

# Look, no hands!

why CSPs need to adopt  
zero-touch partnering

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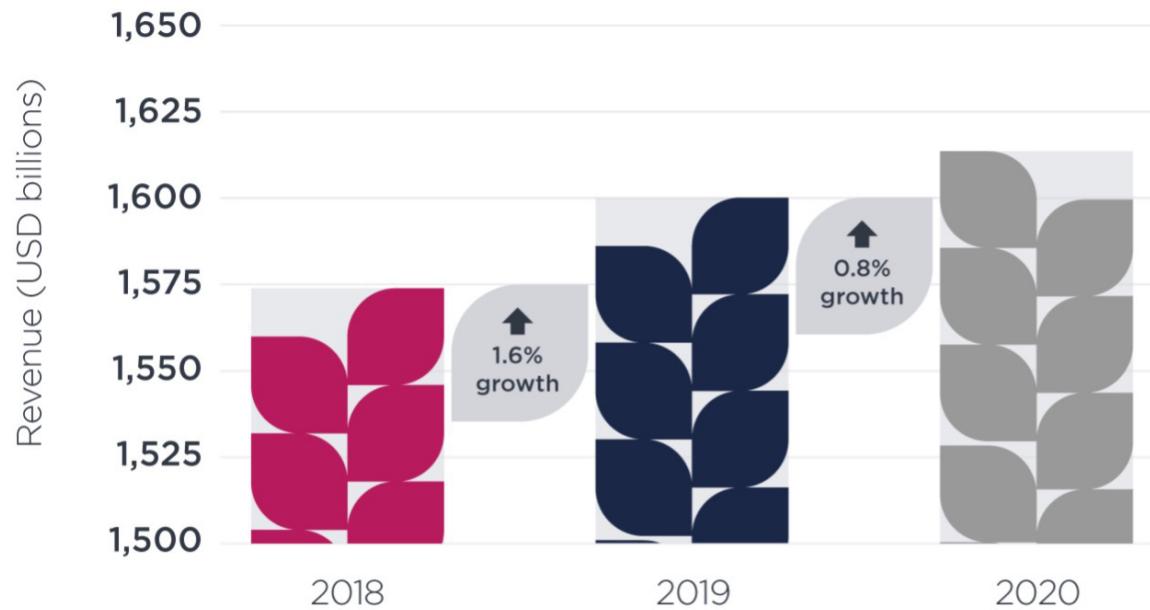
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# setting the scene

During the past decade, global telecoms revenue has remained mostly flat, and no change is in sight. Revenue growth over the past couple of years has hovered around 1%, and the forecast is similar for 2022. At the same time, communications service providers (CSPs) are under tremendous pressure to invest in new technologies and transform their businesses to become more like hyperscale cloud providers, delivering on-demand, digital services and experiences at scale. This is forcing operators to look beyond connectivity for new sources of revenue.

Overall revenue for telecoms worldwide 2018-2020



Moving beyond connectivity does not mean abandoning connectivity, rather operators are trying to figure out how to develop new services that are based on and include connectivity. While CSPs are targeting both consumer and enterprise markets, 5G is putting the focus squarely on enterprises and B2B2X opportunities. Large CSPs are beginning to embrace platform business models as a way of selling connectivity integrated with other applications. They are also looking to use this model for procuring new technology.

Zero-touch partnering (ZTP) is necessary for both. CSPs cannot remain competitive or effectively monetize 5G unless they automate partnering and reduce complexity. This ebook explains what ZTP is, how it works and why it is critical for moving beyond connectivity.

**CSPs cannot remain competitive or effectively monetize 5G unless they automate partnering and reduce complexity.**

# getting ready for zero-touch partnering

**Platform providers like Amazon have revolutionized customer experience. Consumers and businesses alike now expect self-service, personalization and on-demand services from all the companies they do business with, CSPs included. Giving customers what they want requires telcos to adopt a whole new approach to developing, delivering and assuring services, which relies on partnering with other companies in digital ecosystems.**

5G and IoT are hastening these changes as telcos look to monetize 5G's promises of dramatically faster throughput, ultra-low latency, ultra-high reliability and connecting huge numbers of devices. While consumers and enterprises will benefit from the new technologies, CSPs believe businesses represent the best opportunity for new revenue. As we have noted before in our research, network operators must answer several important questions as they target B2B2X opportunities:



Which industry verticals to target?



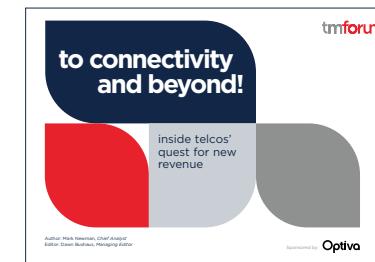
Which 5G capabilities to prioritize?



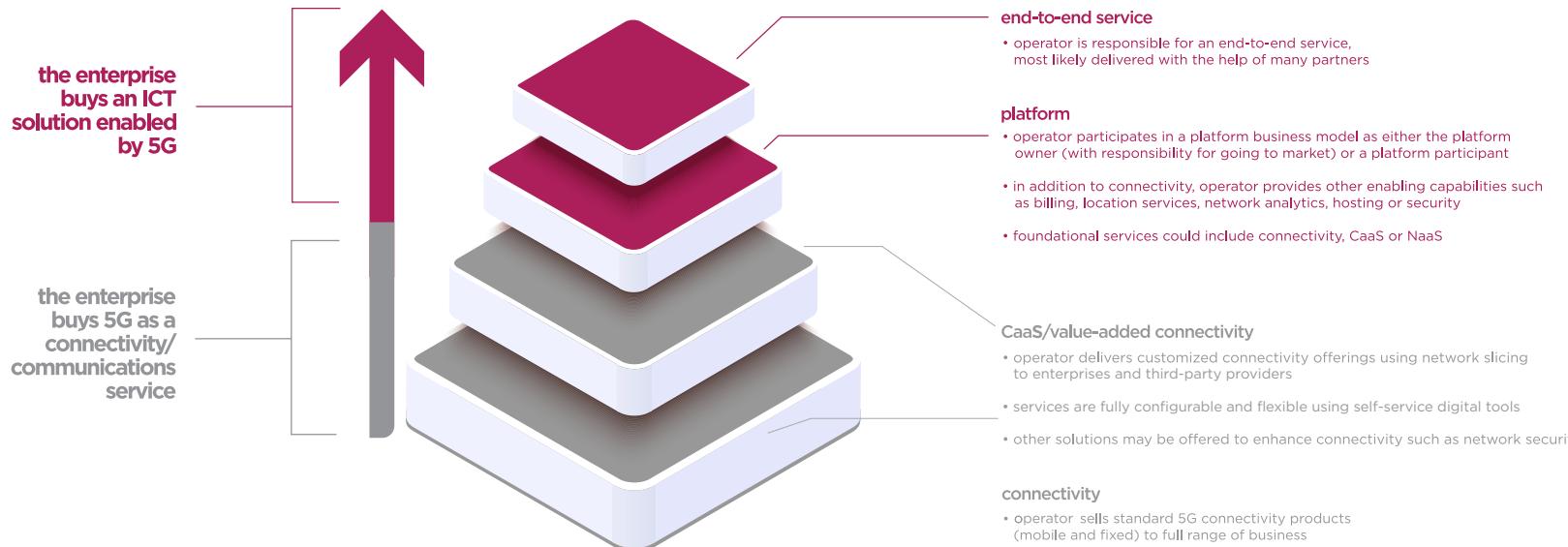
Which capabilities to develop and which to acquire?



Where to play in the value chain and which partners to choose?



## Roles for CSPs in delivering 5G services



TM Forum, 2022

The graphic above shows four possible roles for CSPs in a 5G ecosystem. Connectivity is the foundation of them all. In some cases, the roles could overlap, but they are more likely to build on one another, with CSPs progressing from only contributing connectivity to becoming a platform provider that delivers end-to-end managed ICT services. As operators move toward the top of the pyramid, partnering becomes increasingly important and is key to scaling and gaining exponential growth.

Many CSPs will move one step up to offer value-added connectivity and connectivity-as-a-service (CaaS). The telecoms industry defines CaaS as: “intent-driven dynamic realization of connectivity solutions based on customer expectations.” The goal is to hide the complexity of consuming connectivity – the customer gets the right connectivity at the right time, every time.

Other CSPs will become platform providers and end-to-end service

providers, but degrees of ambition will vary. Only very large operators are likely to become end-to-end providers of ICT services, but smaller operators may offer platform-based services such as security and identity management.

In the next chapter, we'll look more closely at how ZTP works.

# automating the ecosystem

**Put simply, zero-touch partnering, or ZTP, is automated partnering. This includes automation of the entire service lifecycle – from partner and product onboarding to fulfillment, orchestration, management, assurance and billing.**

“Reducing the friction of doing business is becoming a strategic capability and a differentiator that will gain strategic advantage,” says Joann O’Brien, VP of Digital Ecosystems at TM Forum. “Frictionless partnering can power exponential growth by allowing companies to sell more services to more customers, in a multitude of different business models.”

Successful partnering requires an open digital architecture, where the capabilities of the business are exposed through standardized APIs. This allows companies to monetize more of the capabilities of the business in new and different ways.

“With the right infrastructure, ZTP capability, operations planning and a culture of innovation, an organization will be limited only by its ability to imagine and design new product services and offerings,” O’Brien says.



**Frictionless partnering can power exponential growth by allowing companies to sell more services to more customers, in a multitude of different business models.**

Joann O’Brien  
*VP of Digital Ecosystems*

TM FORUM

## out with the old

This approach is very different from the manually intensive way that CSPs currently develop products and services. To offer a new consumer or enterprise service in the traditional way, operators typically launch a nine- to 12-month project to develop it. Many teams are involved to determine how order management should work, which tariffs should be applied, how the service should be billed, how it's delivered to customers, and how it's managed. If a partner such as an IoT device manufacturer is involved, integration of the partner's products and services is done manually.

Using ZTP, all the capabilities needed to deliver a new service – including the partner's – are configurable. Configuration data is captured in a product catalog using a model-driven approach, which enables automation of the processes.

This was demonstrated in [a series of TM Forum Catalyst proofs of concept](#) championed by Vodafone Group along with BT, Orange and Telstra. The results of the projects laid the foundation for TM Forum's ongoing work in the [Digital Ecosystem Management project](#) to develop ZTP ([see page 10](#)).

"In my product catalogs, products are about specifying all the metadata so that when you then press the button and say, 'I'm ordering that,' all that configuration happens automatically," explains Lester Thomas, Chief IT Systems Architect at Vodafone Group.

He adds that there are benefits to this approach even when launching a service that does not include partners. "You can be much quicker to market," he says. "I've got a team that just configures these templates, or recipes, for services. They press a button and it's live and it all works."

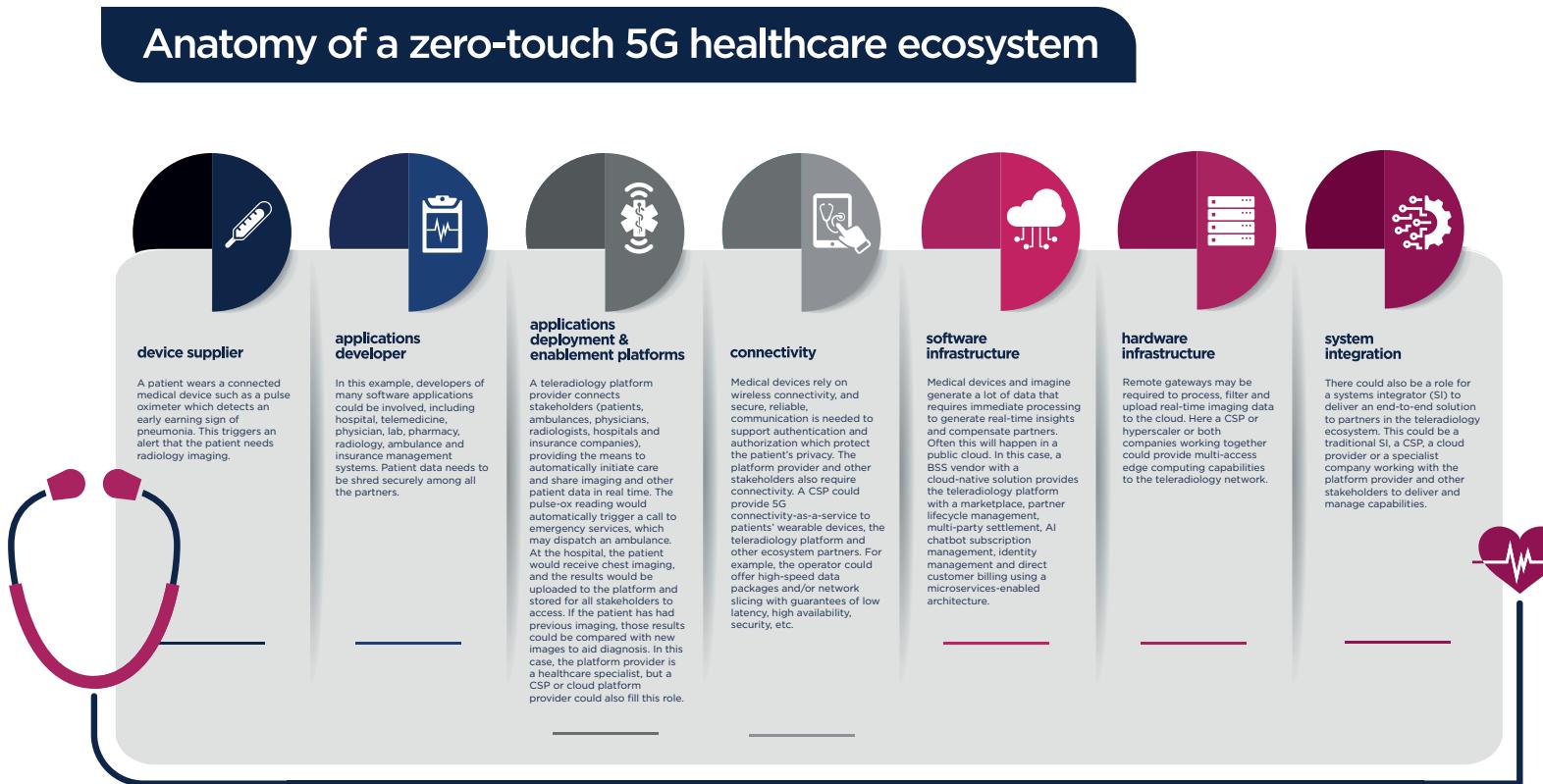


**I've got a team that just configures these templates, or recipes, for services. They press a button and it's live and it all works.**

Lester Thomas  
*Chief IT Systems Architect*  
VODAFONE GROUP

## partner up

The graphic below expands on the “roles” graphic in chapter 1 to show how potential partners in a 5G use case can work together, in a healthcare ecosystem in this instance. The example features a teleradiology platform provider acting as a partner to CSPs, but a CSP could also play the role of the platform provider. In either case, it’s essential to use standard APIs for interoperability.



TM Forum, 2022

It is important to note that connectivity is typically a very small portion of the revenue in an end-to-end solution. The greater proportion of revenue lies in IoT devices, infrastructure and applications and typically goes to the company that holds the relationship with the customer. So, if CSPs want to earn more, they need to enable the ecosystem and collect incremental revenue from partners.

## standards are necessary for ZTP

TM Forum members are working to define models for moving beyond connectivity and monetizing 5G by studying use cases and assessing impacts to revenue management and assurance. The [Digital Ecosystem Management project](#) is creating digital ecosystem playbooks that offer practical partnering guidance for CSPs and their suppliers. This includes developing the business architecture, APIs and data models for CaaS, marketplace platforms and ZTP. All three share a customer-centric approach to simplifying service delivery and usage that relies on automation to enable self-service.

This work complements the development of [the TM Forum Open Digital Architecture \(ODA\)](#), which defines standardized, interoperable software components. These components expose business services through [Open APIs](#), which are built on a common data model. By taking this approach, CSPs can develop platforms to open their network and IT assets to customers, partners and developers, eliminating the need for the IT team to be involved in creating new plans and services.

The team working on ZTP is focusing on technical capabilities such as partner and product onboarding and on business issues such as the charging, billing and revenue-sharing models needed to make ZTP work as well as financial settlement. The group has already published a [ZTP toolkit](#) and is working on a white paper that will serve as an introductory guide for ZTP. To learn more, read the white papers below and contact [Joann O'Brien](#).



**Connectivity-as-a-service white paper**



**Software Marketplaces white paper**

# Vodafone embraces platforms and ZTP

**Vodafone Group is a champion of ZTP. The company is transforming into a platform business with three distinct types of platforms: A core network platform that includes IT capabilities to orchestrate and support network services; products and services platforms for consumer and enterprise services; and an internal IT-as-a-service platform.**

Vodafone has been organizing itself in this way, which it refers to as a “product operating model”, for about a year. “It’s part of our business strategy to move beyond connectivity – it’s a stated objective in Vodafone, and we think we can drive new revenues,” says Vodafone’s Thomas. “For a long time, we were competing in the market on telco services with the understanding that it’s a zero-sum game: There’s 100% penetration; you’re competing with your competitors; you’re not going to drive huge revenue growth but now we think we can actually drive genuine organic revenue growth.”

Vodafone’s approach is to target industry verticals, such as manufacturing, healthcare, insurance and others, with connectivity plus platform-based services like IoT device management which utilizes a digital twin – a data-driven simulation of the real world. So, maintenance, inventory and software updates of devices become part of Vodafone’s device management platform, and it gives enterprises easy access to data so that they can build whatever applications they want on top. A manufacturing company might use data from the digital twin to perform remote and predictive maintenance of devices, for example.

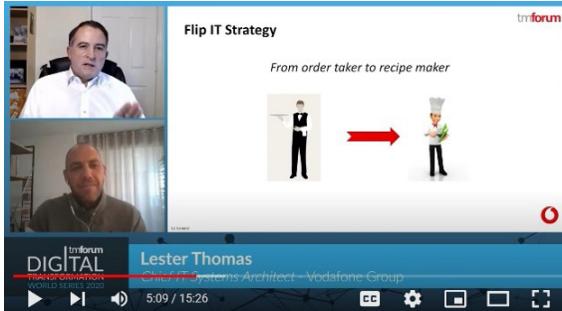
“Enterprises are just calling some internet, standard APIs to get access to all the data,” Thomas explains. “They can go in and innovate in what they’re good at, and we can do the same.”



**For a long time, we were competing in the market on telco services with the understanding that it’s a zero-sum game... but now we think we can actually drive genuine organic revenue growth.**

Lester Thomas  
*Chief IT Systems Architect*  
VODAFONE GROUP

## Watch Lester Thomas discuss Vodafone's digital transformation:



### proving the concept

As noted in chapter 2, Vodafone has been an active champion in [Catalyst projects](#), focusing on ZTP, where the product catalog and Open APIs are key. “In the ecosystem model, essentially you’re consuming catalogs,” Thomas explains. “Those catalogs need to be rich enough with the data they need that they can configure ordering, management and billing to support all the different processes.”

The initial ZTP Catalyst focused on developing the API models needed to enable partnering, and this included standardizing how products are described and polymorphic patterns for API payloads across standards-development organizations (SDOs), namely TM Forum and MEF (formerly the Metro Ethernet Forum). A second phase focused on adding configuration data to the product catalog to automate partnering. The multi-SDO work expanded as well, with the Broadband Forum adopting the standards, and the team is hoping 3GPP will adopt them.

Vodafone is using what it has learned from the Catalysts to enhance its product operating model. “We are constructing this model-driven approach for how to expose products and services. Then you can have different platforms consuming them,” Thomas explains. “Even internally we are an ecosystem – that’s a business organizational design driven by this new way of operating. We are organizing ourselves differently to adopt this model.”

# key steps to success

**CSPs' networks provide the foundation for all the exciting technological innovation happening on the internet, yet their businesses are stagnating under a decade of flat connectivity revenues. Large telcos see an opportunity to transform their businesses by becoming techcos, and ZTP is foundational to this ambition. CSPs should take the following steps to make it a reality.**



## Decide which roles to play

Telcos must determine the roles they want to play in digital ecosystems. Some operators will be content to be best-in-class connectivity providers, but most will need additional sources of revenue. Mobile operators have an opportunity to monetize 5G through partnerships with IoT device manufacturers, hardware and software suppliers, cloud providers, and specialist software providers in vertical industries. To earn a significant share of revenue generated within ecosystems with partners, operators need to become platform enablers, as connectivity makes up only about 5% of the revenue from an IoT deal.



## Embrace standards for interoperability

CSPs wanting to participate in digital ecosystems should develop open digital architectures and adopt standard APIs – and encourage their suppliers to do the same. They must create operational models that specify which APIs and capabilities to expose to automate partnering and how orchestration, assurance and security should be handled among partners. TM Forum's

Open Digital Architecture, Open APIs, and work on CaaS, marketplaces and ZTP can help operators evolve to a fully automated, cloud-native operations environment that relies on analytics and AI to deliver zero-touch services.

### **Choose partners wisely**



No single company can provide everything consumers and enterprises want from 5G. Indeed, the higher a CSP progresses up the “roles” pyramid (see page 6), the more partners they must interact with to deliver self-service and personalized experiences. Many large CSPs are adopting the ODA and Open APIs, and some are creating platforms for IoT and network-as-a-service to facilitate ZTP.

So far, most telcos have stopped short of creating truly open platforms because many still want to own the customer and work with a limited number of partners. While owning the customer will, indeed, deliver the most revenue, it will not always be possible for CSPs to play this role. In addition to developing their own platforms and marketplaces, operators should look for opportunities to participate in platforms operated by others that pre-integrate partners in microservices- and standards-based platforms, such as hyperscalers and business support system vendors.

# unleash sustainable 5G ecosystem with Tecnotree moments

## 1. Overview

Communications Service Providers are aiming to innovate and transform their digital operations to position themselves for the digital partner economy to achieve horizontal monetization across varied industries, verticalized scalability and optimized economies of scale within the digital B2B2X ecosystem. The global enterprise opportunity enabled by 5G is projected to be \$700Bn by the end of 2030. In order to secure their place in this enterprise market landscape, DSPs need to develop vertical solutions in collaboration with ecosystem partners to serve the DSPs' B2B2X and B2C markets. This will enable them to rise higher up the value chain and become digital ecosystem providers (DEP).

# Tecnotree

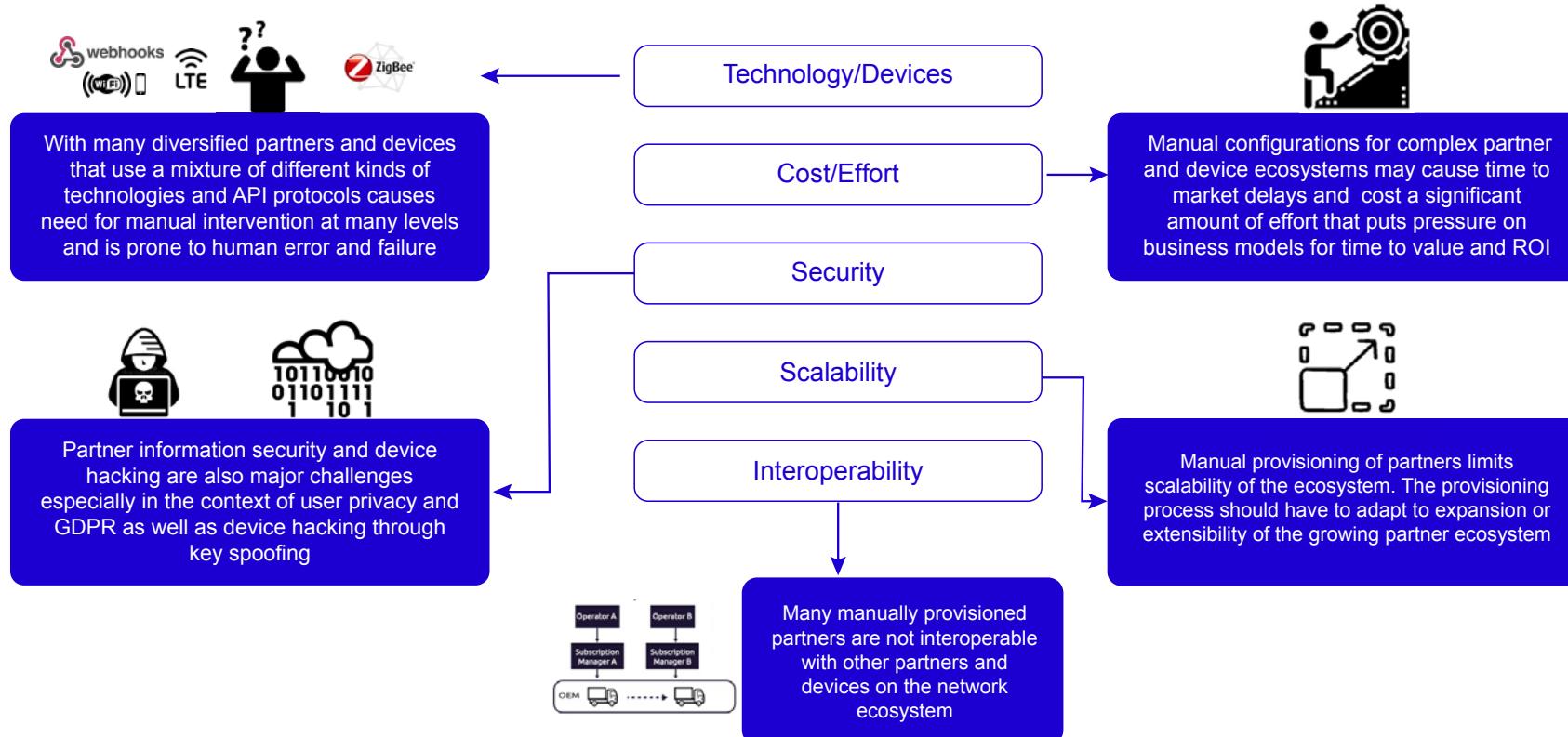
## 2. Challenges of Manual Onboarding

Manual onboarding of horizontal and vertical partners and devices pose a significant challenge for DSPs. The expectation of deploying large number of partners and devices at scale for interoperable connected applications

for smart airports, smart healthcare systems, or cities requires simplifying the onboarding process, reducing the manual steps and automating partner and device lifecycles including sales, settlements and commissioning. Zero Touch saves

time, effort, and cost, making it a highly desirable solution that brings enormous benefits to industries that depend on partner ecosystems and IoTs, including the oil and gas sector, smart buildings, smart factories, smart airports, and smart cities.

### Need for ZTP to Overcome Manual Partner Provisioning



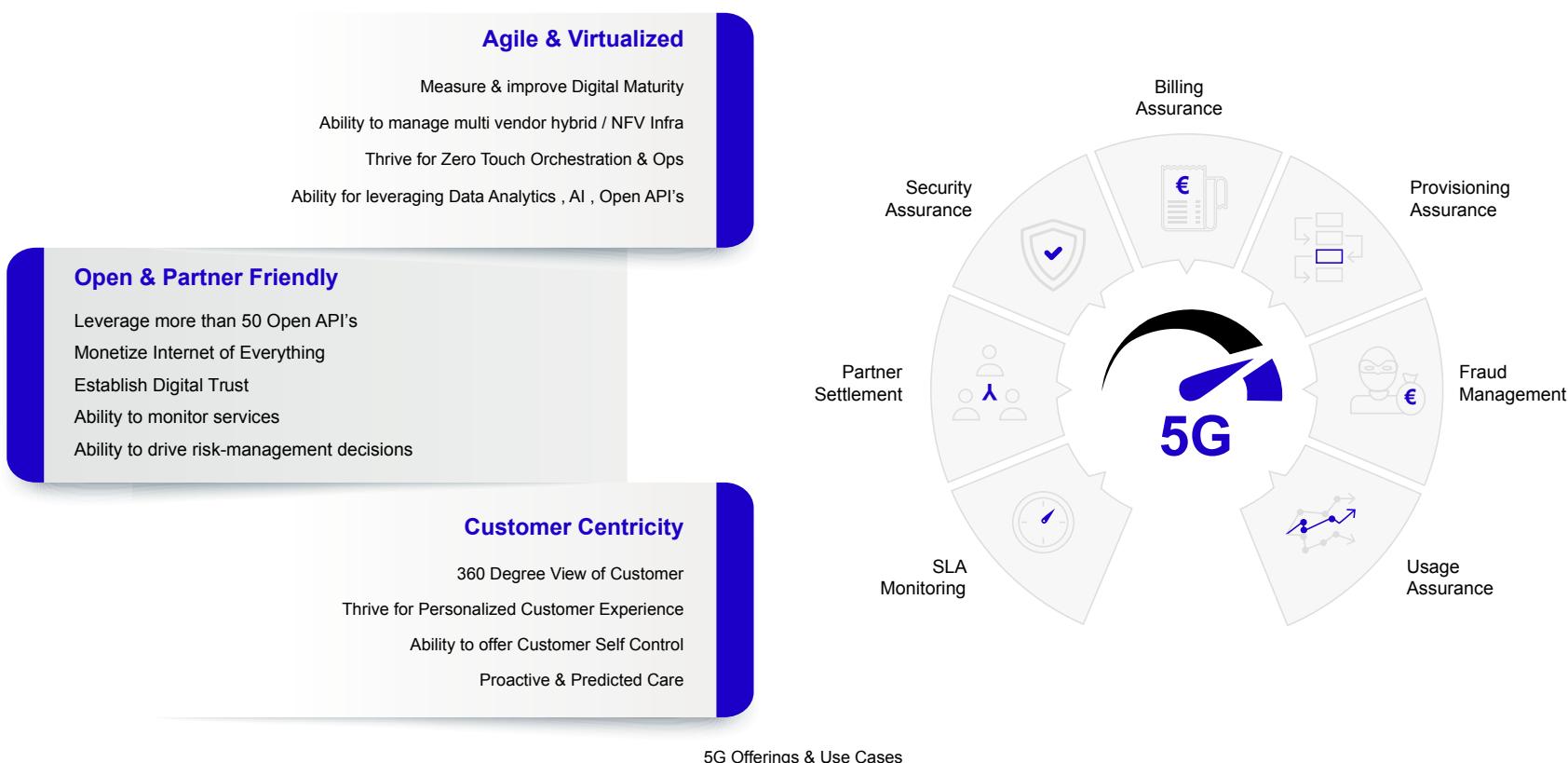
### 3.5G Monetisation through Zero Touch Partnering

The 5G revolution will enable telcos to grasp new commercial opportunities. Although the industry has identified 5G B2B services as the biggest of these commercial opportunities to pursue, it is still coming to terms with what exactly

these services will be. The wide range of possible B2B(2X) services makes it imperative that Zero Touch Partner platforms support a variety of value metrics—particularly non-telco value metrics—reduce the cost to experiment,

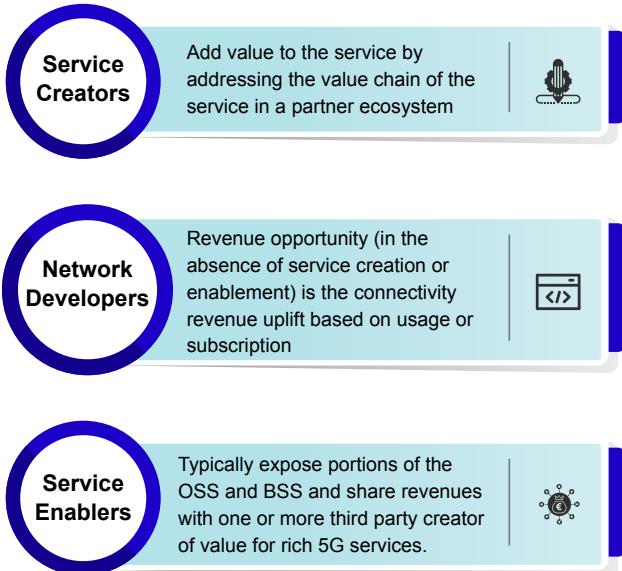
and lower time to market for new services. Telcos will not be building these services alone, and they will need partners to support them; that means their digital ecosystems must also support their partner success metrics.

### ZTP Digital Enablers for the 5G Ecosystem



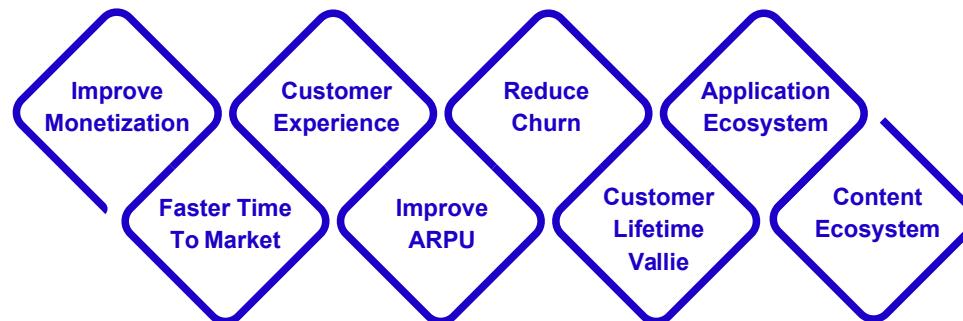
# 5G Monetization: Opportunities for Telcos to evolve Partner Service Capabilities

## The 3 roles a CSP can fulfill in 5G monetization



With needs emerging for collaboration with other vendor partners, CSPs will soon require a product that will enable Zero touch experiences to manage partner onboarding, contracts, settlements and empower CSPs to build an efficient, tightly knit and value creating Digital Partnership Ecosystem. A Centralized platform which will cater to demands of partners belonging to any verticals (be it IoT, Healthcare, Education,

## DSPs need to enable differentiated service offerings



Entertainment, Sports to name a few). There will be an increased demand for partner management capabilities as more businesses decide on their expansion path.

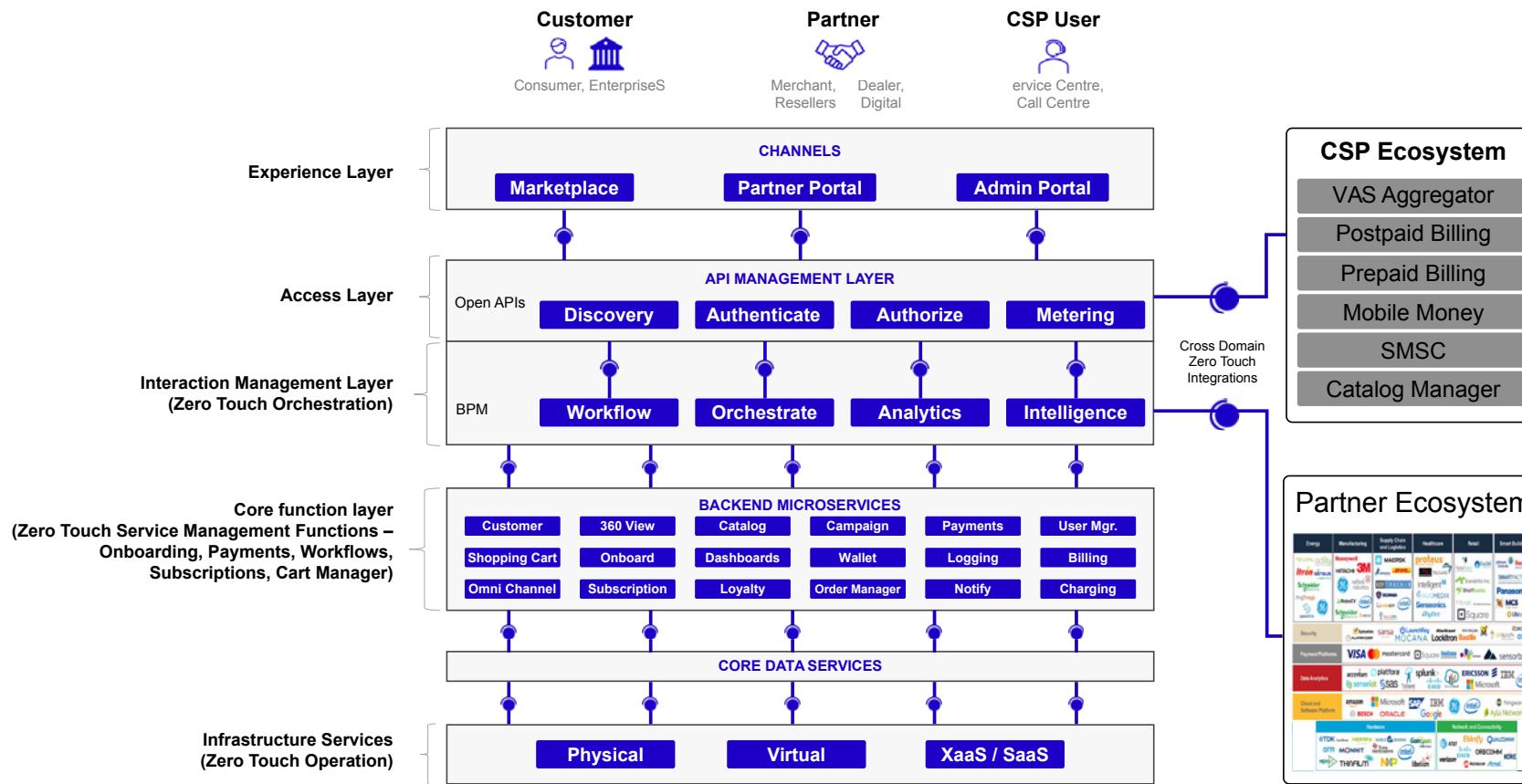
Tecnotree Digital Partner Relationship Manager (DPRM) is an all in one solution to manage and maintain all kinds of partners in an ecosystem. Digital Partner Relationship Manager (DPRM) is an agile platform that helps in collaboration of partners with CSPs. It enables building

new partnerships with swift, effortless onboarding, end to end partner lifecycle management, Flexibility in terms of Contracts and SLA management, transparency in terms of Settlements, Commissions and availability of raising Trouble tickets in case of disputes. It acts as a single touch point through which partners can manage and interact with DSP's ecosystem. Below listed are some advanced capabilities of Tecnotree DPRM.

## 4. Zero Touch Partnering through Moments Ecosystem

- Partners and Devices can perform self on-boarding or approach DSPs to execute assisted onboarding.
- Seamless onboarding of Partner Products.
- Standard & Dynamic Contracts - Simplify partner contract negotiation and lifecycle management.
- Real time Settlements & Commissioning engine that is reliable and ensures transparency between both parties.
- Empower partners with Self-Serve operations and provide control in their hands to manage key functions on their own.
- Real time dashboards to track partner performance and display scoring.
- Truly Partner 360-degree view
- Proactive messaging and automated workflows to ensure partners stay informed - Partner approvals, product approvals, modification requests approvals
- Partner Loyalty and reward top performer.
- Partner end to end Lifecycle management - Onboarded, Active, Idle, Suspended, Retired, Inactive, Terminated.
- Adherence to Standards - TM Forum (Business Process and Open APIs)
- Highly Available, Scalable and Containerized solution.
- Highly agile and adaptable solution owing to Microservices based architecture

# Zero Touch Moments Solution

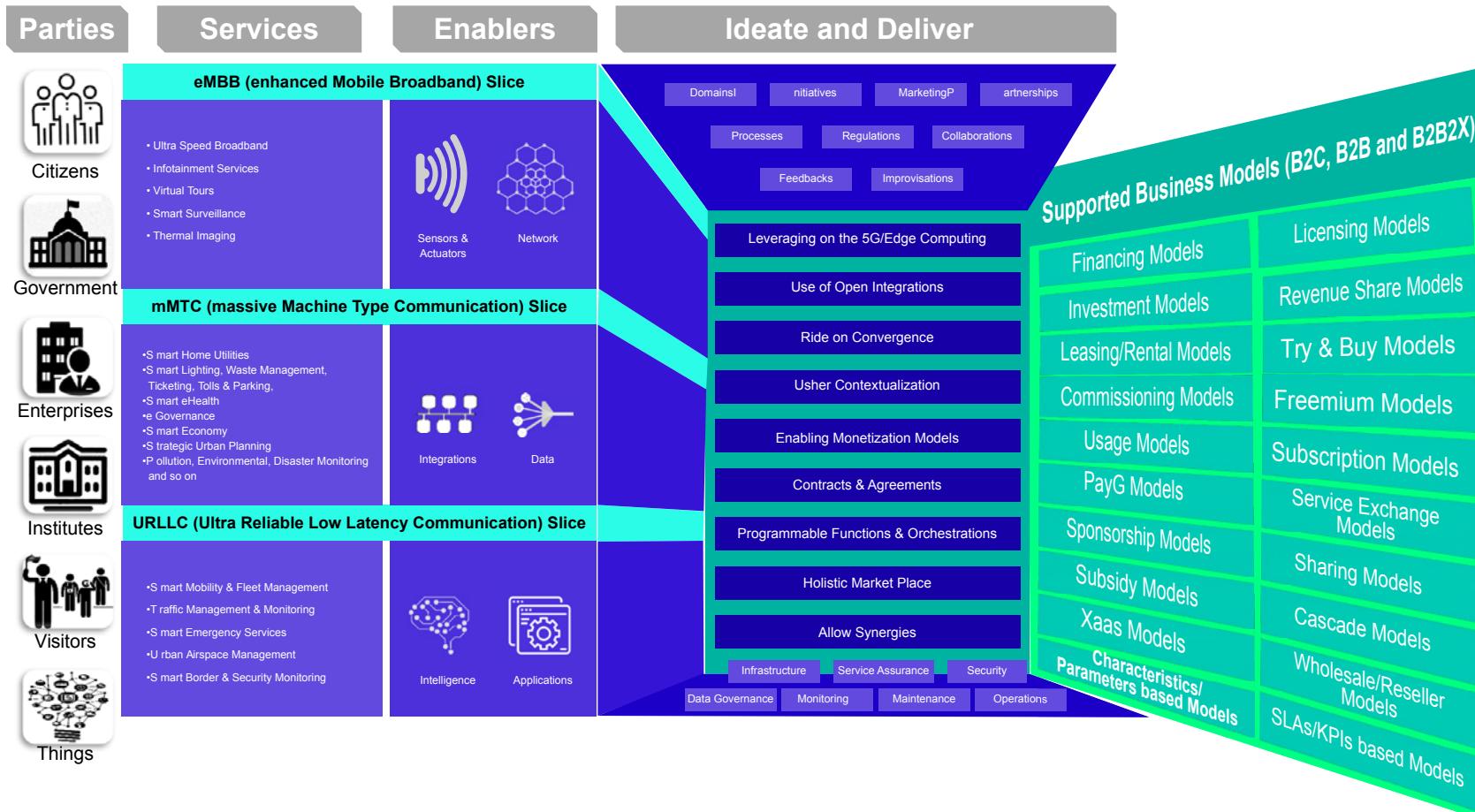


## 5. Use Cases and Case Studies for Zero Touch Partnering

The verticals that lend themselves to a CSP dominated ecosystem are key to identify in order to start designing sector specific onboarding journeys. This enables networks to be segmented to meet the requirements of specific services, such

as guaranteed resilience, bandwidth or low latency. The vision is for network slices to be configurable by the customer. Thus, operators could in effect give every enterprise customer access to an entirely customized network.

# Smart Cities & Monetization



## 6. Tecnotree Moments Case Study

### Tier 1 operator, Middle East & North Africa.

In 2022 MTN Nigeria launched Tecnotree's Moments multi-experience platform to provide digital services and products in the areas of sports/esports, gaming, education, and healthcare. Tecnotree Moments will initially support the above

sectors global partners aggregators and their ecosystems, with ambitions to scale to other verticals by the end of 2022. These partner ecosystems are seen as key to unlocking new digital services, accelerating revenue growth and new

digital experiences for the target market with 65 million consumers and 10,000 enterprises in the operator's target verticals.

To know more visit [www.tecnotree.com](http://www.tecnotree.com)

## About Tecnotree

Tecnotree is the only full-stack digital business management solution provider for digital service providers, with over 40 years of deep domain knowledge, proven delivery, and transformation capability across the globe. Our open-source technology-based agile products and solutions comprise the full range (order-to-cash) of business process and subscription management for telecom and other digital service providers with a pre-integrated B2B2X partner ecosystem across gaming, health, education, OTT and more. Tecnotree products, platforms and partners support emerging ecosystems of over 1 Billion subscribers across 70+ countries. Tecnotree is listed on Nasdaq Helsinki (TEM1V).

**For more information, please visit [www.tecnotree.com](http://www.tecnotree.com).**

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**For more information on  
zero-touch partnering please  
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