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Telenor's Road to Commercializing the Edge

4G

5G

6G

Dynamic pricing: from closed to open networks

- Enhance digital experiences, improve performance, support data security and enable continuous operations in every industry.

5G Edge Cloud

Virtualize the cloud beyond the four walls of the data center

Edge computing brings computation and data storage closer to where data is created by people, places, and things. Operations and maintenance tasks can be carried out by Telenor as far as possible

AI Infrastructure

Hardware and software needed to create and deploy AI-powered applications

Enables developers to effectively create and deploy AI and machine learning (ML) applications and ensure fast response times, user experience, cost optimization, and scalability.
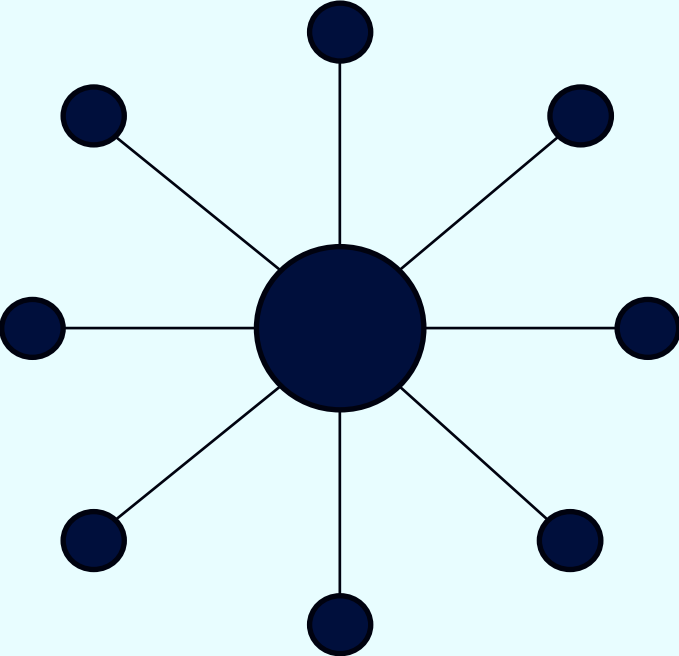
5G Network Slicing

Dynamic and fit-for-purpose virtual networks

Enables new business opportunities across a wide range of use cases and sectors where customers can benefit the commercial infrastructure and solutions adapted to their specific needs
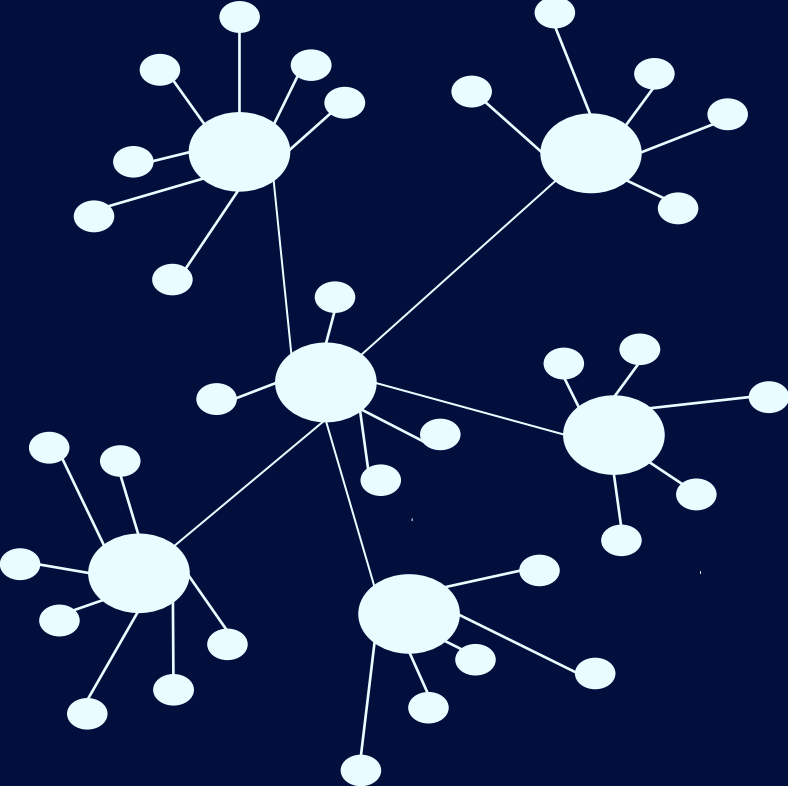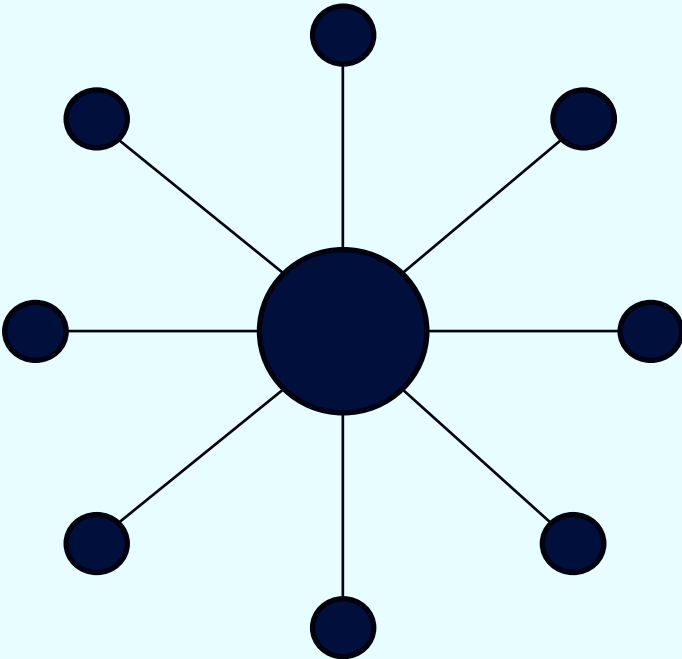
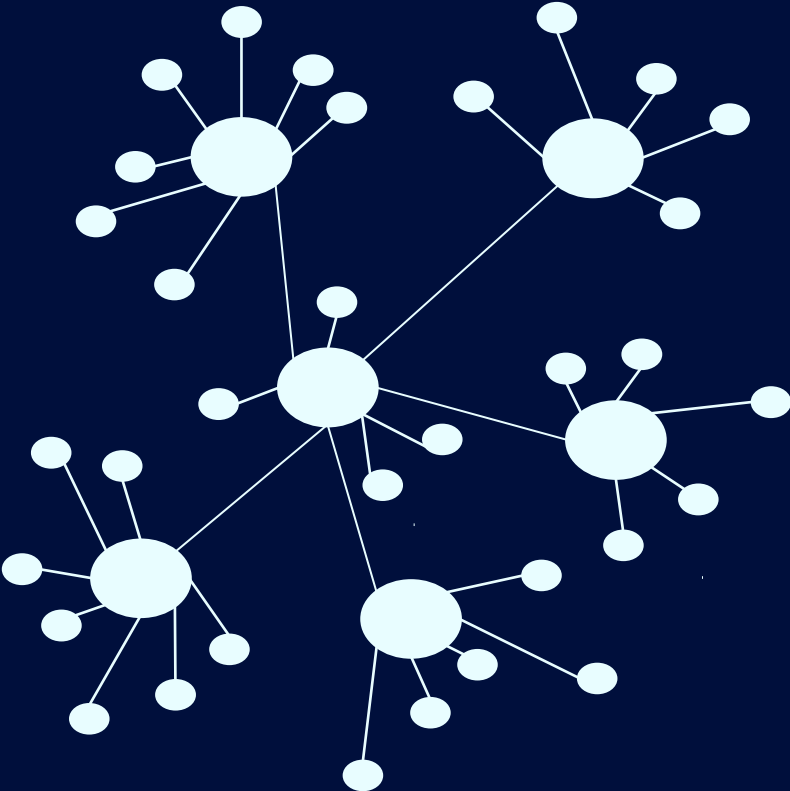# Vision vs reality!

Centralization

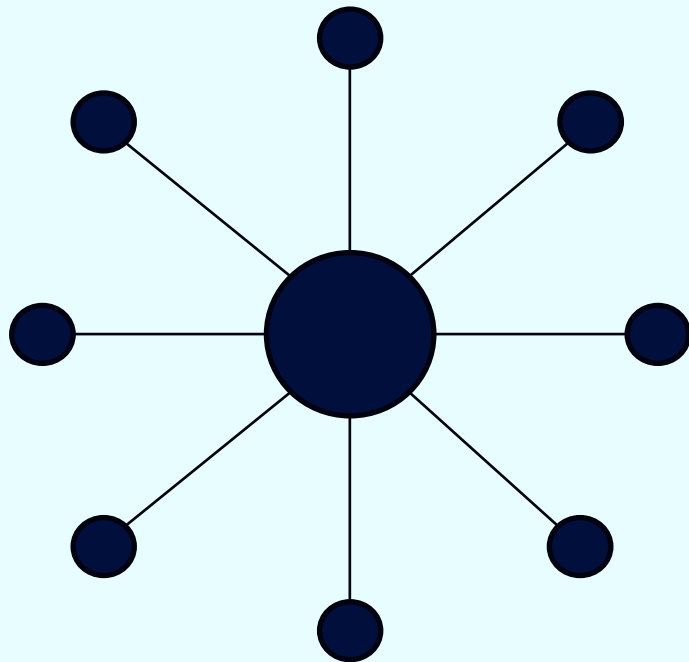Decentralization

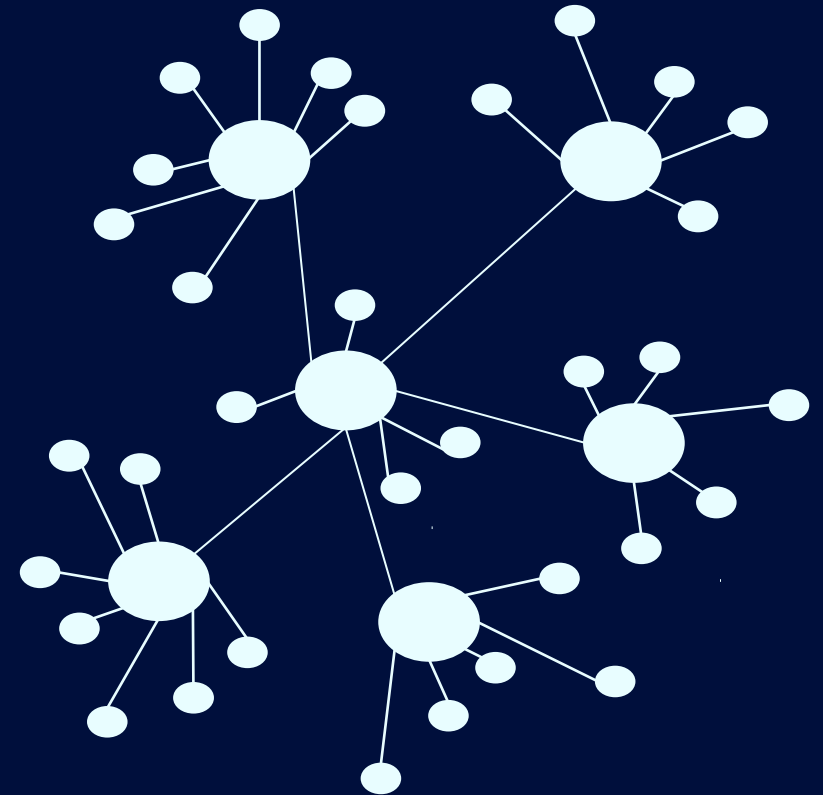# Vision vs reality!

Manual

Automated
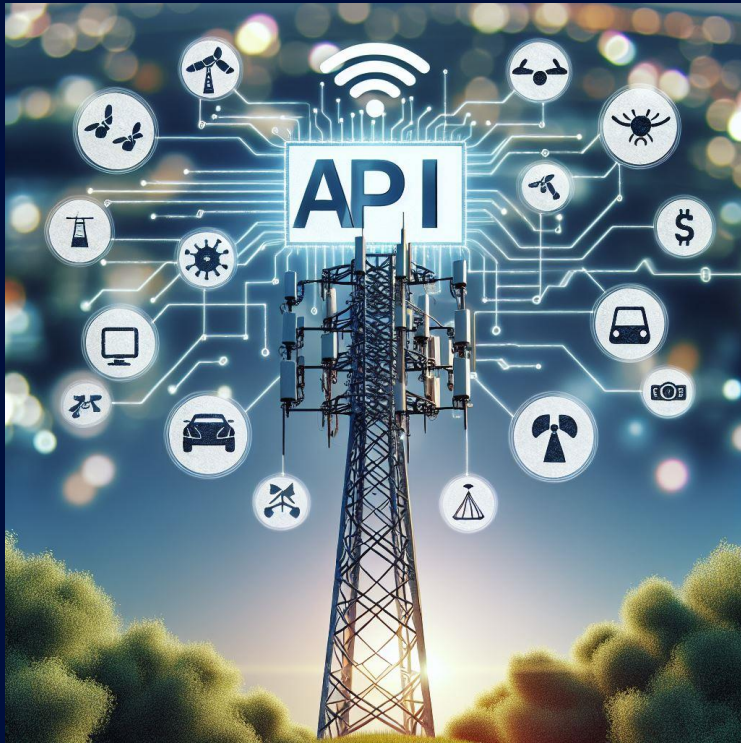
Sensitivity

Vision vs reality!

Single-Vendor

Multi-Vendor

AI will scale on 5G infrastructure

- Data sovereignty, increased national competitiveness, new broker solutions, joined forces and partner ecosystems

Enhanced AI Capabilities

Seamless connectivity, regional data centers, increased bandwidth and speed

Combining 5G with edge computing allows AI to perform complex tasks closer to the data source, improving response times and management of large volumes of data.

Real-time compute

5G integrated and centralized compute combining data-sources for collaborative systems

One compute and network integrated platform, high-speed, low-latency network enhances real-time data processing at the edge.
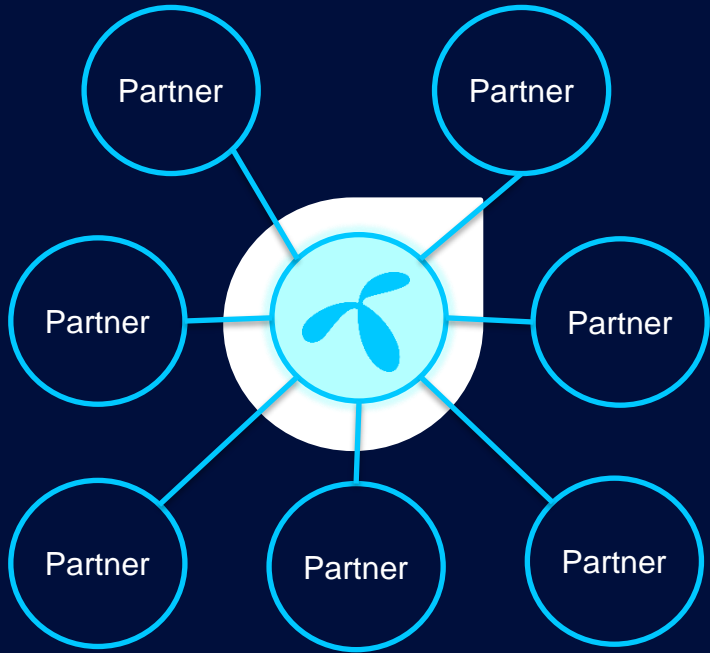
Mobility & Network API

Scalable AI use cases combined with mobility and integrated network automation
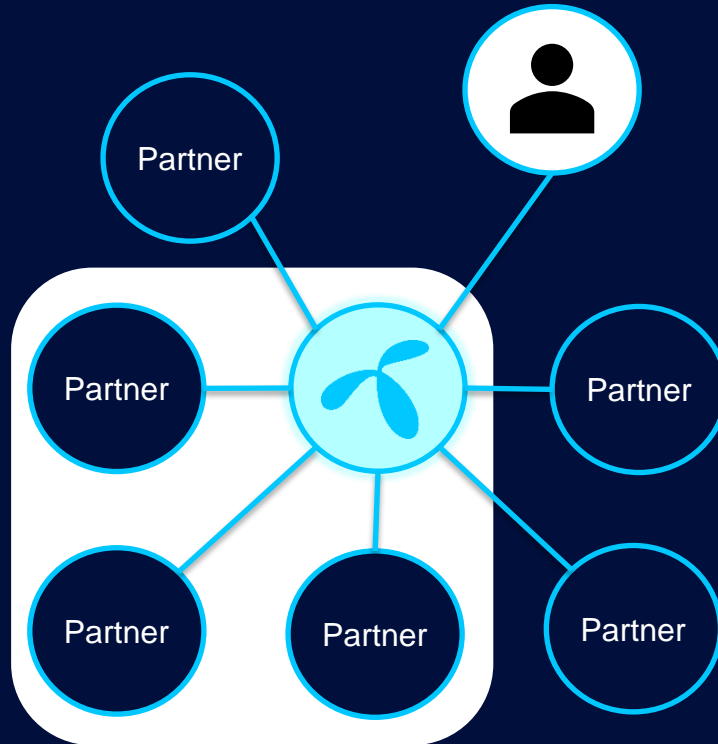
Seamless application centric dynamic fit for purpose network values switching between 5G network slices that enables enterprises to add mobility.
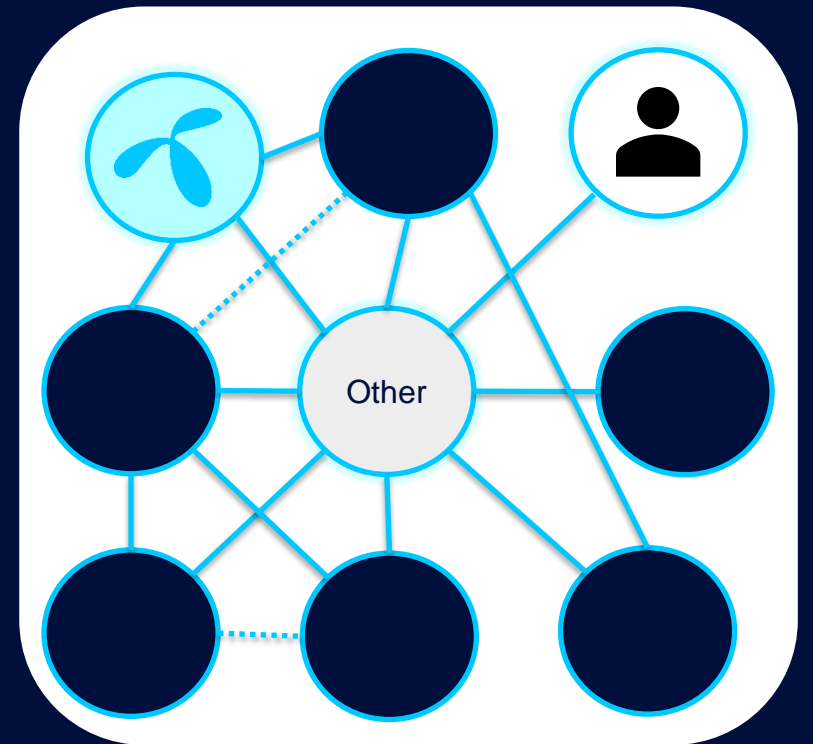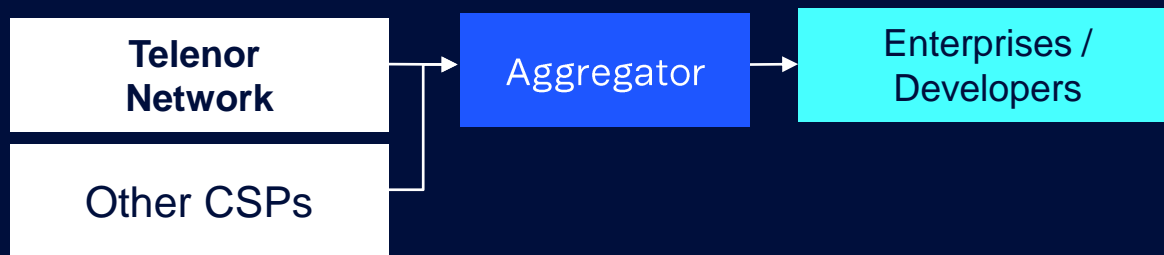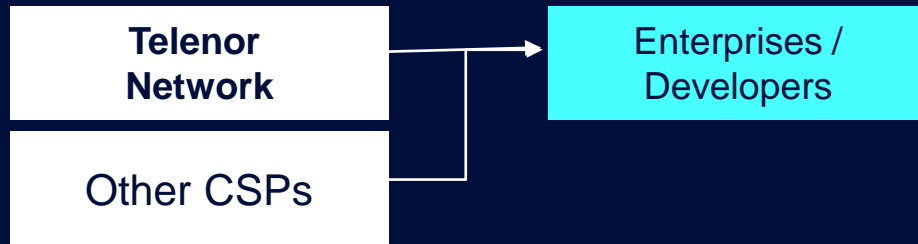
Traditional   Closed   Ecosystems

Partner GTM models & Joined forces

Telenor Network / Other CSPs → Enterprises / Developers

Telenor Network / Other CSPs → Aggregator → Enterprises / Developers

Nokia and Google Cloud collaborate to help developers worldwide create 5G applications faster with telco APIs

Press release
Nokia and Google Cloud collaborate to help developers worldwide create 5G applications faster with telco APIs

- Nokia's Network as Code platform to run on Google Cloud, leveraging Vertex AI and Gemini 1.5 Pro to enrich developer experience with generative AI capabilities.
- Companies to target vertical use cases to promote with Google Cloud developer community—beginning with healthcare industry to help telehealth companies provide better, safer customer experiences.

18 June 2024
Espoo, Finland – Nokia today announced that it is expanding its collaboration with Google Cloud to give developers around the world the network software tools they need to create innovative new 5G enterprise and consumer applications faster for their customers.

How Ericsson is redefining digitalization through a groundbreaking new partnership

- Ericsson is playing a leading role in the establishment of a new venture that will give developers easy access to advanced 5G network capabilities such as quality of service, enhanced security and improved user authentication
- Opening up networks is crucial to expanding digitalization in society and enabling new revenue streams for the telecom industry

SEP 12, 2024 | 🕐 3 min.

Börje Ekholm
President & CEO of Ericsson

Digitalization is a driving force for positive change around the world. To fuel the next wave of innovation, broad access to advanced mobile network capabilities is essential. 5G is designed with this in mind and it is significantly more powerful than previous generations. However, its advanced capabilities are mostly out of reach for most developers who would have to integrate network...

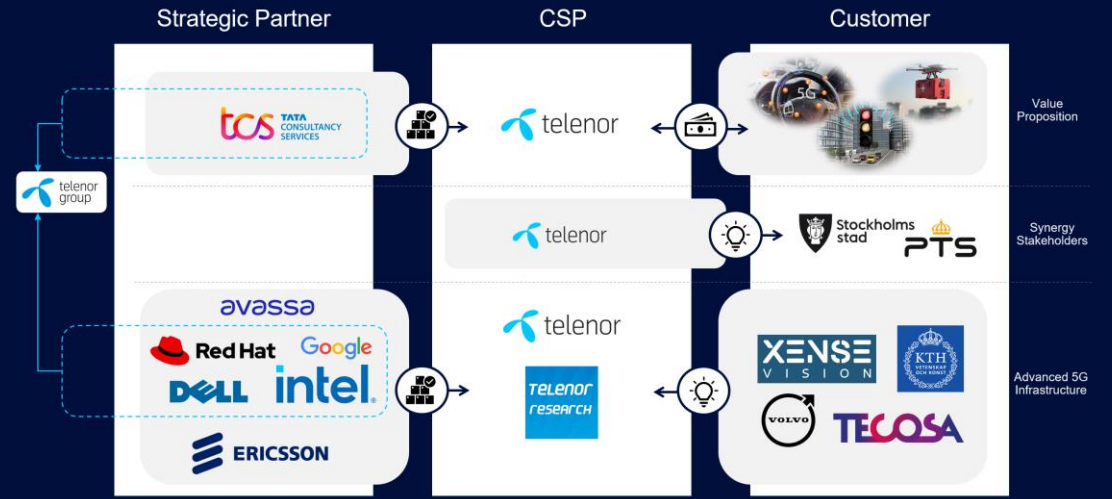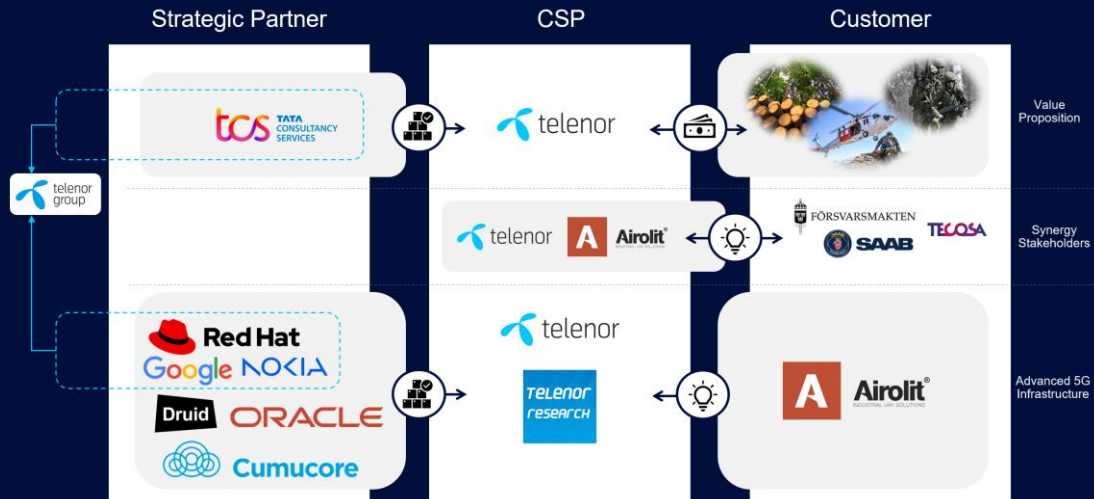# 5G Drone App

Equip Drones with 5G capabilities
Increase 5G coverage with Drones

Drive App

Connected intersections and autonomous cars
Situational awareness systems using 5G and Edge Cloud

AI for sustainability

+

Sustainability of AI

2% of U.S. electricity.

10-50 times more energy per floor space than offices.

ChatGPT needs 500ml of water for every 20-50 simple Q&A

Sensitivity

Transactional API **+** Transformational API
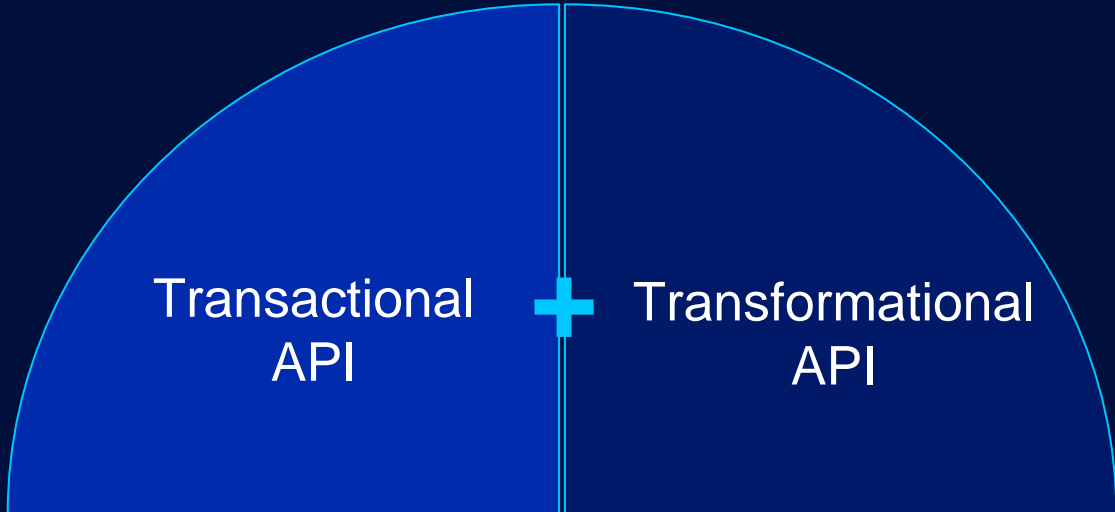
CSP - Orchestration and Network exposure

Expose
CAMARA

Connect
GSMA
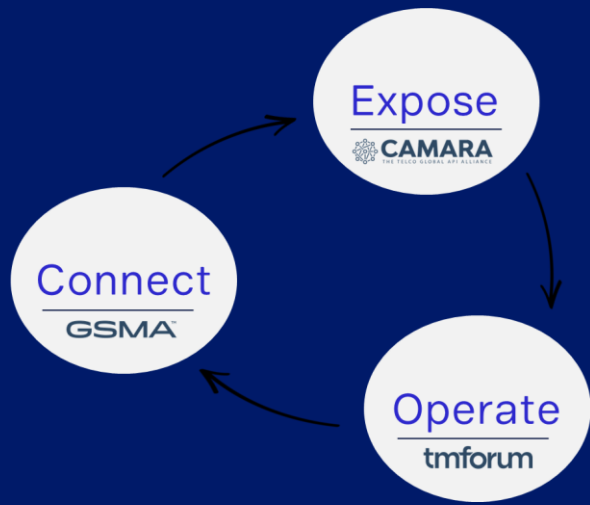
Operate
tmforum

Simplicity

Provide a simpler experience for developers across complex ecosystem services on a national to global scale.

Competitiveness

Cost-effective network management and operations with faster 'time to deliver value'

Innovation

Better scalability and agility to drive innovation and growth supporting modern architectures such as event-driven architectures and intent-based automation.

1 Edge ordering

Based on Telco Edge resources in a multi-tenant environment and real-time compute.

2 Sovereign Edge

A platform to scale innovations for all sectors following telco principals.

Value added processor power for AI applications through GPU's

3 Hyperscaler Edge

Able to be future multi-vendor Hyperscaler integrated when it brings value for the end-customer.

4 Network Slicing

Advanced 5G test-network available in Telenor R&I Oslo/Fornebu.

TMF622 Product Ordering Management API REST

Standardized mechanism for placing a product order.

The product offer identifies the product or set of products that are available to a customer, and includes characteristics such as pricing, product options and market.

Customer

aws **B2B Self Service Portal**

1. B2B EaaP & MPN Order
2. View Order Status

1 TMF622   **4**

API Management (APIGEE)

aws **eOne BSS**

Product Order (TMF622)
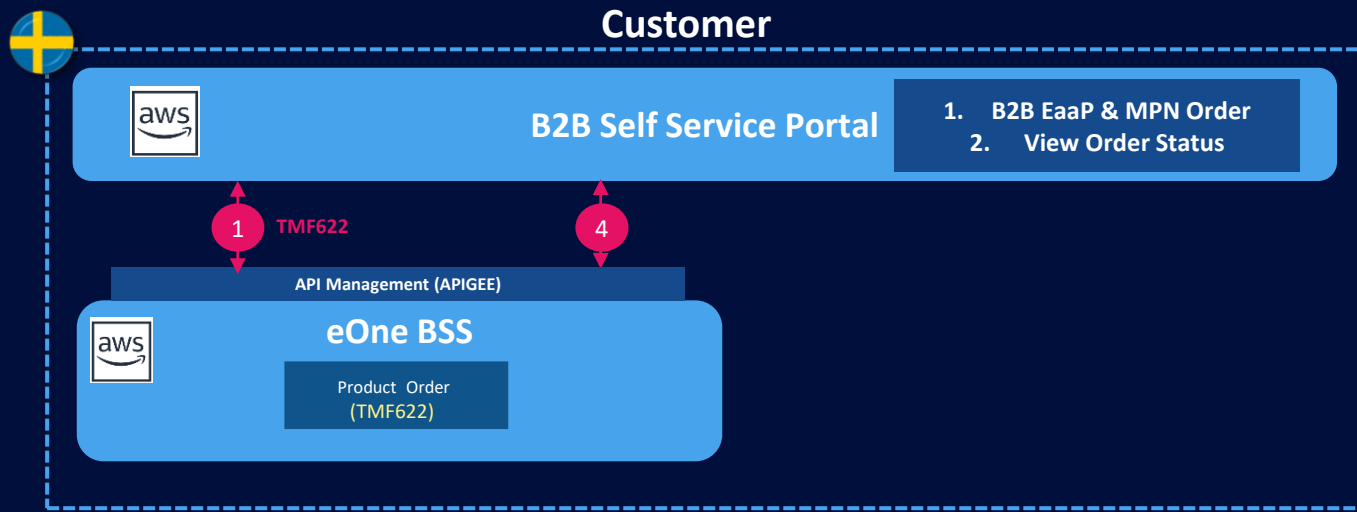
TMF641 Service Ordering Management API REST

Providing order fulfillment and order status. Possible actions that are creating, updating and retrieving Service Orders (including filtering).

Automated Deployment

From the Telco perspective follow how the order are triggered and deployed into the Edge infrastructure in Stockholm.

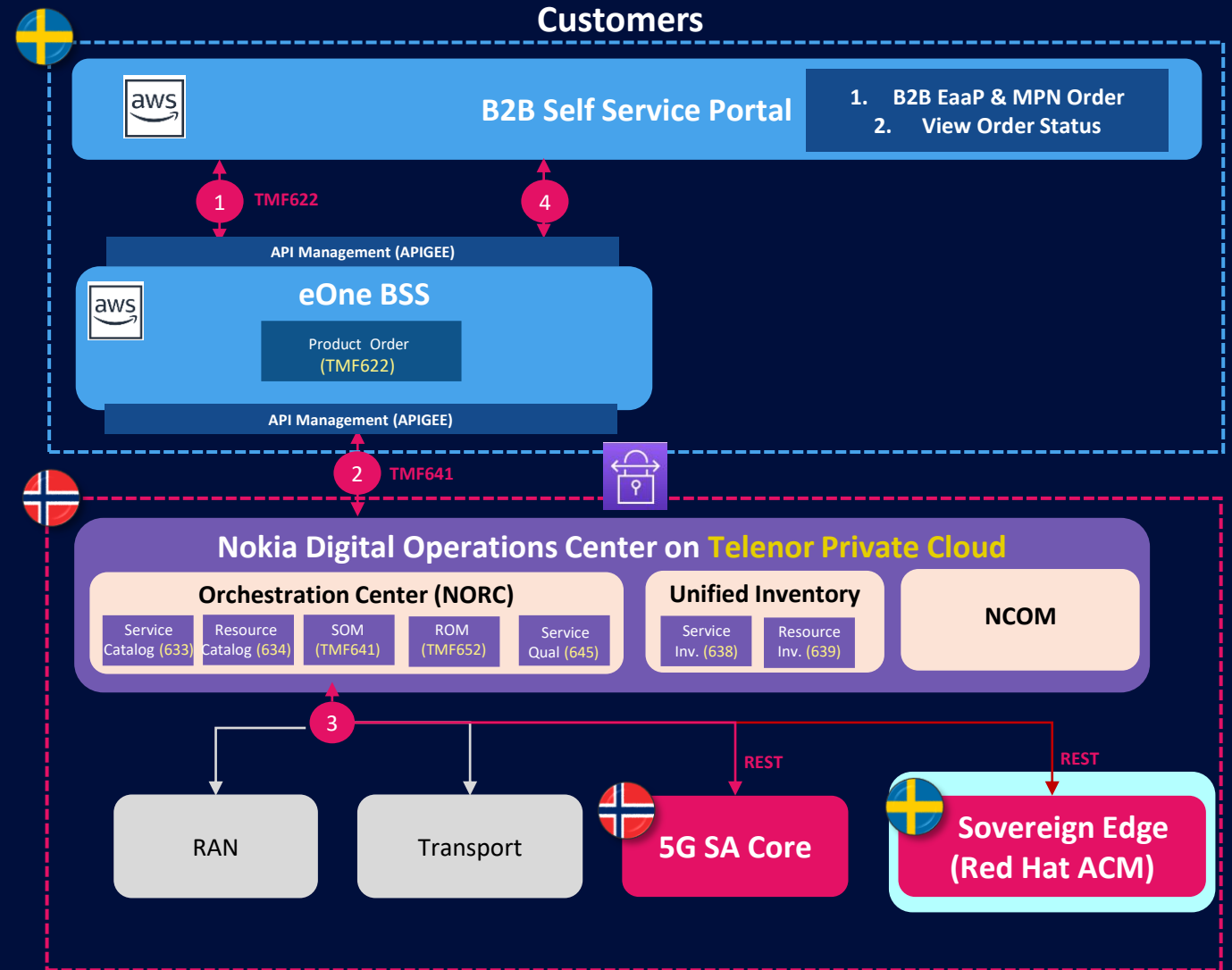**Customers**

aws	**B2B Self Service Portal**

1. B2B EaaP & MPN Order
2. View Order Status

1 TMF622   **4**

API Management (APIGEE)

aws   **eOne BSS**

Product Order (TMF622)

API Management (APIGEE)

2 TMF641

Nokia Digital Operations Center on Telenor Private Cloud

Orchestration Center (NORC)

Service Catalog (633)	Resource Catalog (634)	SOM (TMF641)	ROM (TMF652)	Service Qual (645)

Unified Inventory

Service Inv. (638)	Resource Inv. (639)

NCOM

3

RAN	Transport	**5G SA Core**	**Sovereign Edge (Red Hat ACM)**

REST   REST

Logging in to NCOM's GUI to observe ongoing operations
triggered via northbound integration.

Nordic Scale!

Red Hat can add Infra capabilities such as logging, monitoring, automation, mesh, AI model building etc automatically test and deploy in real-time.

Nordics

Norway 🇳🇴
#1 mobile player   ~42% market share

Sweden 🇸🇪
#3 mobile player   ~21% market share

Denmark 🇩🇰
#2 mobile player   ~19% market share

Finland 🇫🇮
#2 mobile player   ~31% market share

telenor

DNA

Thank you!

♥