

Private LTE and 5G Networks for European CSPs, 2022–23

Summary

Catalyst

In this Market Radar, Omdia analyzes leading European communications services provider (CSP) activities and strategies in the private LTE and 5G networks market. This competitor assessment evaluates the strengths and best practices for CSPs and partners targeting this emerging opportunity. Omdia assesses the five European-based CSPs with the highest enterprise revenue: BT, Deutsche Telekom, Orange Business Services (OBS), Telefónica Tech, and Vodafone Business.

The key areas of CSPs' private network business that were evaluated include the following:

- Overall strategy
- Business maturity and resources
- Portfolio and solution
- Partner strategy and ecosystem
- Market momentum
- Adjacent enterprise services

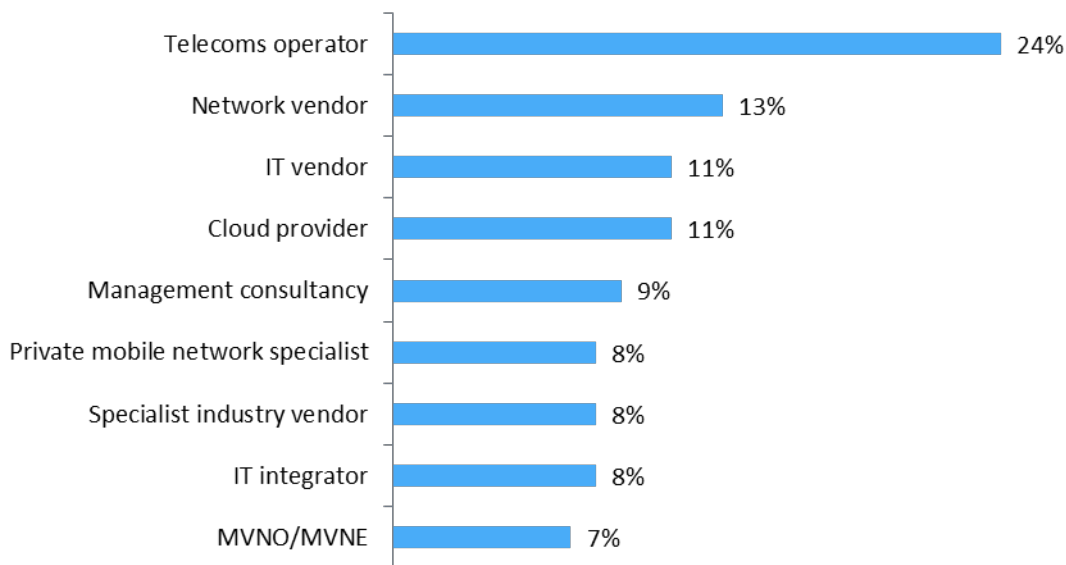
Europe is one of the most advanced markets in terms of spectrum liberalization and fully dedicated private networks. The major regional players also tend to compete directly with each other across the same geographic markets. An additional reason for a smaller set of players and regional focus is that comparable single markets such as the US or China have completely different environments and regulatory frameworks. These do not provide meaningful comparisons to the European market for private networks.

Omdia view

CSPs (a.k.a. telecoms operators) have a great opportunity to create a solid private networks business—if they can fine-tune their strategies and investments and incorporate private networks within the wider enterprise opportunity. Omdia’s *Private LTE and 5G Network Enterprise Survey Insight 2022 – Providers, Solutions, and Business Models* survey finds that enterprises trust CSPs for their private network needs.

This is because private networks start with LTE/5G and connectivity, so wireless operating expertise is essential. Yet, strategically, the right way to frame private networks is as “a means to support enterprise digitization.” Private networks go beyond connectivity. Expertise in 5G is only valid as a starting credential. Network vendors see the potential for CSPs to succeed in enterprise private networks, which is why they are widely courted as go-to-market channels.

Figure 1: Partners that enterprises trust most for their private network needs



Source: Omdia, n=450

While enterprises may see CSPs as strong contenders, CSPs need to understand this perception may change based on their speed to market, knowledge of enterprise digitization, and the actual delivery of projects. Enterprises’ positive initial perception must be matched by actual results.

Key messages

- **It is early stages for private networks.** CSPs are still testing the water when it comes to strategies. Omdia research has revealed attempts to differentiate. Vodafone launched its Mobile Private Networks 2.0 strategy, aiming to move away from a pure reseller business. Telefónica looked to leverage its network expertise to become more of an industrial solutions provider.
- **There is a strong Internet of Things (IoT) influence in private networks.** Yet, Omdia research indicates CSPs are moving their private network messaging away from an IoT-centric narrative, often with a more solution-centric focus. This is the right move, as private networks are a digital transformation play, not a pure IoT play. For example, applications developed or targeted by the CSPs are often worker-based applications (e.g., Safe Worker).
- **All CSPs look to provide a three-tier approach to private networks:** public network-based private networks, hybrid public/private networks, and fully private networks. The industry currently demands mostly fully dedicated solutions, though there are opportunities for hybrid and public network-based solutions. The big telco dilemma is knowing how and when to sell the right solution at the right time. Segmenting the market and selling the right solution to the right customer are not easy tasks. Correctly matching customers to their needs will likely define the success of CSPs in private networks.
- **Nokia and Ericsson are the most common network infrastructure partners for CSPs.** Athonet and Mavenir are emerging options. The former appears to enable CSPs to be more flexible in how they shape their solution and services. The latter represents a strong entry point for O-vRAN into this market. Potentially strong partnerships that are mostly absent in CSP conversations are operational technology (OT) players. OBS has a partnership with Siemens; while useful for the wider business, it has yet to be channeled into private networks. Telefónica highlights its industrial partnerships but has not shared much about how fruitful these partnerships have been.
- **Private networks remain specialized.** It is not a mass market with millions of customers. This is a qualitative market with upsell and cross-sell opportunities. Being able to tell a story beyond the network, as OBS has done with its consulting and cybersecurity solutions, will be critical to creating larger and stickier contracts.
- **There is no single trend in terms of adjacent enterprise services, yet there are some recurring options.** For instance, multi-access edge computing (MEC) or other forms of edge computing seem to be a common area of focus to augment the private network proposition. An example of edge is provided by Deutsche Telekom, which is providing an open source/OpenStack-based edge computing platform branded EdgAIR in partnership with T-System. The platform specifically focuses on on-premises/campus and embedded/device setups.

Recommendations

Recommendations for enterprises

- **Enterprises require a trusted partner** that will spend time, effort, and resources to help map and build the private networks journey. Private LTE and 5G networks are complex and require specific technology knowledge. The partner also brings expertise to assist with tasks such as site surveys, network design, device procurement, and security assessment.
- **Multinational enterprises need to assess any partner provider’s capability to deliver the right solution** across diverse sites and multiple countries. Not every CSP has the same capabilities and expertise to support complex multi-site deployments.
- **As important as security is, it should not be enterprises’ primary decision driver.** Omdia enterprise survey data shows that one-third of enterprises see security expertise as a key attribute when choosing a provider. But there are many services and expertise areas that are critical for a partner to offer.

Recommendations for technology vendors

- **Nokia and Ericsson do not have a platform duopoly.** They do have strong traction with CSPs from account relationships and economies of scale. But there is room for at least one third-option vendor that provides alternative innovations. A third-option vendor could help CSP partners become more than just resellers.
- **CSPs need help articulating how private networks deliver solutions and vertical needs.** Vendors can help them with these messages. Vendors have been faster in shifting private networks away from a platform conversation. These vendors can educate CSPs on the solution-oriented nature of the market.
- **Vendors should stop presenting this market as a much bigger opportunity than it really is.** An honest representation of the opportunity is the best approach. It ensures companies that are part of this market know what to expect and are not disillusioned when future revenue does not meet expectations.

Recommendations for service providers

- **It is difficult for service providers to differentiate their solutions** from those of their peers. For instance, the three-tier portfolio approach (public network-based, hybrid, and private) is not enough. Differentiation by CSPs against other types of competitors will also become increasingly important. Managed and professional services and customer support will increase in relevance, particularly against hyperscalers that do not have these skills under the same roof.
- **Service providers must have consulting and integration capabilities** as part of the package. Without these talents, the provider is not a serious player in the market. It is possible for the provider to rely on partners. But if that is the case, the private networks opportunity may not be a good match.
- **Providers in private networks need to plan out a long-term commitment.** To be successful in private networks means steady, consistent development and investment, and that requires buy-in at the C-level. Currently, only one CSP (Deutsche Telekom) provides external guidance on its revenue expectations from its private network business.

The Market Radar

Market snapshot

Figure 2 illustrates how balanced the competitive environment is for CSP private network activities and strategies in Europe. CSPs often have similar initiatives. No single CSP is a clear leader in the market, but there are lessons and best practices that can be learned from all players. There are also areas where CSPs need more work to unlock the private networks market opportunity.

Figure 2: Omdia heatmap – private LTE and 5G networks for European CSPs

	BT	Deutsche Telekom	Orange Business Services	Telefónica Tech	Vodafone
OVERALL STRATEGY	BROAD	ADVANCED	ADVANCED	BROAD	BROAD
BUSINESS MATURITY AND RESOURCES	BROAD	BROAD	ADVANCED	ADVANCED	BROAD
PORTFOLIO AND SOLUTION	FUNCTIONAL	BROAD	ADVANCED	ADVANCED	BROAD
PARTNER STRATEGY AND ECOSYSTEM	BROAD	FUNCTIONAL	BROAD	BROAD	ADVANCED
MARKET MOMENTUM	PARTIAL	BROAD	FUNCTIONAL	BROAD	ADVANCED
ADJACENT ENTERPRISE SERVICES	FUNCTIONAL	BROAD	BROAD	BROAD	FUNCTIONAL

CAPABILITY: ■ ADVANCED ■ BROAD ■ FUNCTIONAL ■ PARTIAL

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Source: Omdia

The Omdia Market Radar heatmap for CSPs in private LTE and 5G networks capabilities is colored as follows:

- **Advanced capability:** The CSP demonstrates strong capabilities in comparison to Omdia’s criteria.
- **Broad capability:** The CSP offers better-than-expected capabilities that are well-suited to the needs of most businesses.
- **Functional capability:** The CSP provides an expected level of offerings for the category. It lacks some of the depth of capability compared to competitors in this category.
- **Partial capability:** The CSP provides the expected capability but lacks some advanced capabilities in comparison to Omdia’s criteria.

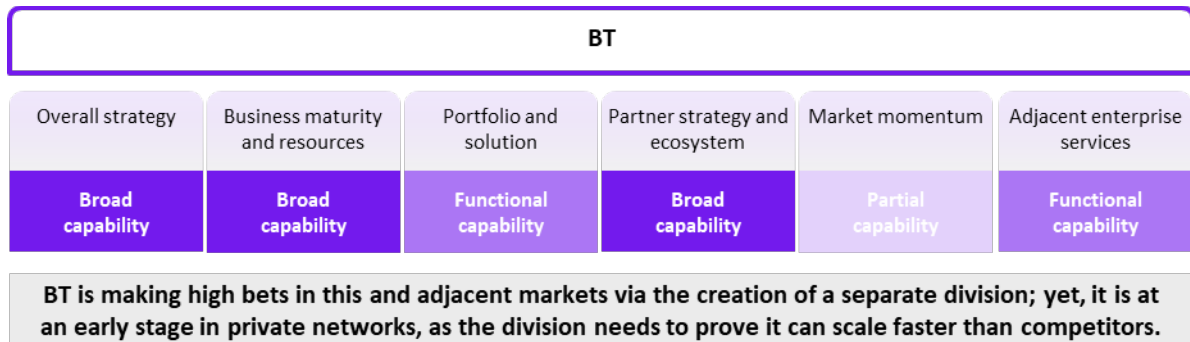
Key lessons

- **BT:** The company has developed a strong co-creation initiative through its customer-partner boards. These represent a platform by which BT can develop roadmaps, design solutions with partners, and ensure the CSP continues to be aligned with customer needs. BT’s Global Advisory Board and Partner Advisory Board are forums for the CSP to share insights and co-create solutions with its multinational corporate customers and partners.
- **Deutsche Telekom:** In 2021, Deutsche Telekom disclosed a public target of generating more than €100m in revenue from its campus networks proposition by 2024. While every CSP has internal targets, providing an external reference means the CSP and its C-level executives are all-in for this market.
- **OBS:** The company highlights its dual role as a telco and service integrator. This duality fits well with private networks, a market where integration is a challenge and where 5G knowledge is an asset. Mastering these skills is not easy. A provider that demonstrates both capabilities has a differentiator versus competing standalone CSPs and integrators.
- **Telefónica Tech:** The company’s private networks product is branded Industrial IoT Networks, a sign it is targeting a specific segment of the market opportunity. The company is looking beyond its CSP role to be a provider of end-to-end industrial solutions and applications. It is too early to assess the success of this strategy, but this is an example of a CSP willing to work outside of its comfort zone.
- **Vodafone Business:** The company wants to be more than just a reseller of vendor platforms. Its partnership with Athonet shows that the CSP wants to target higher revenue and margins through in-house developed services and solutions. Customer experience is expected to increase in importance. Being able to provide a more tailored set of solutions can put a CSP ahead of competitors that focus first on platforms.

CSP analysis

BT

Figure 3: Omdia Market Radar recommendation – BT



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Source: Omdia

Introduction

- BT leadership sees an opportunity to deliver end-to-end solutions by orchestrating partner involvement and focusing on its strengths in connectivity and security. It is positioning itself as an ecosystem orchestrator working with the client for co-creation and co-innovation.
- BT established a new unit, branded Division X, to accelerate its activities into new areas such as private networks, edge, artificial intelligence (AI), cloud, augmented and virtual reality (AR/VR), computer vision, and IoT. This new unit was created with a committed investment of £100m over the next three years. However, it is not exclusively focused on private 5G, and therefore this investment is not a dedicated resource to that line of business. Besides BT Division X, the company’s leaders see private 5G as an engine of growth for the wider BT Digital Industries proposition.
- BT is showing commitment to growing its market presence in private networks. Yet, it is behind in terms of overall market momentum and related lessons learned. BT is working with both UK customers and global multinationals.

Strengths and highlights

- BT highlights the following differentiators: its proven experience in delivering private networks; its diverse set of use cases; the fact that it focuses on outcome-based solutions; its modular approach (connectivity and use cases); its significant R&D spend; its in-house managed services team and IP (e.g., IoT platform); its field and delivery force; and its partnership strategy.
- BT looks at specific partnerships for niche areas. This is an asset in a market where CSPs often lack a narrow focus. Examples of partnerships include the following:
 - With QiO to help enterprises meet their sustainability targets.
 - With Ericsson to work with Belfast Harbour and the Port of Tyne, where the companies are deploying private 5G networks to help their clients revolutionize processes, track assets, and understand how sustainable and productive operations can be.
 - With Atos for computer vision.
- BT emphasizes co-creation and has created a Partner Advisory Board to discuss and share insights and best practices, examine innovative propositions, and debate potential solutions to current and future challenges that business leaders are encountering. It also has a Global Advisory Board, which is a forum for the CSP to co-create solutions with its multinational corporate customers. These co-creation efforts ensure the CSP continues to be aligned with customer needs.
- BT focuses on manufacturing and Industry 4.0, health, port operations, transport and logistics, and smart spaces, including smart cities. It focuses on five use cases: digital vision and AI video analytics, condition-based monitoring and predictive maintenance, global asset tracking and monitoring, security by design, and remote operations, including immersive rooms. A significant opportunity for the company should be in leveraging BT Media & Broadcast, driving private networks in an untapped sector. Select customers include Belfast Harbour (port), Manufacturing Technology Centre (manufacturing), and Hyperbat (manufacturing).

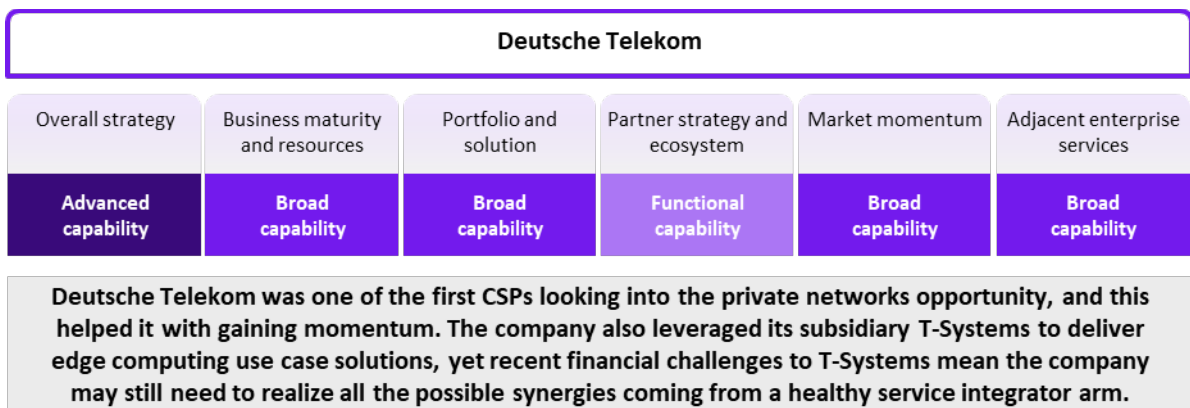
Areas for improvement

- Connectivity is an entry point in the market but is not enough by itself to win in private networks. Having a strong public network and related capabilities does not equal success or right to play. Many private networks players, such as startups and systems integrators (Celona), do not have a public network yet are successful players. BT should be wary of this distinction as it develops its sales pitch for clients.
- BT offers multiple technologies to meet the needs of the customer, and it is also evaluating hybrid models. This is happening at a time when other CSPs already have hybrid solutions in their portfolios. While the market currently heavily favors fully dedicated offerings, hybrid offerings will be a significant opportunity that CSPs must channel for future growth in the enterprise market.

- BT aims to bring private networks to the midmarket, and it is not the only one with this goal. There is no initiative here that is radically different from other CSPs to enable BT to bring solutions to the midmarket better than competitors.

Deutsche Telekom

Figure 4: Omdia Market Radar recommendation – Deutsche Telekom



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Source: Omdia

Introduction

- Deutsche Telekom was one of the first CSPs to move into the private networks market. Significantly, it is the only major CSP in Europe to have disclosed a growth target. Deutsche Telekom plans to achieve more than €100m in revenue from its campus network proposition by 2024. This guidance is a sign of commitment from the C-level. However, this revenue target also includes public network-based private networks.
- Deutsche Telekom set up a group project within its Technology & Innovation department and provided this group with the workforce, skills, and budget to develop concepts, build the product portfolio, and run the first pilots. This resource investment delivered a faster time to market. Now the group is working with T-Systems and its national member operations that have the commercial responsibilities to sell private networks and adjacent capabilities.
- Deutsche Telekom’s partnership with Mavenir is also an interesting spin in the market. The partnership may help popularize the use of O-RAN in private networks.

Strengths and highlights

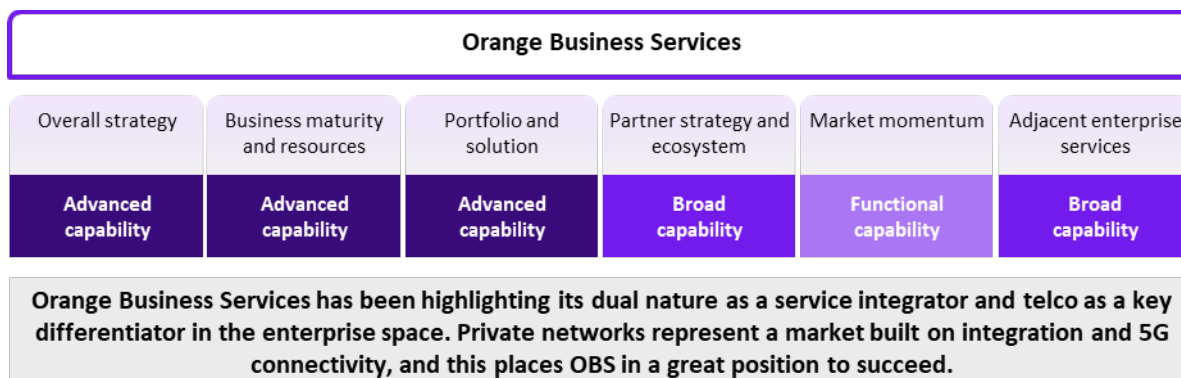
- Deutsche Telekom emphasizes key assets, including its 5G and network expertise, its ability to have market access via its large workforce, spectrum holdings, its status as an early mover, and its portfolio. Additionally, it can count on T-Systems, which offers an open source/OpenStack-based edge computing platform that specifically focuses on on-premises/campus and embedded/device setups (e.g., installing aftermarket IoT devices that enable digital enhancement of machines). The former is branded EdgAIR Campus; the latter is branded EdgAIR Embedded. T-Systems has developed a portfolio of standard use case solutions that can be leveraged by enterprises to run use cases on the edge. Detecon (a subsidiary of T-Systems) is also a consulting partner. In addition, Deutsche Telekom can leverage T-Systems' expertise in security, given the subsidiary's expertise in both telco and IT architecture security.
- The CSP was one of the first to implement public, hybrid, and private network strategies, branding them as Campus S (pure public), Campus M (public with mobile VPN connectivity, data traffic prioritization, special tariffs, and SLAs), Campus L (hybrid), and Campus Network Private (fully dedicated private network).
- Deutsche Telekom has entered partnerships with IoT device manufacturers to offer its customers certified components and IoT devices. This is an important differentiator. 5G industrial device availability is a major bottleneck to 5G adoption, one of the factors that drive enterprises to adopt 4G LTE instead, as found in Omdia's *Private LTE and 5G Network Enterprise Survey Insight 2022 – Drivers, Technologies, and Applications*. Deutsche Telekom targets both industrial and non-industrial verticals. Select customers include PCK Schwedt (energy) and HSV (sport and entertainment).

Areas for improvement

- Deutsche Telekom is in the adoption cradle of Industry 4.0 manufacturing. The company's partnership strategy with industrial vendors needs to accelerate. There are important lessons learned over time in long-term vendor partnerships, and Deutsche Telekom needs to capitalize more on this.
- T-Systems works as the consulting and integration arm of the Deutsche Telekom group and has helped Deutsche Telekom with the creation of edge use case solutions. Yet, this affiliate has been struggling in recent years, and Deutsche Telekom executives have considered selling the business. In 2021, T-Systems' revenue declined by 3.4% to €4.0bn as the business focused on cost savings. A healthy T-Systems could be a strong boost to Deutsche Telekom's private networks ambitions, which need integration and consulting capabilities.
- It is not clear how Deutsche Telekom will leverage its relationship with T-Mobile for Business, the US branch focused on enterprise. T-Mobile for Business is developing an Advanced Networks Portfolio, looking for synergy and best practices. A market approach developed across Europe and the US could be a unique CSP differentiator.

Orange Business Services

Figure 5: Omdia Market Radar recommendation – Orange Business Services



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Source: Omdia

Introduction

- OBS defines itself as a global, network-native digital services company. The company plays a dual role as a network operator and a service integrator, which it presents as a unique advantage against its competition. OBS placed the Mobile Private Network “program direction” in its Smart Mobility Services (SMS) unit, bringing together IoT and workforce mobility. The SMS business is responsible for designing and selling business-to-business (B2B) mobile connectivity to OBS customers. This includes connectivity offers (voice and data), mobile services (insurance, managed services, security, professional and communication applications), private networks, IoT connectivity and services, and integration services.
- OBS aims to address the entire private networks value chain: connectivity, compatible devices, applications integration (from critical communication to Industrial IoT), cloud and edge solutions for applications and data management, and cybersecurity solutions. Some areas, such as push-to-talk and devices, are addressed via partners.
- The company targets smart industries, energy, transport, public sector, smart cities, and logistics. It provides three different configurations: virtual, hybrid, and standalone. OBS also has an off-the-shelf solution through a partnership with Nokia Digital Automation Cloud (DAC). It is launching a private 5G experience to ease enterprises’ testing of new solutions. Select customers include Arcelor Mittal (industrial), Butachimie (manufacturing), and the Ministère de l’intérieur (government).

Strengths and highlights

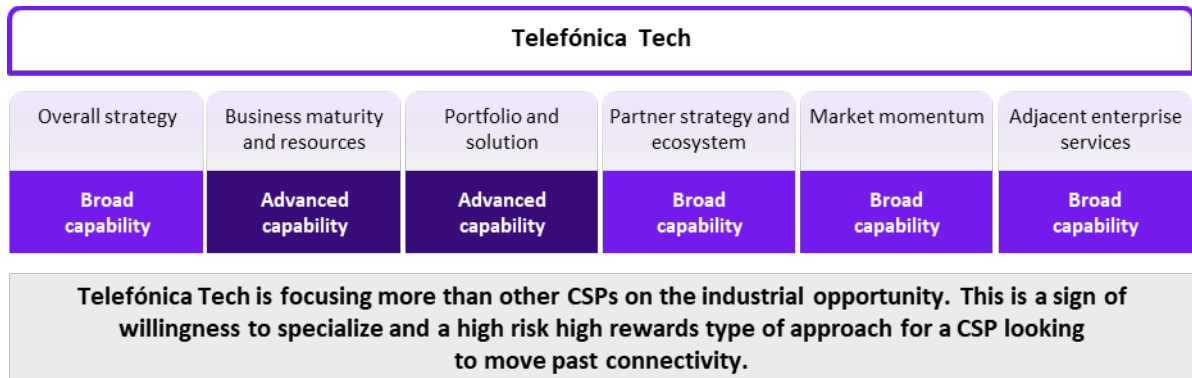
- OBS has in-house consulting and integration capabilities, key assets that it can leverage for private networks. Consulting services are critical in a market that is nascent and complex, where enterprises may not be fully aware of all their options. The ability to integrate in-house and third-party applications is also an important skill set that is rare in the CSP world. The company has more than 100 full-time employees across different business functions dedicated to private networks, augmented by ad hoc workers from other teams.
- OBS has a rational approach to the market. It started by targeting customers in France, including those with multiple international sites. By first supporting customers' complex deployments domestically, OBS built up strong proof of value. The CSP has also been actively targeting the replacement of existing technology at end-of-life, such as Tetra and DMR.
- OBS has many additional strengths that can complement its private networks portfolio. It offers cybersecurity separately and as an add-on service to its private networks offering. Since security is a key driver for private network adoption, this is an important point for differentiation.

Areas for improvement

- OBS has assembled the right assets and the right strategy in Omdia's view, but it has not yet accelerated beyond its competitors. This may be the result of market conditions. If the company does not experience wider success than its peers, the issue might be the internal execution of its strategy.
- OBS has a partnership with Siemens targeting the industrial space, covering IT/OT and connectivity to drive Industry 4.0. While this is a solid idea, the partnership has not yet borne fruit with regard to private networks. Private networks for industrial applications represent a card the CSP needs to play to accelerate in the market.
- OBS' capabilities in network and integration, and the fact that private networks are part of the company's SMS unit, are strong starting points. However, the company has not made any public statements regarding its goals or expectations for private networks. This could indicate that private networks still need to gain internal, long-term C-level backing, confidence, and support.

Telefónica Tech

Figure 6: Omdia Market Radar recommendation – Telefónica Tech



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Source: Omdia

Introduction

- Telefónica Tech (referred to here as Telefónica) is tying its private networks efforts to digital transformation and Industry 4.0. According to Omdia research, this focus on the delivery of industrial solutions is a high risk, high reward move. The risk comes from entering adjacent markets and technologies that are not usually part of the CSP world. The reward comes from the potential of this specialization becoming a unique differentiator. Telefónica’s focus on Industry 4.0 is underpinned by the acquisition of industrial automation and digital transformation in manufacturing specialist Geprom.
- Private networks are part of Telefónica’s Industrial IoT Networks, a unit belonging to the Telefónica IoT & Big Data Tech company. The scope for this product unit is to build a complete proposal around Connected Industry, ranging from devices for special use cases to customized networks and the value-added services deployed on top of them. Industrial IoT Networks is fully dedicated to private networks and the value-added services enabled by them. The aim is to integrate the company’s capabilities rather than being a plain reseller. Within the unit, Telefónica is looking to create industrial use cases with industrial partners. Its rationale for a separate IoT unit is to meet the complexity and specialization needed in the market. Industrial solutions include intelligent robotics, optimization of operations, and connected frontline workers.
- Overall in private networks, Telefónica targets transport (e.g., ports, airports), mining and construction sites, energy and utilities, manufacturing, health, sports, and logistics. It offers three configurations of private networks: public IloTN (Industrial IoT Networks, 4G LTE or 5G); hybrid IloTN (shared RAN, dedicated spectrum, shared core, ad hoc coverage, QoS and traffic priority per service, local data breakout capabilities); and IloT on-premises (fully dedicated private network). A customer example is British Sugar.

Strengths and highlights

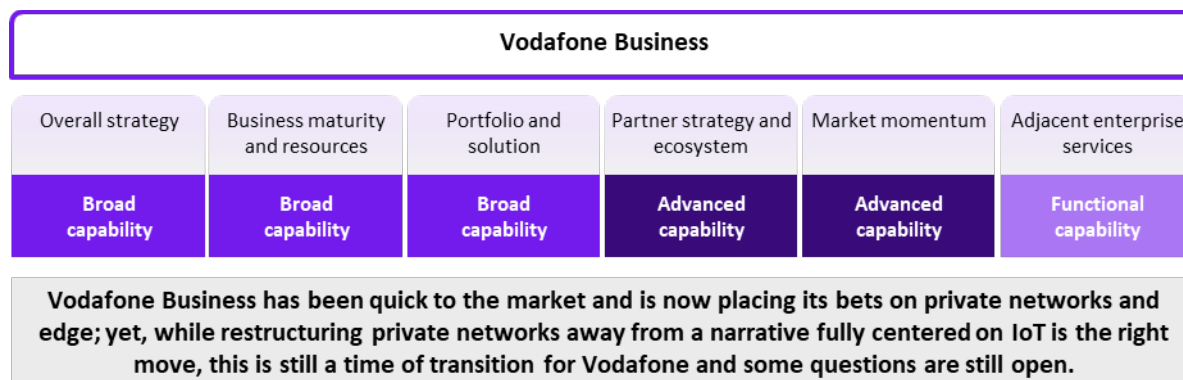
- Telefónica acquired specialist Geprom to strengthen its knowledge and capability in Industry 4.0. Geprom is a Spanish-based engineering company that focuses on industrial automation and the digital transformation of factory production processes. MEC, integration with industrial Wi-Fi, and cybersecurity are also key elements of the CSP industrial play.
- Telefónica has a team of over 100 people fully dedicated to private networks, plus 80 more people from various units in related business development roles. These are augmented by resources from other parts of the business, such as IoT and big data. Telefónica's strengths include the fact that it provides end-to-end operations for its solutions. It has a network operations center (NOC) with global capabilities that enables the CSP to offer local and on-premises managed services with high customization options. For example, Telefónica can accommodate customers that want to perform their own Level 1 support and operations and turn to the CSP only for complex issues.
- Telefónica has full end-to-end responsibility for the solution as the lead integrator. This can include end-to-end operation and maintenance services for the network and integrated services. If a customer wants to bring its own applications, Telefónica can integrate and use its lab (called "The ThinX") for testing and integration. Its Kite IoT management platform provides services such as security, applications integration, and analytics. Telefónica is currently working to import all alarms and key performance indicators (KPIs) into a single system so all information can be centralized to detect and isolate problems and incidents more rapidly.

Areas for improvement

- Telefónica mentions partnerships with ABB, Asti, and Siemens. Yet, none of these have yet brought results directly attributable to private networks. Accelerating these partnerships could be a clear advantage, particularly as Telefónica is positioning itself as an industrial end-to-end solutions provider.
- Telefónica has a lot on its plate. This means it will have more intensive capex and labor costs. Its private networks business will have to deliver significant results to keep driving this momentum.
- Telefónica's alignment with Industry 4.0 messaging will work in some markets but not everywhere. The CSP has adapted its messaging to focus more on manufacturing and transport for Europe and more on oil & gas and mining for Latin America. Telefónica is stepping outside of its CSP comfort zone somewhat. It will compete with other industrial specialists as those companies embrace 5G. To stay ahead of the competition, the CSP will need to build expertise and customer cases before more industrial players move into the 5G space.

Vodafone Business

Figure 7: Omdia Market Radar recommendation – Vodafone Business



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Source: Omdia

Introduction

- After initially placing private networks within IoT, Vodafone Business (referred to here as Vodafone) now has private networks within its cloud and edge portfolio. This is the right move, one that gives better synergy for the provider to combine private networks with edge and other solutions such as SD-WAN.
- Vodafone intends to deliver end-to-end solution packages—from the device to the application. With its current strategy, branded Mobile Private Networks Solutions 2.0 (MPN 2.0), the company wants to reduce its reliance on third parties and their off-the-shelf solutions. Vodafone’s in-house solutions differentiate its offers and help increase its margins. The first two in-house solutions that Vodafone is developing are Safe Worker and Collaborative Worker.
- The MPN 2.0 portfolio includes both dedicated and hybrid solutions. Key verticals of focus for the CSP include manufacturing, transport and logistics, energy and utilities, healthcare, and mining. Select customers include Bayer (agriculture), Tofas (manufacturing), and Centrica (energy).

Strengths and highlights

- Vodafone created and trained a Network Operations team of MPN support specialists as part of its effort to use its services and customer support as a key differentiator. It has roughly 100 full-time employees who are fully dedicated to private networks, including engineers, service designers, product architects, and product managers. This workforce is augmented by staff from different teams (e.g., the IoT sales team).

- Besides partnering with Nokia (DAC) and Ericsson (Private 5G), Vodafone has partnered with Athonet as an alternative to the two big public network vendors. The extra option gives it more flexibility and revenue opportunities. In terms of partnerships, Vodafone is evaluating partners across the end-to-end value chain. While some partnerships have yet to bear fruit, these conversations include Fortinet (security), PTC (industrial), TechMahindra (systems integrator), and Capgemini (systems integrator). Vodafone can also leverage the knowledge and experience derived from the acquisitions of specialists *iot.nxt* and Grandcentrix. The former specializes in energy and mining, while the latter specializes in manufacturing. These companies can help Vodafone work directly with customers to create intelligent interconnectivity for machinery, systems, and processes in industrial environments.
- Vodafone provides a service assurance platform that monitors and manages the private network to ensure high availability and high performance. It is also developing a “Management Plane” interface. This would allow the customer visibility into network performance and portal self-service capabilities such as connect/ disconnect SIMs, configure key parameters, raise/ escalate tickets for support, and order new products and services. These improvements will help with a more seamless experience across complex multi-site deployments.

Areas for improvement

- Vodafone has been learning from its early work in this market. As such, it has shifted private networks from its IoT line of business to its cloud and edge portfolio. This is the right decision, but it shows an initial misjudgment that private networks were IoT propositions—not an incorrect perspective, but limited in scope. The IoT business line is still responsible for selling private networks, and this relationship could become a weak point for its strategy. The future of Vodafone’s IoT unit has been in question, as the company has signaled its intent to divest the business.
- Vodafone started talking about delivering end-to-end solutions prior to 2020. It took more than two years before these end-to-end solutions came to market (i.e., Safe Worker and Collaborative Worker), the former soft launched and the latter about to be fully launched. Vodafone will need a more agile and faster approach if it wants to continue targeting and improving its in-house developed applications.
- Vodafone is working on a “management plane” interface, but it has struggled to be speedy in creating its solutions. Providing a unified management plan for better customer experiences is the right idea. Vodafone needs to ensure timely solutions creation and delivery, and it needs to have a development roadmap in place for its management plane, demonstrating how it will be supported, updated, and improved in the coming years.

Appendix

Methodology

This report utilizes responses to a comprehensive Omdia capability matrix, in addition to briefings.

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