Open Gateway Community Webinar #3

Exploring Innovation in the Digital Landscape

9th November 2023

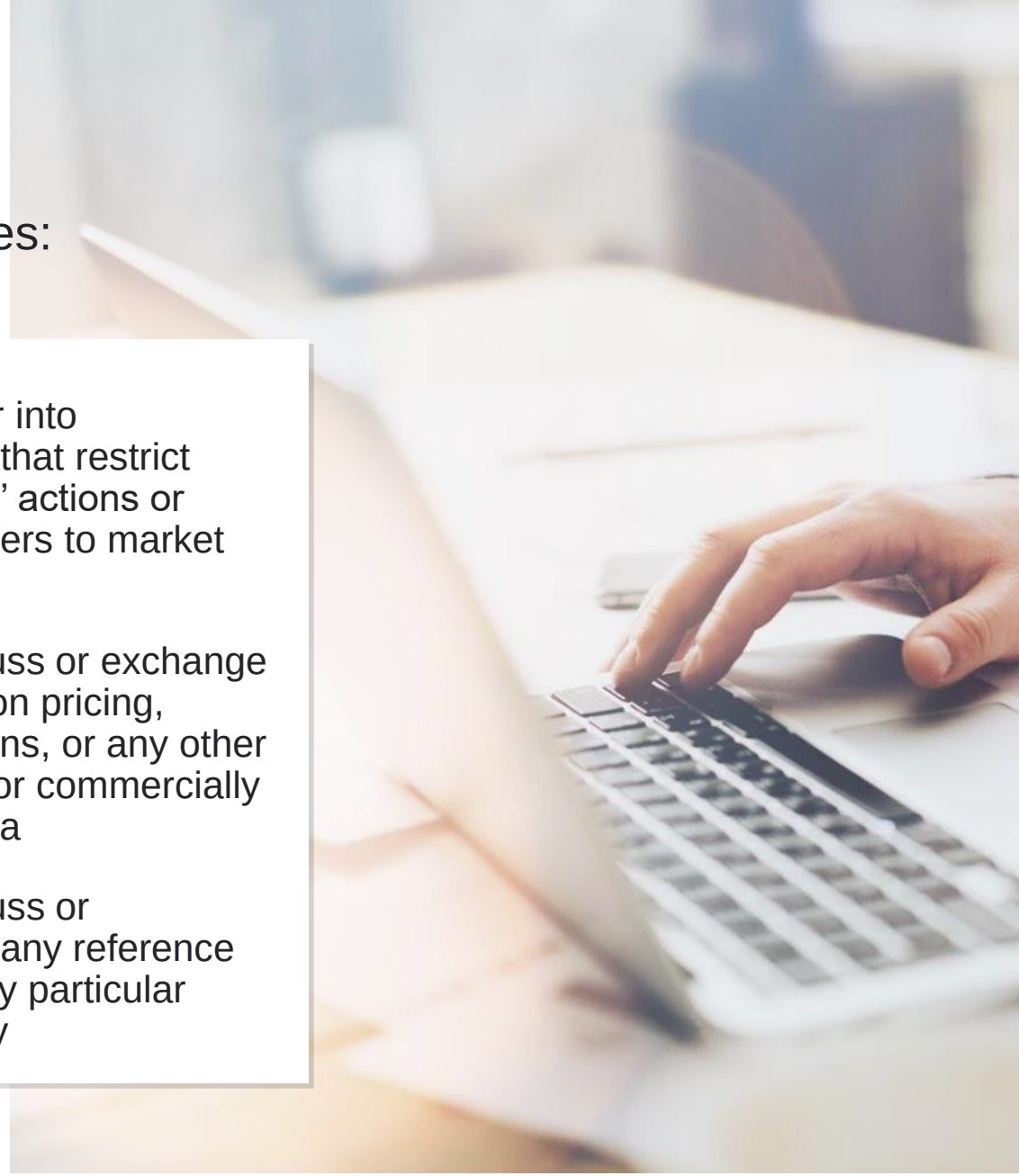
GSMA™ **Open Gateway Product Stream**

GSMA Antitrust Policy

All GSMA participants **must** abide by the following rules:

- **DO** clearly identify the positive purpose of each project and follow it
- **DO** consult with legal in areas where you are unsure

- **DON'T** enter into agreements that restrict other parties' actions or creates barriers to market entry
- **DON'T** discuss or exchange information on pricing, business plans, or any other confidential or commercially sensitive data
- **DON'T** discuss or recommend any reference prices, or any particular pricing policy



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Agenda

Welcome

Open Gateway API Certification & Compliance

- GSMA - Mark Cornall

Open Gateway Challenge

- GSMA – Lucy Thatcher

Reflections from MWC Kigali & Las Vegas

- Nokia – Mikko Jarva
- Chenosis – Waseem Amra

Open Gateway Update From Market Champions

- Telecom Argentina – Damian Sanchez
- Deutsche Telekom – Markus Kuemmerle
- Telkomsel - I Gusti N Panca

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Open Gateway Certification

North Star: A developer should only need to change their credentials for global mobility

Mark Cornall

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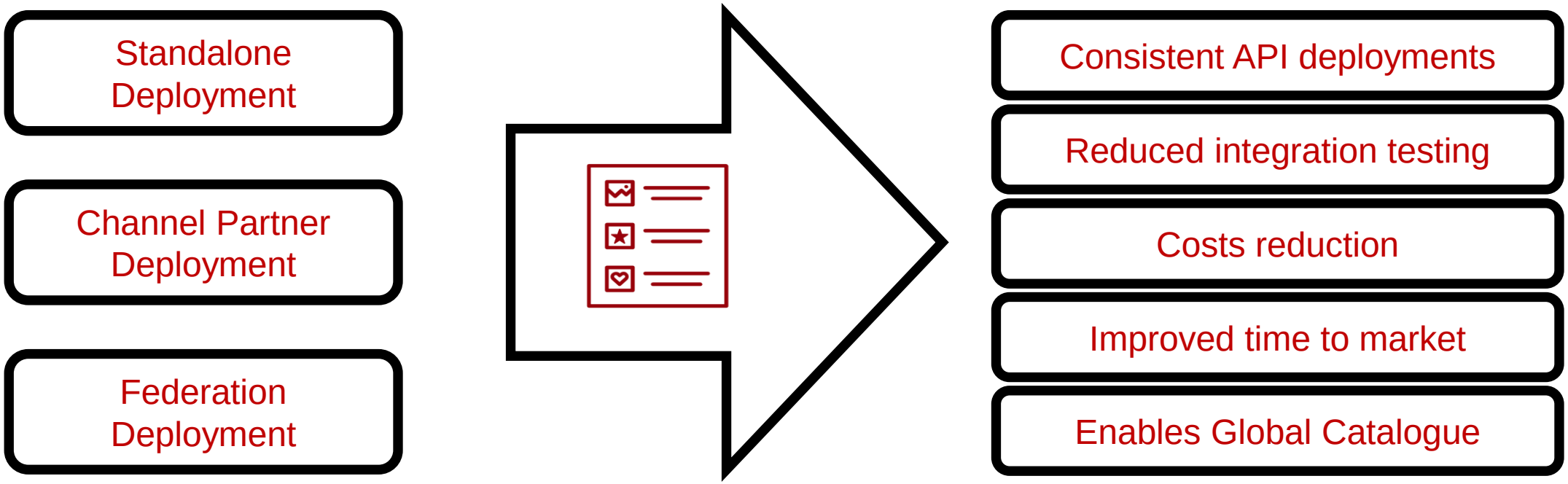
Powered by Open Gateway - Certification



Pure adoption of CAMARA APIs
Initial flexibility on Authorisation Flows
Definitive migration to 3 leg flows for user data

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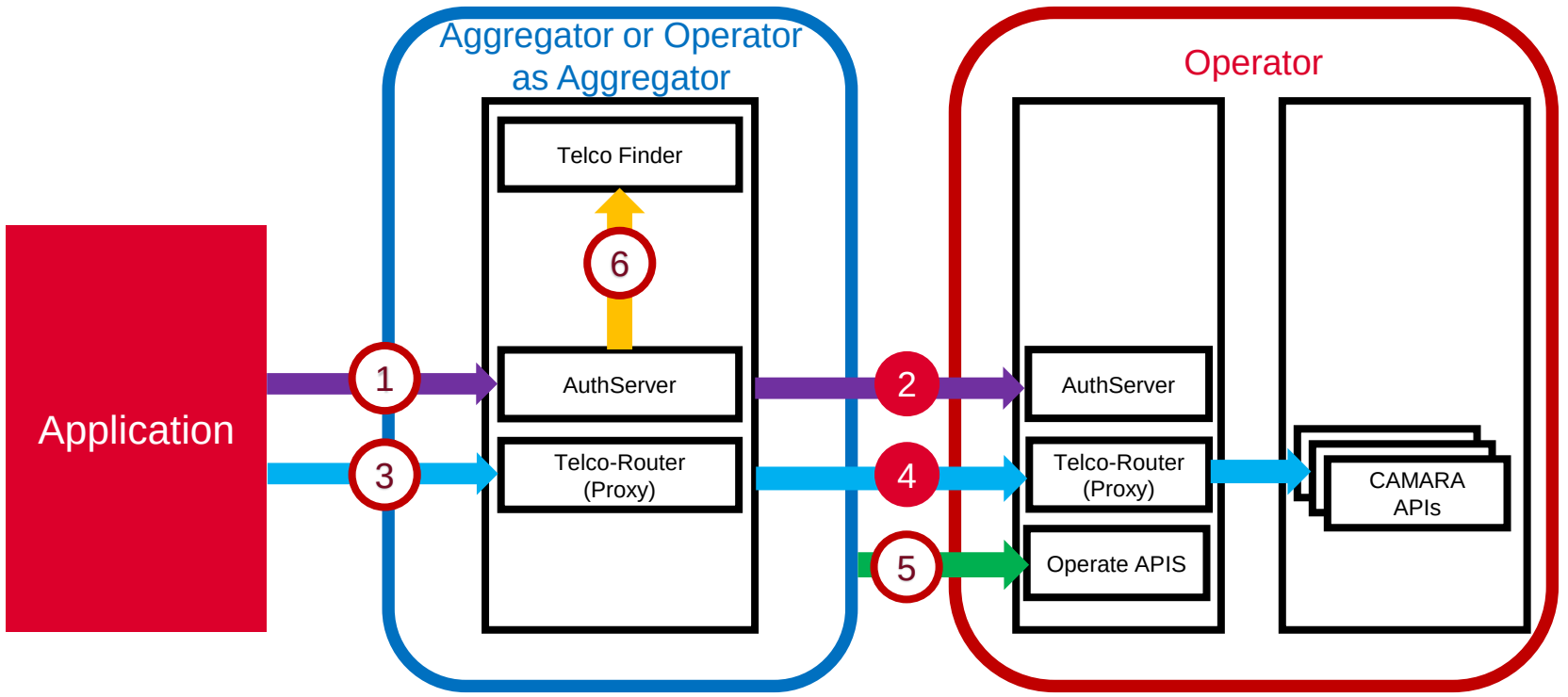
Interfaces for Certification



6 Standardised Interfaces in GSMA Open Gateway

- Authorization (e.g. OAuth2/OIDC via Client Credentials/CIBA/AuthCode flows)
- API Gateway in the Aggregator exposing CAMARA APIs in the Operator Platform
- Operate APIs from TMForum
- Telco-finder

Initial Focus on flows 2 and 4

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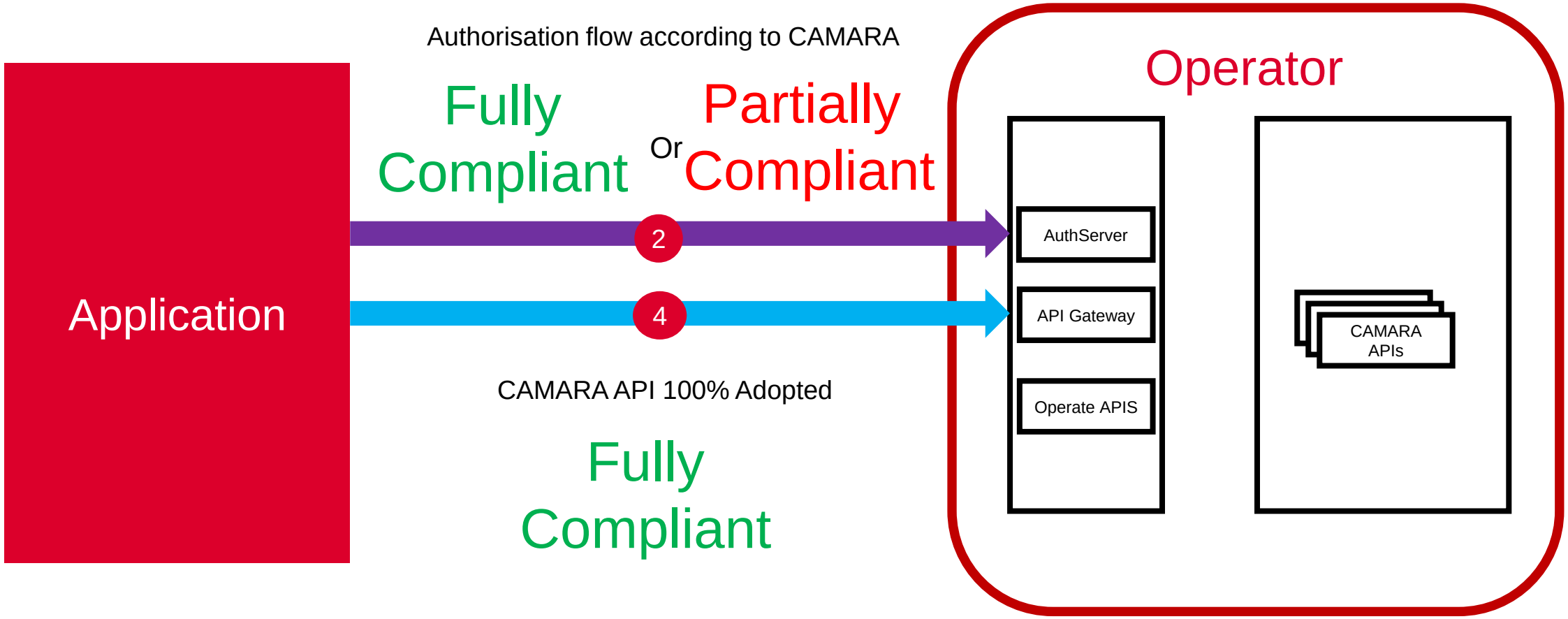
Certification approach



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Testing Matrix

API	Function	Fully Compliant Flow*
Device Location	Location Retrieval	CIBA
	Location Verification	CIBA
	Geofencing Subscriptions	CIBA
Carrier Billing Checkout	One Step Payment	Authorisation Code
	Two Step Payment	Authorisation Code
	Payment	Authorisation Code
	Payment Notifications	Authorisation Code
Device Status	Device Roaming Status	CIBA
	Device Status Event Subscription	CIBA
	Notification Callback	CIBA
Quality On Demand	QoS Sessions	CIBA
	QoS Profiles	ClientCredentials
Sim Swap	Retrieve Date	CIBA
	Check	CIBA
Number Verification	Phone Number Verify	Authorisation Code
	Phone Number Share	Authorisation Code
OTP Validation API	OTP Management	ClientCredentials
Device Identifier	Get Device Identifiers	ClientCredentials

Certification per API

100% Adoption of the CAMARA definition

Any Authorisation flow until Q2 2024

Partially Compliant

CAMARA Authorisation flow adopted

Fully Compliant

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Open Gateway Challenge

Lucy Thatcher

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GLOMO
Global
Mobile
Awards

The GSMA Open Gateway Challenge

GSMA Open Gateway is a framework of common network APIs designed to provide universal access to operator networks for developers. It helps developers and cloud providers enhance and deploy services more quickly across operator networks via single points of access to the world's largest connectivity platform.

This prize rewards developers who use public **CAMARA APIs** to create a commercial cloud-based service which:

- Uses multiple APIs from one or many mobile operators
- Is a solution for local markets and/or international markets
- And demonstrates business value created in a specific vertical industry, e.g. FinTech (reduce fraud); Automotive (real-time telemetry)

Please note a test bed is available by contacting **networks@gsma.com.**

The Prize

The winning company of the **Open Gateway Challenge** will receive a range of prestigious benefits, including:

- Invitation to receive the winner's trophy on stage at the **GLOMO Awards Ceremony** during **MWC Barcelona 2024.**
- Listing on the GLOMO Awards website as a winner.
- Inclusion in a press announcement.
- Opportunity to collaborate with the team to create original content shared through relevant GSMA channels.
- Introduction to the Conference Content team responsible for programming the GSMA event series, including MWC Las Vegas, MWC Africa, MWC Shanghai, MWC Kigali, and the M360 Series.
- Mentions on MWC Barcelona's official social media channels.

The Open Gateway Challenge is FREE to enter.

DevCon Challenge (GSMA)
Application/solution ideas

September 2023

© 2023 Nokia | Nokia customer confidential

Find out more about the Open Gateway Challenge and enter by

November 16, 2023

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Updates from MWC Las Vegas & Kigali

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Network as Code

Enter the world of ecosystem programmed networks

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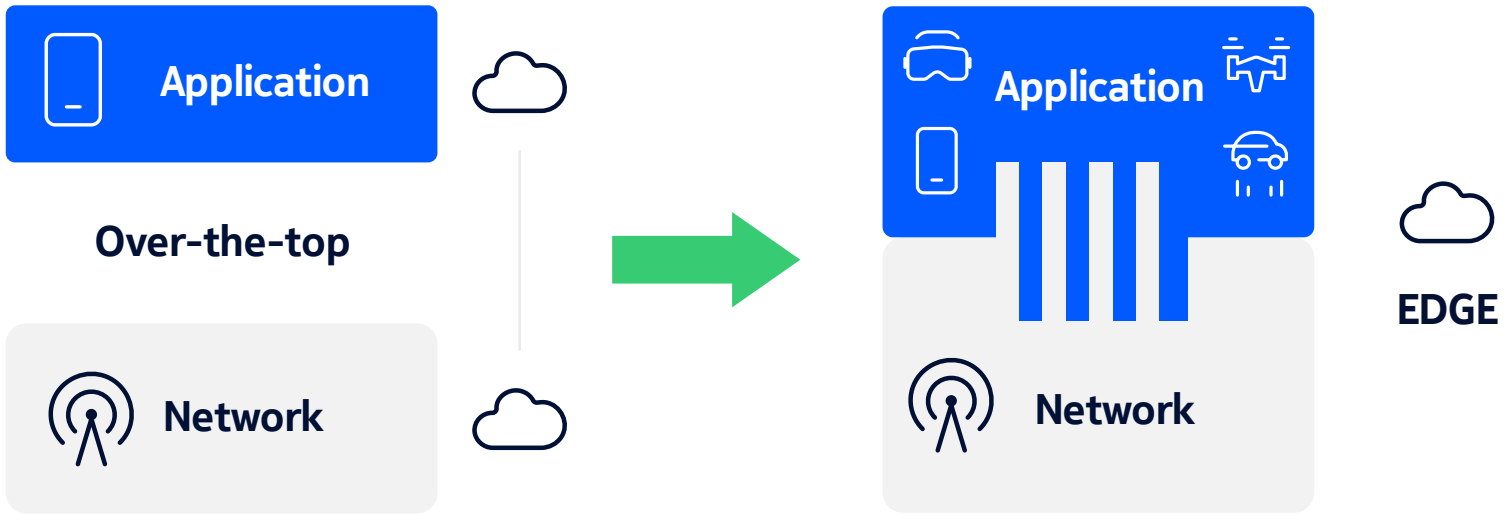
Why programmable networks?

Changing the relation between applications & networks



New innovations & agility of developer ecosystem!

Better, new apps!

Optimized use & monetization of the network!

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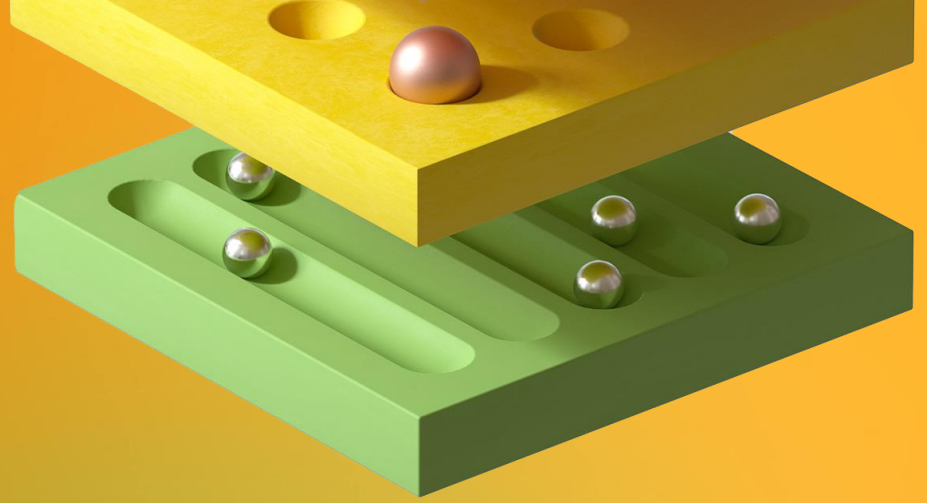
Remote operations of drones over programmable network

CITYMESH
the art of connectivity

DRONIQ

our two network APIs:

Remote road-legal driving of cars



Network as Code

Available by December 2023 for application developers in selected networks

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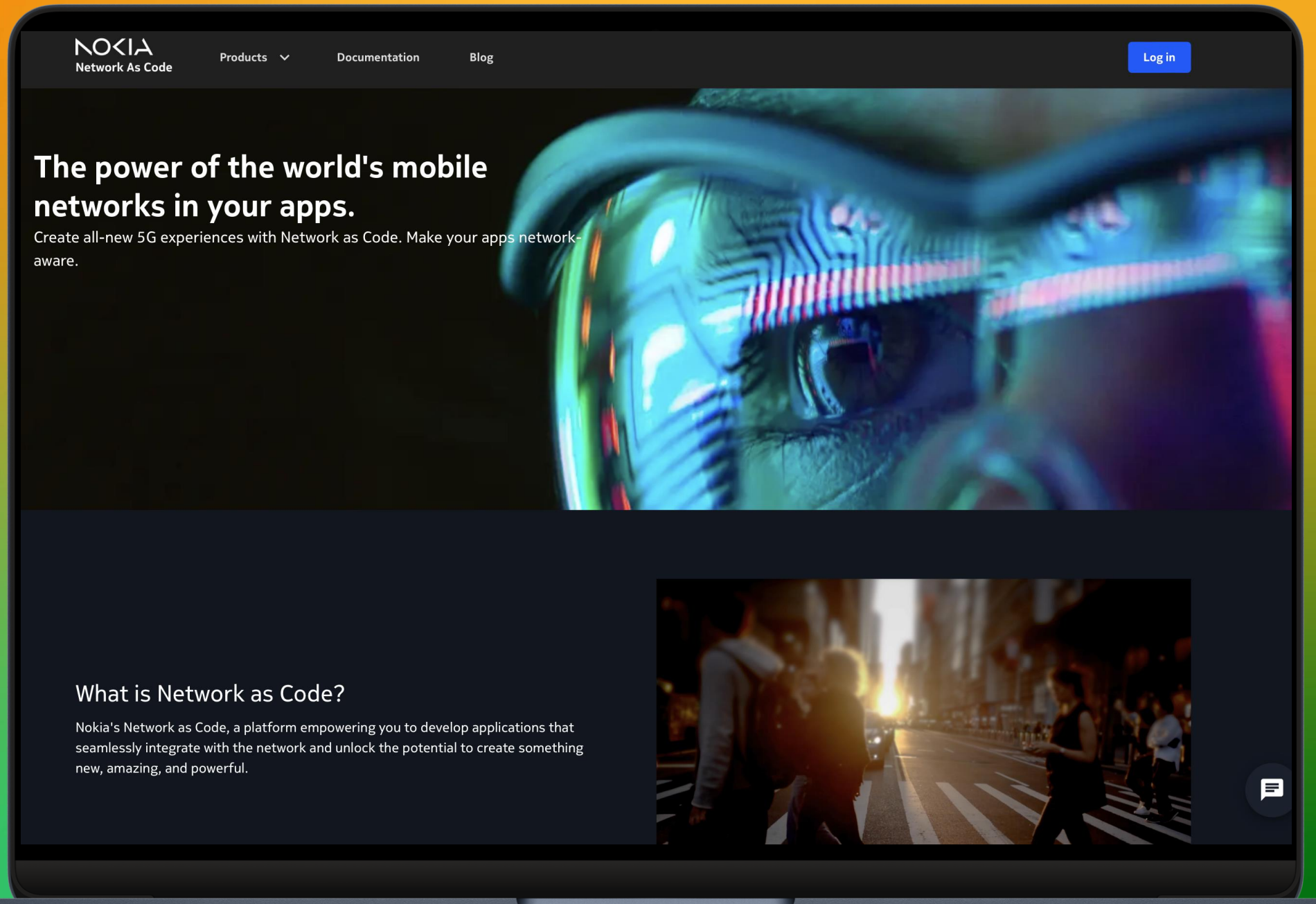
Introduction



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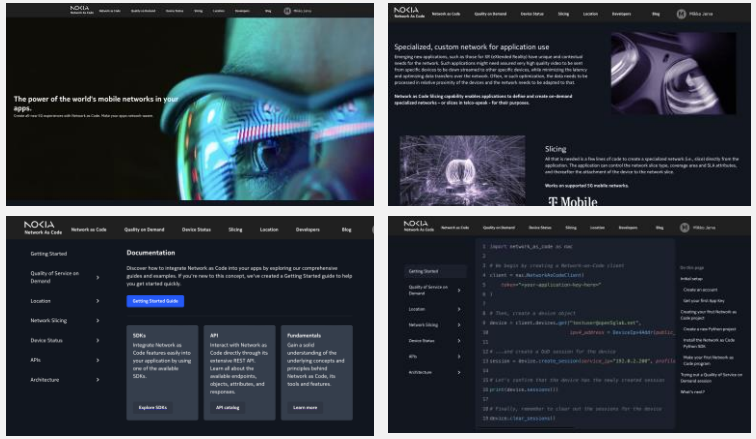
Network as Code platform

Enterprises (B2B & B2C)

Developer

Developer experience



- Application showcases
- Examples & documentation
- Registration
- Developer env. & SDKs
- Sandbox

- App access tokens
- API catalog
- Charging & monetization
- Analytics
- Communities
- News and blogs

Application
with Network as Code SDK

CAMARA
API transaction management

Network as Code services

QoD | Device insights | Specialized network | Network insights | ID & consent | Edge apps | Accurate location | Network sensing | ...

API routing & mapping

Network/CSP

Network /CSP

CAMARA | 3GPP | O-RAN | TMF | ...

EDGE | RADIO | NEF | NWDAF | SO | ...

Enterprise/campus

Private wireless | Private edge

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Powerful network capabilities

NOKIA Network As Code

Products | Documentation | Blog | Log in

Devices

Quality of Service on Demand
Dynamically optimize mobile network connections

Device Location
Notifications for device connection events

Device Status
Approximate location information

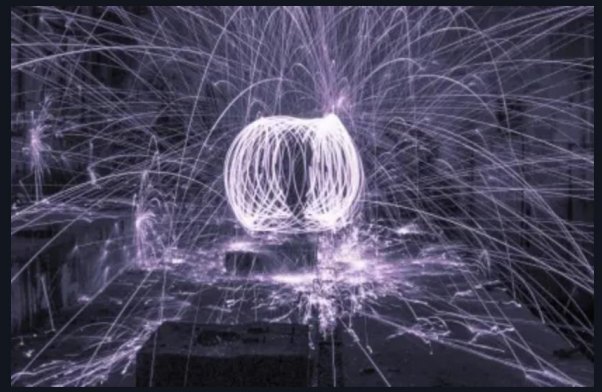
Networks

Specialized Networks
Create private networks for special use-cases

Specialized, custom network for application use

Emerging new applications, such as those for XR (eXtended Reality) have unique and contextual needs for the network. Such applications might need assured very high quality video to be sent from specific devices to be down streamed to other specific devices, while minimizing the latency and optimizing data transfers over the network. Often, in such optimization, the data needs to be processed in relative proximity of the devices and the network needs to be adapted to that.

Network as Code Slicing capability enables applications to define and create on-demand specialized networks – or slices in telco-speak - for their purposes.



Slicing

All that is needed is a few lines of code to create a specialized network (i.e., slice) directly from the application. The application can control the network slice type, coverage area and SLA attributes, and thereafter the attachment of the device to the network slice.

Works on supported 5G mobile networks.

T Mobile

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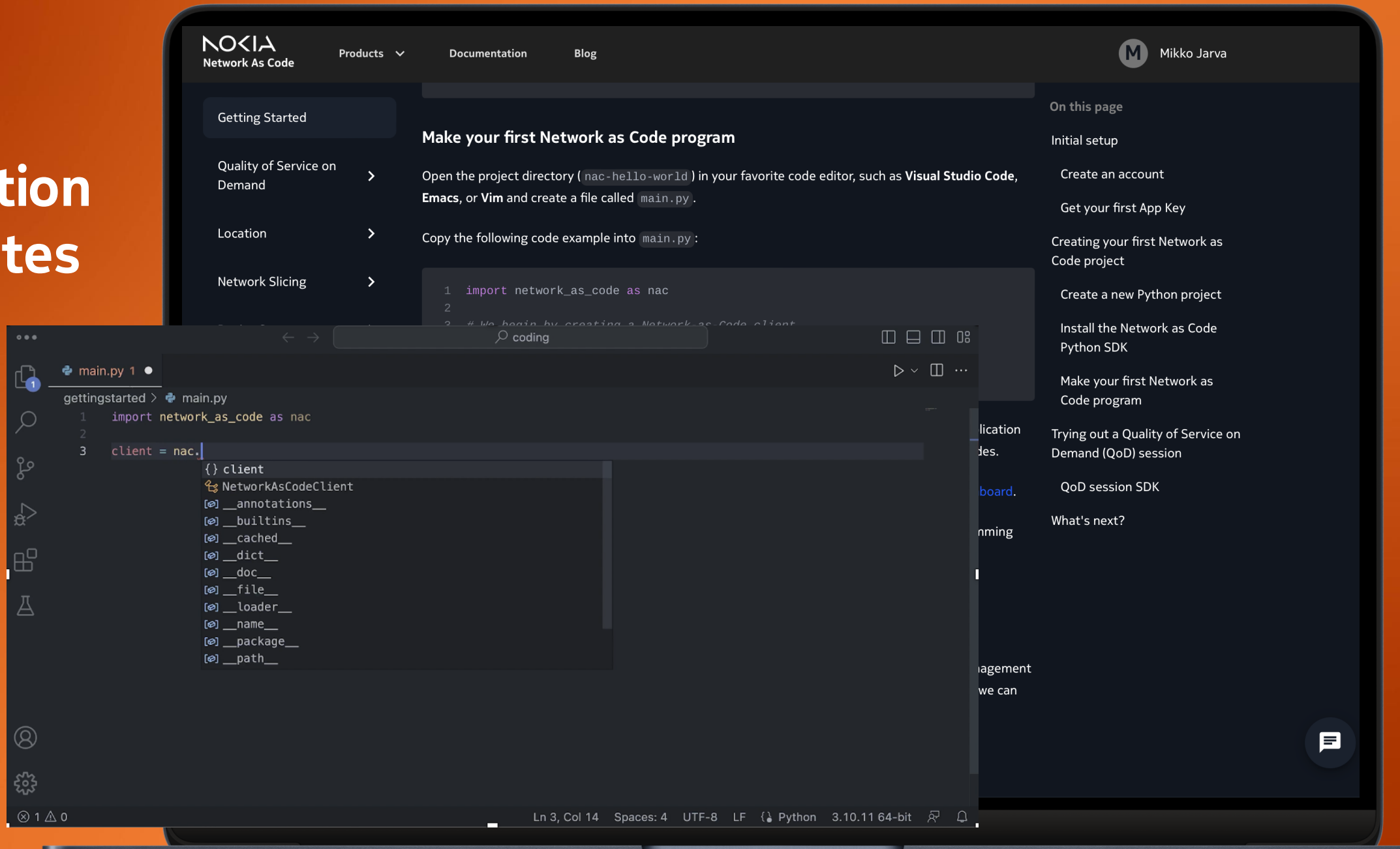
First application in minutes



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Chenosis | MWC Kigali Reflections

Chenosis

GSMA™

Open Gateway

FinTech

Chenosis

Chenosis Participation

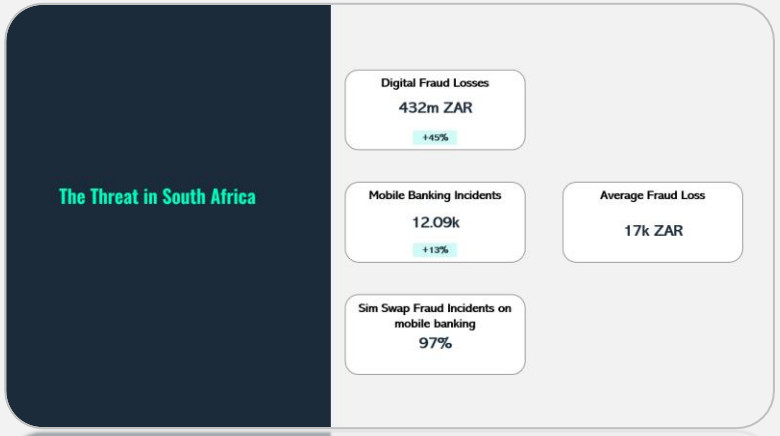
Stand

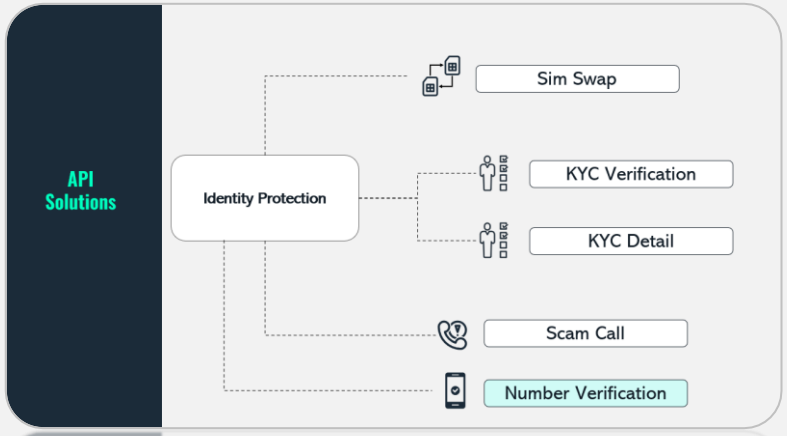
CEO Chenosis Presentation

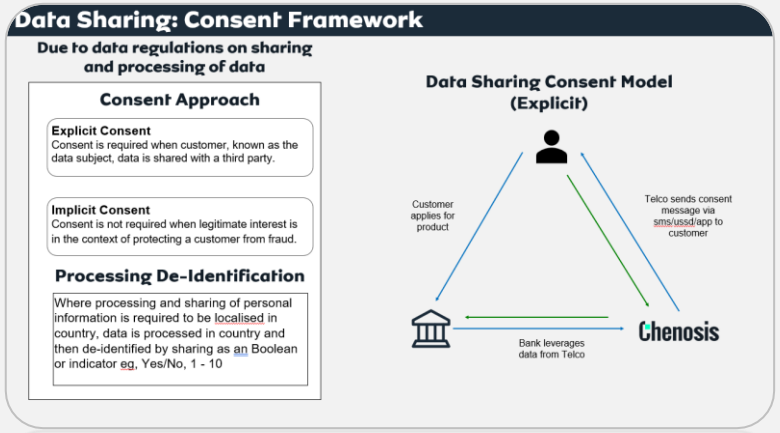
Panel Session
The Fraud Threat Landscape

Closed Group Workshop

Closed Group Session







Partnership Announcements

TechAfrica News
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++ Experian and Chenosis Partner to Drive Financial Inclusion Through Data in South Africa ++

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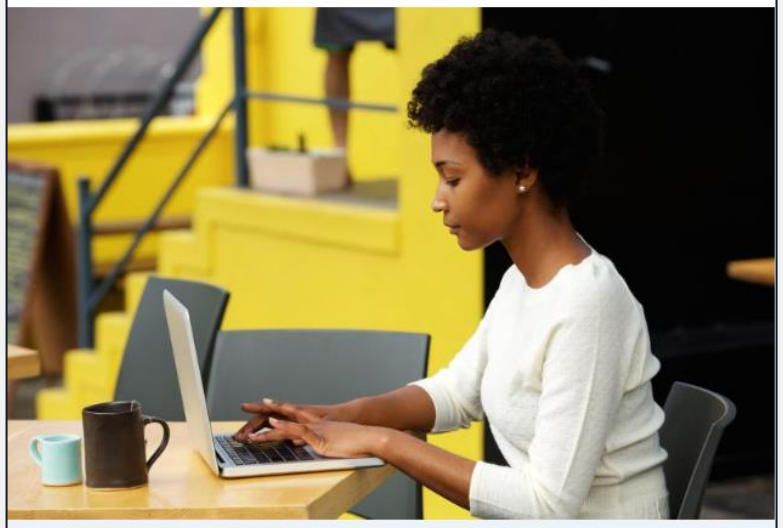

Experian and Chenosis Partner to Drive Financial Inclusion Through Data in South Africa

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TransUnion Africa Partners with Chenosis to Boost #FinancialInclusion Using Telecom Data

...see more

TransUnion Africa Partners with Chenosis to Boost Financial Inclusion Using Telecom Data

OCTOBER 26, 2023

AI

BY AAYUSHYA RANJAN

Chenosis Partners with Botlhale AI Solutions to Break Language Barriers in AI Interaction

Chenosis teams up with Botlhale AI to offer conversational AI in diverse African languages, enhancing accessibility.

Open Gateway Market Champions

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telecom

Open Gateway

Argentina Market Update

- Damián Sánchez

Open Gateway | Market kick Off

Representatives from MNOs & GSMA – Biweekly meetings

Business Discussion - First Challenge API Alignment

SIM Swap *(Value Proposition: Fraud Prevention)*

GSMA

telecom

Kick Off – Sept ‘23

Claro

Deploy – 4Q ‘23

Telefónica

SIM Swap (Non Camara version)
Deploy – 1H ‘24

Open Gateway | Integration Model & API Roadmap

01 *Integration Model*

Wholesale Reseller Model ➔ Aggregators – *Meetings in Progress*

Agreement by Operator / GSMA Template

plusmo telesign sinch infobip VONAGE

02 *API Roadmap*

telecom

Number Verification	1Q'24
Device Status	2Q'24
Device Location	2Q'24

Claro

Device Status	4Q '23
Device Location	1Q '24
Number Verification	1Q '24

Telefónica

Device Status	2Q '24
Device Location	2Q '24
Number Verification	2Q '24

Open Gateway | Next Steps

Industry

GSMA Workstream Involvement

MNO Technical & Legal Meetings

Process Alignment - Data Protection & Consent Management

Early Adopter Programs

MNO

API releases – Platforms & Aggregators on boarding

Open Gateway Platforms deploy

Open Gateway GSMA Certification

Questions?

Damián Sánchez
damsanchez@teco.com.ar

Thank you!

Damián Sánchez
damsanchez@teco.com.ar

Open Gateway Local Champion Germany

Deutsche Telekom, Markus Kuemmerle

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Open Gateway Local Champion Germany

Started in July 2023

Target is to have the first commercial customer on an aggregated API by MWC2024 and to present it in Open Gateway Summit event.

We decided to follow

- **A safe path**
- **An extended path**

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Safe path

CAMARA version of MobileConnect APIs:

- **Sim Swap:** obtain information on any recent SIM pairing change related to the user's mobile account
- **Number Verification:** verify the phone number associated with the SIM used in the device connected to the mobile data network
- **KYC Match:** Enables Service Providers to compare the information they have on file for a particular user with that on file (and verified) by the user's Operator in their own KYC records (name, address)

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Extended path

New CAMARA versions of the network APIs:

- **Quality on Demand:** set quality for a mobile connection (e.g. required latency, jitter, bit rate), get notification if network cannot fulfill
- **Location Verification:** check the location of a device
- **Device Status:** check if a device is losing connection to the network or gets reachable again, and the roaming status
- Including solution for **Consent Management**

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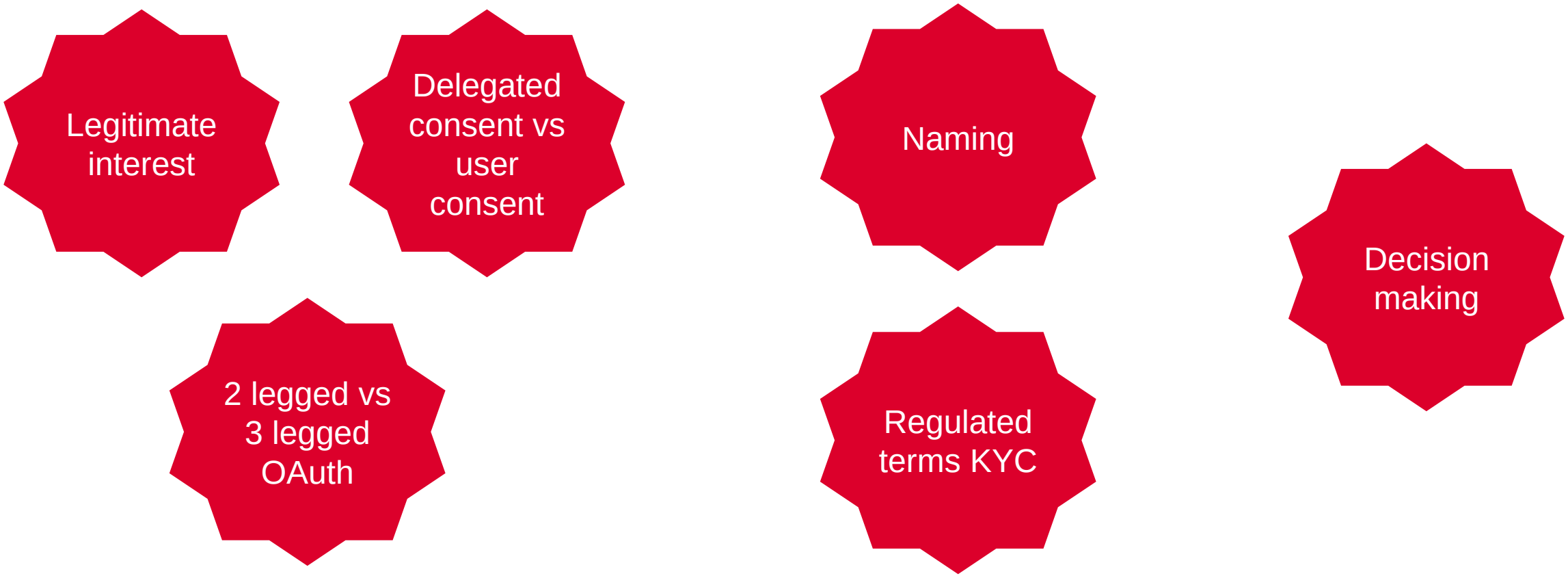
We're learning…

Productizing an API is a much bigger nut than proving a technical service:



… but discussions are necessary and bring value to move the ecosystem forward!

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Telkomsel
by Telkom Indonesia

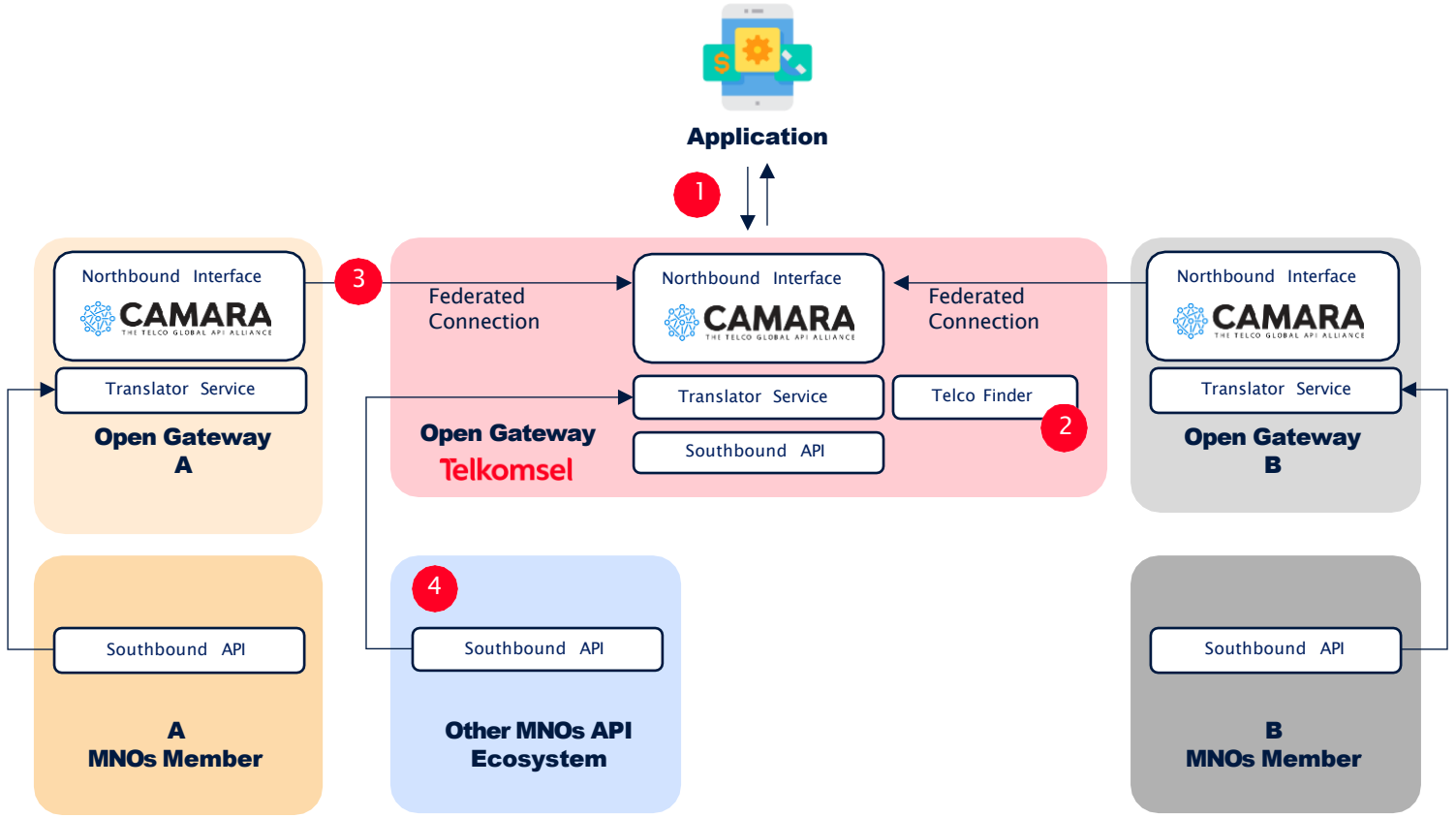
GSMA CAMARA Open API Overview

November 2023

TECHSTRA
Beyond Technology

Telkomsel Open Gateway Initiatives

Telkomsel is currently in progress of developing an open gateway architecture that includes an aggregator and a telco finder based on GSMA Open Gateway APIs which are defined, developed and published in CAMARA



Key Highlight

1. **Northbound Interface as Unified Communications**
   Node to enable communication for federated and northbound communication using the CAMARA Specifications
2. **Telco Founder as a Service Router**
   A service router based on what application requested to enable sending request to the designated operator
3. **Federated Connections between Alliances**
   Enabling federated connection between alliances to enhance the resource API Capability through aggregator alliances
4. **Translator Services to attracts Resources API Provider**
   Provide a translation service which can help to connect with Resources API Provider

Action Plan

Reconcile & Settlement Flow Process
Mechanism of API Usage between MNO, still not yet discussed how the operational flow

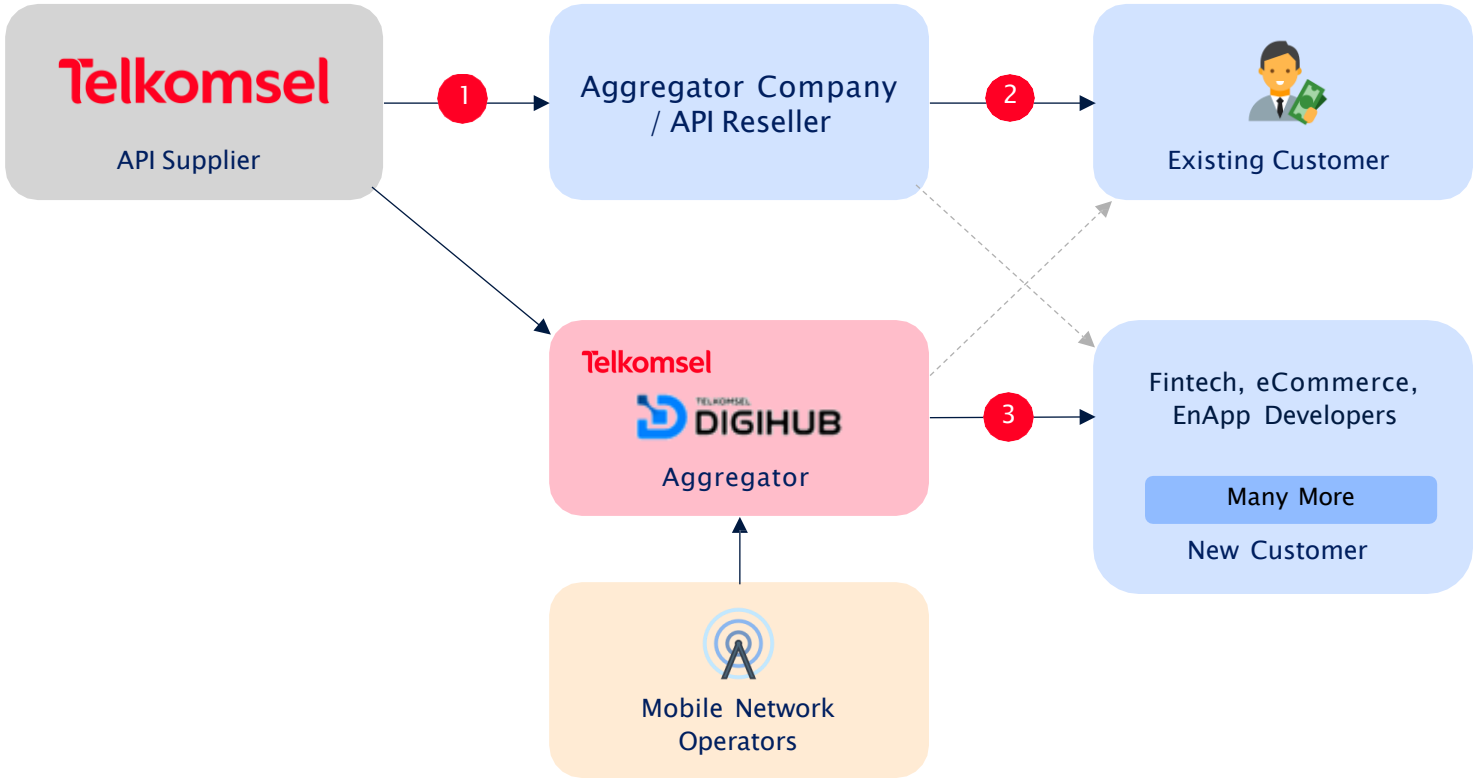
System Integration
Telco CAMARA API should be integrated to enable resource sharing between MNOs

Business Integration
To enable revenue generating part of this initiatives

*All the initiatives is targeted to be done by the end of December

Telkomsel API Business Cases Scenarios

Telkomsel have several business case scenario regarding the development use case of Open API in Indonesia

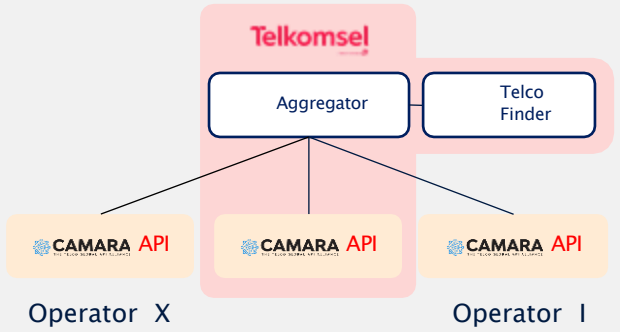


Use Case	Details
1 Telkomsel partnership with Aggregator	Telkomsel supplies telco CAMARA Standards API to global aggregator to enable global business
2 Telkomsel as aggregator partner with Existing customer	Digihub as TSEL API marketplace will engage to existing customer to offer new API which will have much functionalities than the existing one
3 Telkomsel as aggregator partner with new customer	Telkomsel expanding their API Marketplace Digihub, to offer new API CAMARA to new customer to open new business stream

Business Model Scheme Potential between Operators

Several business potential between operators regarding GSMA CAMARA Open API, which can be leverage by Indonesia as new business Opportunities

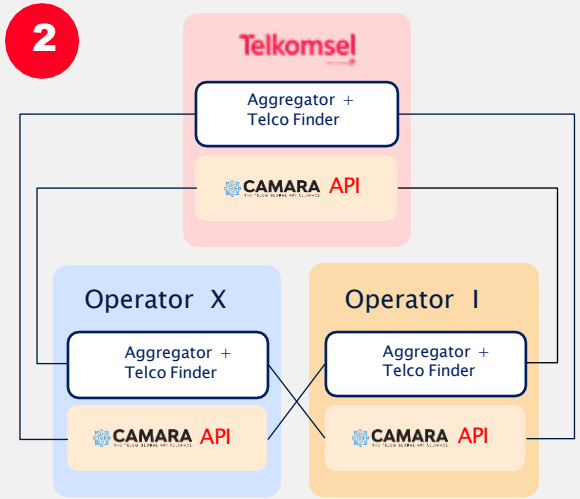
1



Single Aggregator Model

Telkomsel work as Aggregator to aggregate southbound API from Operator, and deliver it to the customer in form of CAMARA Specs

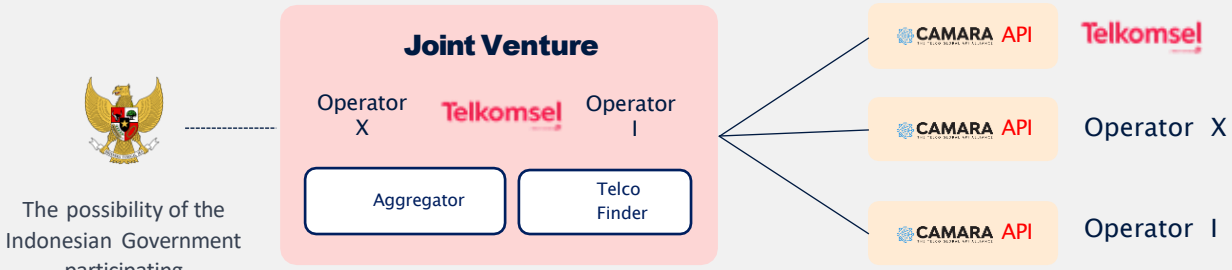
2



Federated Model

All operator will work as aggregator for their own, other operator API consumed by using federated link

3



Join Venture of All MNO in Indonesia

Telkomsel as Indonesia Champion for GSMA CAMARA Implementation have several initiatives regarding the development of CAMARA Open APIs in Indonesia

Thank You

TECHSTRA
Beyond Technology

Q&A

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Thank You

Please Join us at DevCon!

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