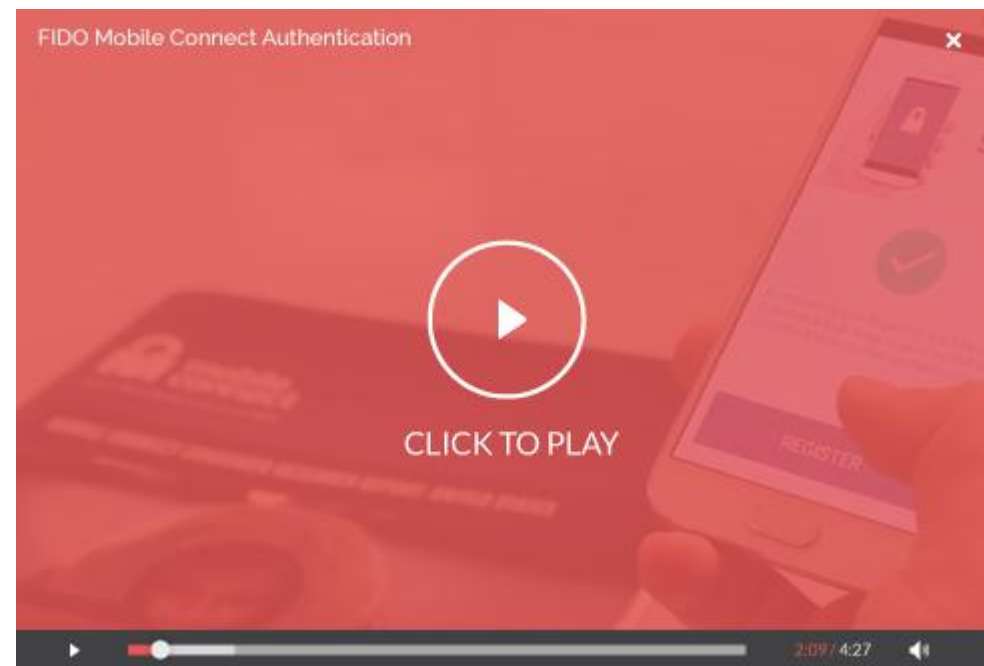
Take a look at our

Mobile Connect Enrolment flow.

https://youtu.be/ea92QB-jX5c
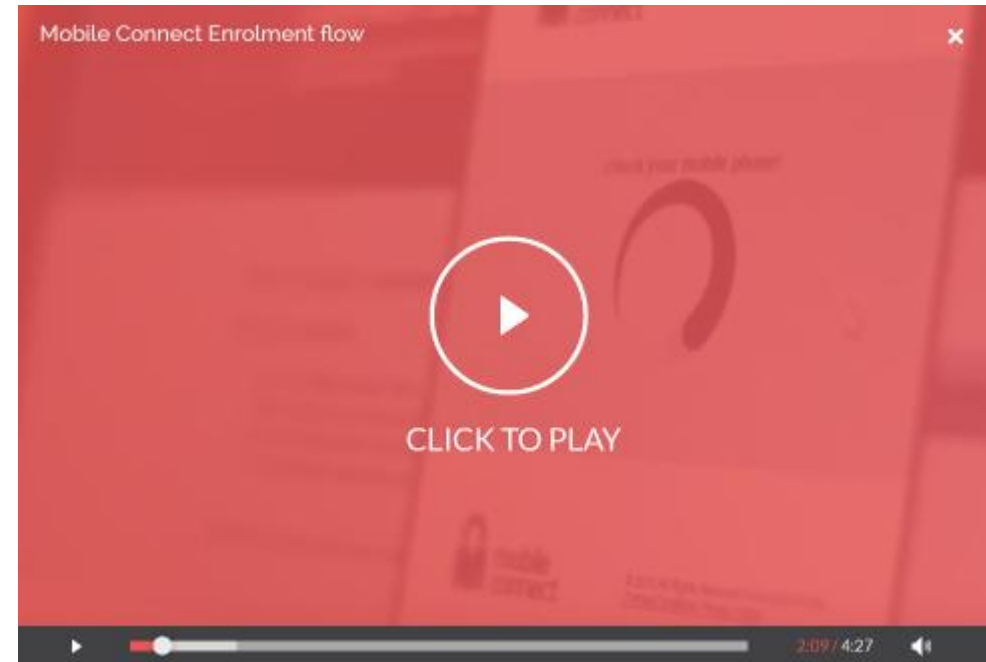
Mobile Connect Authenticate Plus

Biometric experience

Take a look at our

FIDO plus Mobile Connect Authentication.

https://youtu.be/bcuwHGZ9HA8

Mobile Connect Authorise Plus

QR Code & biometric experience

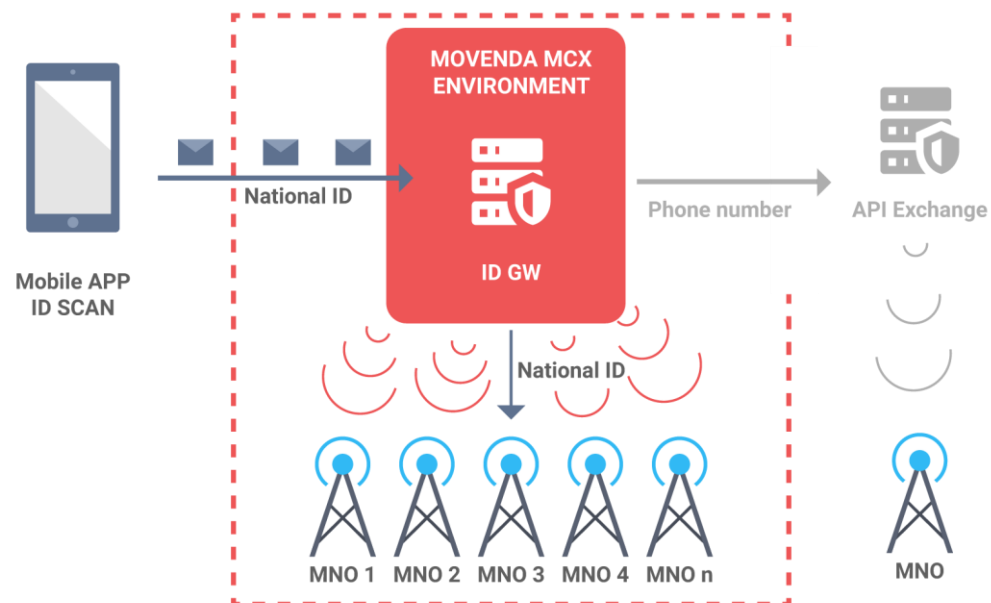Take a look at our E-SIM profile activation authorized via Mobile Connect.

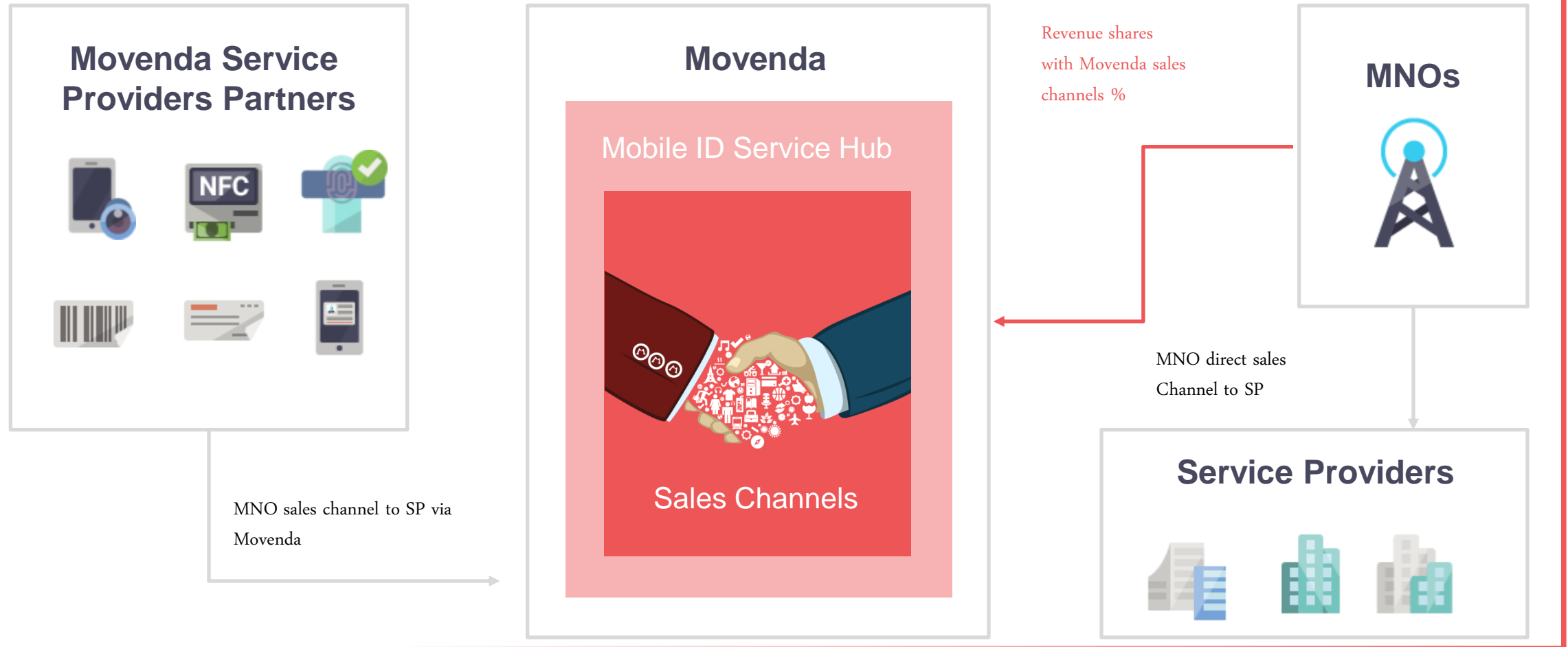https://youtu.be/0ot3robhYNI

Mobile Connect verify national ID

Passport digitalization
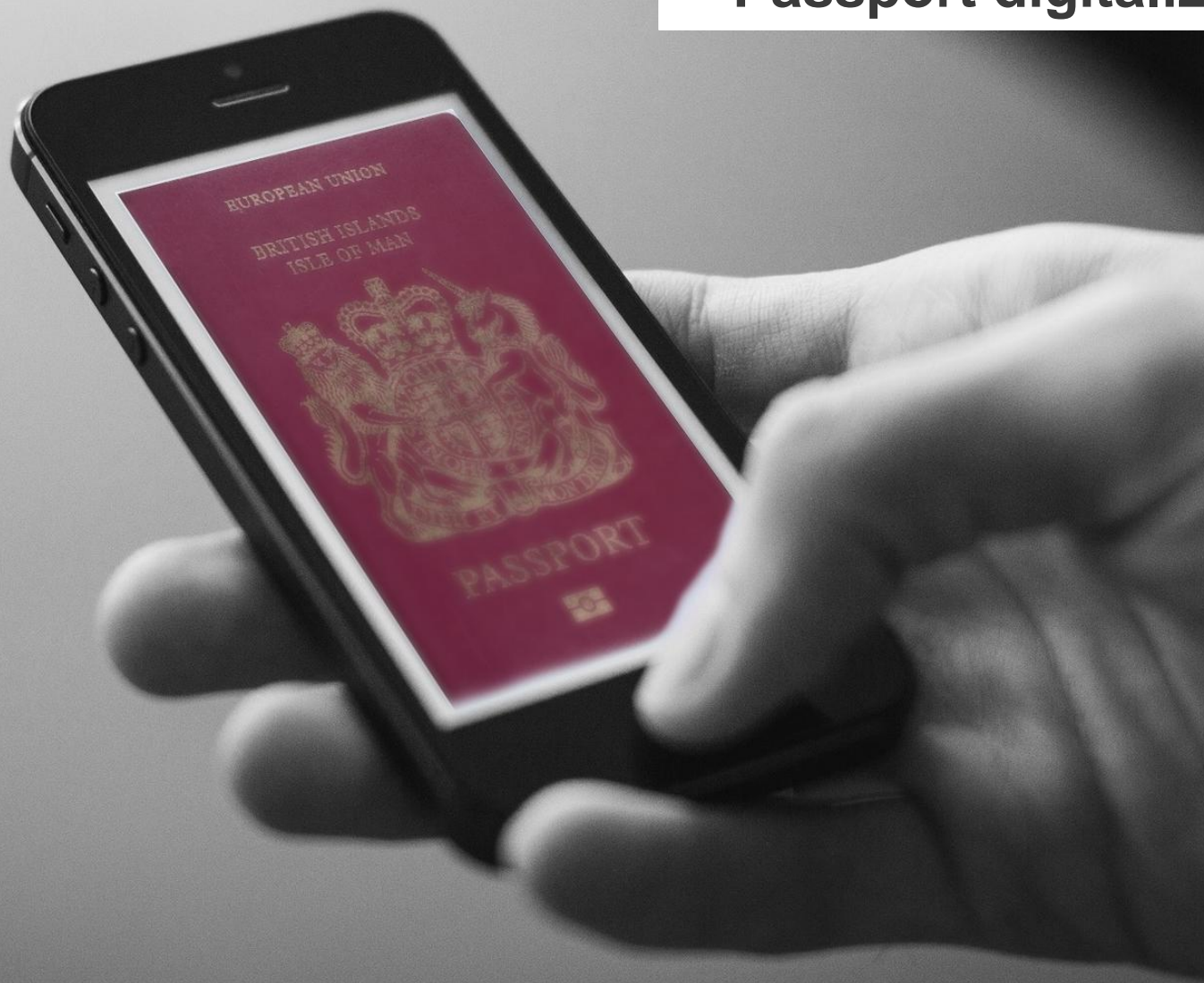
A quick view to our innovative national ID verification environment via Mobile Connect

Movenda Enabling Businesses

Movenda Service Providers Partners

Movenda

Mobile ID Service Hub

Sales Channels

MNOs

Revenue shares with Movenda sales channels %

MNO direct sales Channel to SP

MNO sales channel to SP via Movenda

Service Providers

Mobile Connect for MNO

Commercial Model

MCX Pilot Out of the Box

● ● ●

- 100's users
- 3 months
- Functional Test Tool CPAS8 (1 hw key license)
- Mobile ID authentications services:
  - SIM auth – Movenda MSSP/OTA,
  - Android App (FIDO plus)
  - National id App (opt)

TOTAL	€ 30K

Setup & Fees

- One time setup fees. Including platform setup and integration
- License per users / year
- Monthly operation fee

Transaction Fee

- Business case agreement
- Revenue Share models if Movenda Channel brings Service Providers contract

Mobile Connect for MNO

Additional optional services

- Service Localization (self care and customer care)
- Cardlet customization
- Business consulting
- Dedicated Agile R&D identity team
- Cloud services
- National ID

Movenda Overview

Presentation

Movenda is a Software Development and Integration Company crafting and operating Service and Application Platforms for Mobile Operators Movenda was established in Rome in 1999.

Although Movenda is a **small company,** has always been able to **compete** in the development of standard-based **platforms** and today **successfully** works in an ecosystem of global players, relying on a team of qualified professionals with **15 years** of presence on the relevant market.

Movenda Platforms

OTA Platform

SIM card remote control and management platform.
ETSI/3GPP OTA, HTTP/CATTP RAM-RFM

eSIM Platform, Consumer & M2M

Remote provisioning, access and control platform -GSMA compliant- ready for M2M and soon for Consumer market.

TSM Platform

Trusted Service Manager platform for NFC payment based on Global Platform 2.2 and ETSI Release 9 Technical Specs.

Movenda Service Platforms

Mobile Connect

Identity management for MNOs services – GSMA compliant – ready for market. MCX service by Movenda
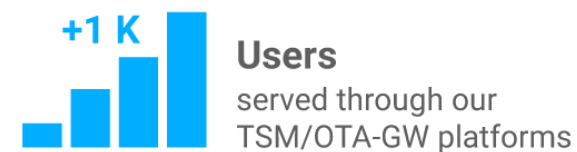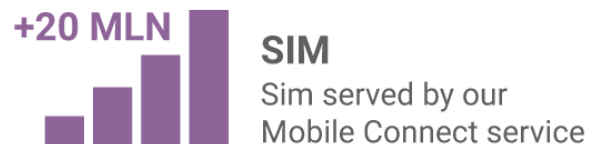
WiFi Offload

Offload data platform for 3G/4G mobile users to the Wi-Fi network services.

FIDO

A solution for «fast identity online». Authenticate users without inserting any kind of password.

Some of our growing numbers

+20 MLN

SIM
Sim served by our
Mobile Connect service

+30 MLN

SIM
served by our platforms

+30 MLN

+20 MLN

+1 MLN

+1 K

+1 MLN

Downloads
via App Stores

+1 K

Users
served through our
TSM/OTA-GW platforms

Movenda

www.movenda.com

Certifications & Membership

Certifications

- Certified ISO 9001:2008 for Software Development
- Conforming to processed methodology ITIL rev 3 (ISO 21000) for Operation of Services.
- ISO 9001 on several Movenda business lines
- Certified ISO 27001:20013 and best practice recommendations for security management of ISO 27002 (ongoing)
- Movenda OMA-DM platform is certified by OMA Alliance
- Movenda FIDO UAF platform is certified by FIDO Alliance (ongoing)

Alliance Memberships

- **GSMA** | GSMA Associate Member
- simalliance | alliance strategic partner
- fido alliance | FIDO Alliance Member

Other Organisations

- MIFARE | MIFARE.NET
- Assinform | Assinform
- elis | ELIS (Educazione lavoro istruzione sport)

Movenda vision

} Μove in digital {

We **believe** in change enabled by digital technology

We see it happening **on the move**, on our smartphones, on our SIMcards, through the Internet of things, 5G networks, eSIM technology, opening to new possibilities and solutions, such as **mobile payments, digital money, digital identity and smart cities**.

All of it in our hands, in our fingers…

30 Brains one TEAM.

Team & Founders

Marco Rossi
CEO & Founder

Alessandro Rossi
CFO & Co-Founder

www.movenda.com

Thank you

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