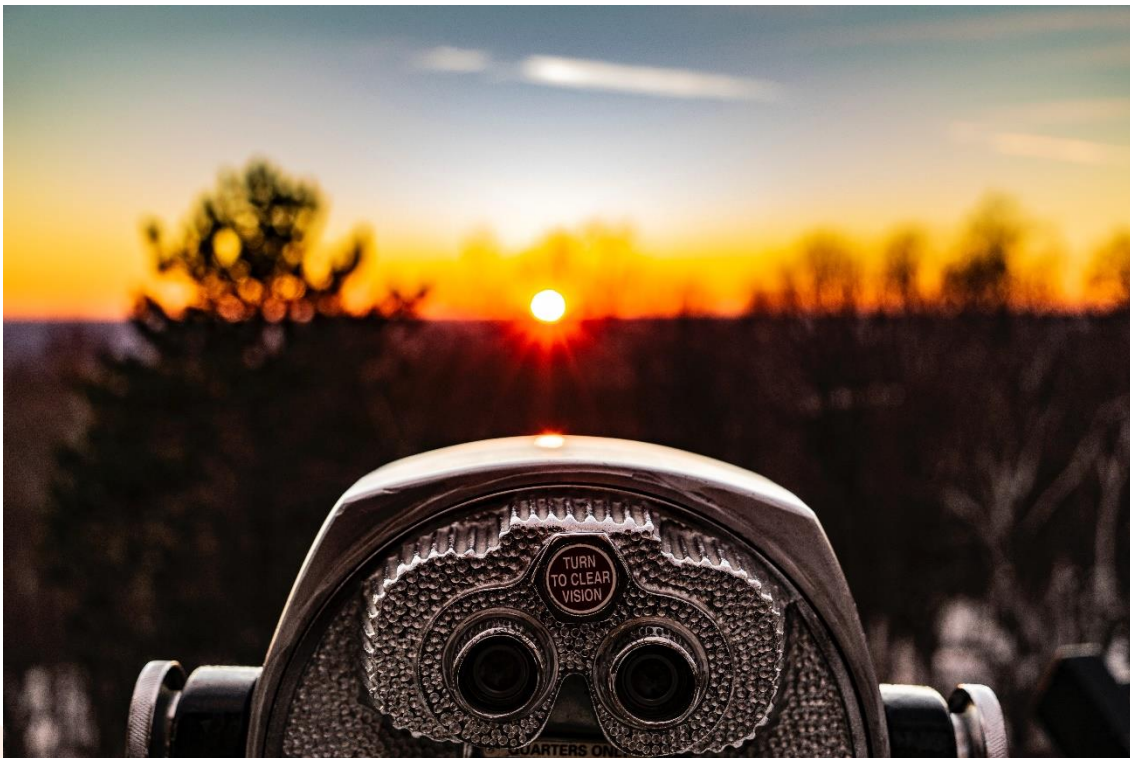STL PARTNERS

Executive Briefing

MONETISING THE NEW TELCO VISION

This report addresses the complexities operators will face in monetising 5G and next-generation networks. It provides recommendations on how to overcome these challenges, navigate a new billing paradigm, and become 5G ready from a holistic perspective.

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Executive Summary

Operators have the opportunity to move beyond providing only legacy core communications: the Coordination Age is driving a new telco vision which calls for operators to play a new role with their customers to drive sustained revenue growth; next-generation networks are enabling operators to diversify their portfolio of services (e.g. delivering value-added solutions on top of the network and transforming the application landscape through 5G).

However, for operators to navigate to this new telco vision, there are considerations beyond the network and services. To successfully monetise next-generation networks, including 5G, operators need to innovate across the 4 foundations of monetisation: network/OSS, organisation, services, and IT/BSS.

This research focuses on IT/BSS and the implications of changing operator business models. We outline below six complexities of next-generation monetisation models, and six key recommendations for operators:

Complexities (pp.13-17):

- **Portfolio diversity and simplification:** While operators diversify their service offering, they must also present a simple experience for users to configure and consume these services. The complexity lies in reconciling growing portfolio richness with the need to deliver a frictionless user experience.

- **Partner management across complex B2B2X ecosystems:** As operators expand their role and play across the value chain, they will need to work with a partner ecosystem. Partners may rate/bill/charge in different models and may have varying data capture/sharing processes in place – operators fronting solutions must be ready to navigate these differences.

- **Configurability: the need to manage customised services in a productised and automated way:** 5G/next-gen networks are increasingly flexible and programmable. This means operators can serve customers in different ways (dedicated slice, NaaS) with the same infrastructure. Enterprise customers also want to consume the network in a DIY manner and configure/spin up services. Operators must facilitate the delivery of customised services with automation.

- **The shift towards right-time billing and away from end of cycle processing:** As enterprises begin to pay for next-gen services with more cloud-like models (e.g. more opex, consumption based, or as a service models), operators must have the BSS capabilities in place to provide a real-time picture of data usage/costs.

- **Variation in maturity of customers and adoption of new vision models:** Telco customers within consumer and enterprise are adopting new commercial models at varying speeds. Operators must therefore maintain their legacy systems while catering for more advanced enterprises. The complexity lies in simultaneously operating two stacks, transitioning towards an omnichannel or hybrid IT/BSS system, and managing the seamless migration of customers.

- **Rating and charging for next-generation use cases:** 5G/next-gen networks will enable innovative use cases such as network slicing and AR/VR in the field. These use cases will require new monetisation models (e.g. how to charge for an AR/VR device as part of a solution?). Even though the technology for these use cases is nascent, operators can begin to think about developing rating and charging mechanisms that will be fit for purpose.

Recommendations (pp.17-21):

- **Create cross functional teams to drive alignment and accountability:** As 5G monetisation spans across numerous organisations within an operator (e.g. IT organisation, technology strategy organisation), telcos should consider creating cross-functional teams with senior leadership sitting at the same table.

- **Build hybrid environments to support omnichannel and customer migration:** There is variety in customer digital maturity across both the consumer and enterprise space. Operators should therefore build hybrid environments so that they can continue to provide legacy services, while also offering new services supported by digital channels.

- **Avoid bill shock (and the fear of bill shock) – create transparency, openness, and predictability around emerging models and the customer bill:** Bill calculation is increasingly complex as operators aggregate solutions across partners (each of which may have a different model) and present that to the customer in right-time/broken down in a meaningful way. Operators need to build automated capabilities which will allow them to avoid bill shock.

- **Invest in capabilities that enable self-service and configurability:** Customers and partners want to interact with telco assets (network and BSS) in evolving ways, using either digital portals or (likely for larger organisations) APIs. Moreover, internal telco teams want to create new product configurations and bundles without lengthy time delays. Operators should invest in capabilities that enable a simple user experience (for partners, customers, and internal teams) to create and manage services.

- **Drive PoCs and proof of values (PoVs) with customers to understand the roles operators can take and the preferred models for monetisation:** As customers are still early in their exploration of next-gen services, operators should take on a strategic advisory role, running POCs with them and collaboratively assessing the viability of use cases. This also allows operators to identify their role in the ecosystem and the business models that are most viable for monetisation.

- **Work with partners to build common architectures and frameworks for emerging technology, across the network and the IT:** Even though the technology standards aren't ready yet for new services (e.g. slicing), operators can be proactive and begin to consider the implications to IT. By encouraging partners to innovate and getting the backend ready, they can be prepared and fast to market with early propositions.

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Introduction

For many operators, 5G is (or will be) a catalyst for portfolio diversification and for service offerings beyond core communications. Consequently, telcos are investing significantly in next-generation networks (telco cloud, NSA/SA 5G, edge computing) and we are seeing operators redoubling focus on their proposition – operators want to become "5G-ready".

Crucially, however, there is more to becoming "5G-ready" than just the network and the services which sit on top: operators must also innovate across IT/BSS (e.g. digital channels, self-service) and implement organisational changes (e.g. agile ways of working). At STL Partners, we believe that operators should take a holistic approach to becoming "5G-ready" and so this research focusses on how IT/BSS transformation will drive operator ambitions within next-generation networks.

We will explore:

- The new telco vision and how operators can move beyond core communications.

- The different types of monetisation models available to operators.

- The complexities of next-generation monetisation.

- The key recommendations for operators.

To inform this research, STL Partners undertook an interview programme with senior execs from operators around the globe.
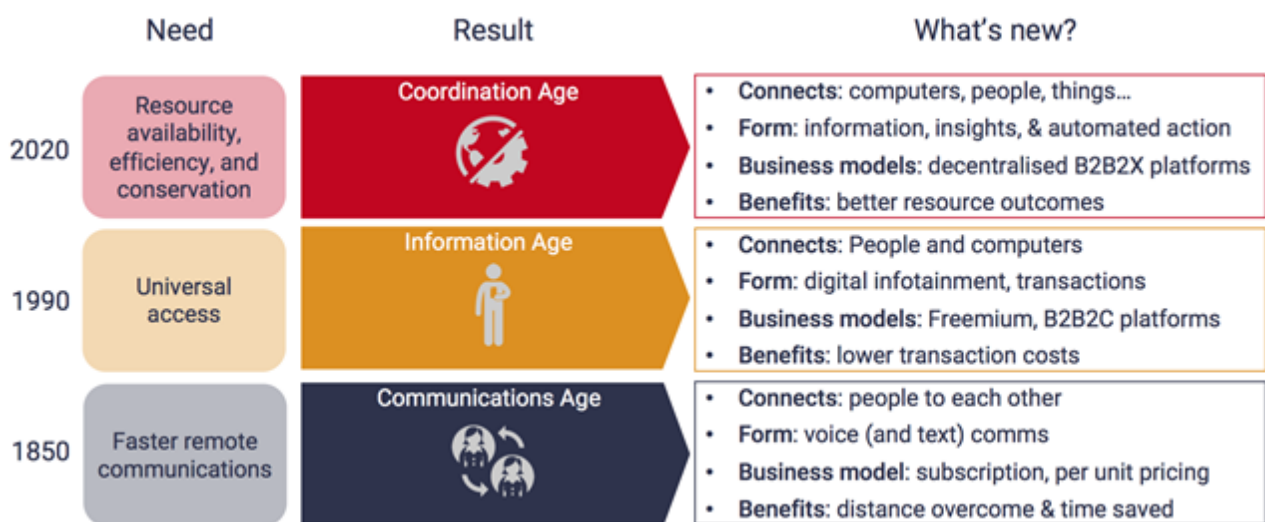
The new telco vision in the Coordination Age

The Coordination Age

STL Partners has written at length about the emergence of a new age for the telecoms industry – we are entering the Coordination Age. Driven by societal and economic challenges, there is demand across ecosystems and sectors for greater resource availability, efficiency, and conservation.

If resources are to be managed more sustainably, governments, enterprises, and consumers must move away from siloed operations, sharing data and insights across the boundaries of their organisations. A successful telecoms operator in the Coordination Age will facilitate this cross-stakeholder collaboration by coordinating across these distributed/decentralised ecosystems. This will be underpinned by right time access by all relevant partners to insight and information, enabling process automation and optimisation.

Figure 1: The Coordination Age is driven by a need for greater resource efficiency

Source: STL Partners

The new telco vision: a new role for operators

The Coordination Age is driving a new telco vision, in which operators can take a role beyond providing only legacy core communications: they can provide connectivity in bespoke ways (e.g. slicing, NaaS, SD-WAN); innovate around billing models (e.g. according to SLAs rather than traditional pay per bit); become more relevant with their customers, playing across the value chain. Operators need to play these new roles as traditional revenue streams are stagnating - value in the Information Age is reaching maturity and historical growth in core communications is slowing.

To capitalise on the opportunity presented by the Coordination Age, operators are exploring new technologies which will allow them to deliver new services (and drive sustained revenue growth) within

and beyond legacy core communications. This will involve becoming verticalized, integrated carriers and building new propositions within priority verticals.

Figure 2: Operators have the opportunity to transition from large-scale, standardised commodity products for all to higher-value solutions tailored to specific verticals
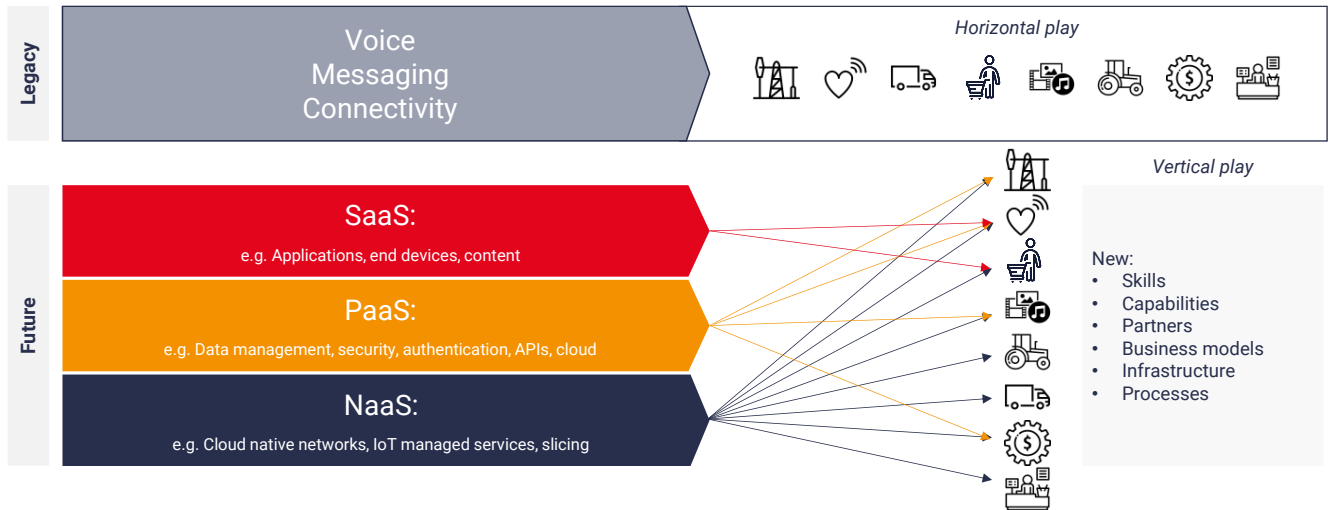
Source: STL Partners

Next generation networks (5G, edge, telco cloud, Wifi-6) are a key enabler of this shift for operators. This is because they enable operators to:

- **Build the network as a platform**: the network is shifting from being **the service** towards being **a platform,** on top of which operators (as well as a diverse ecosystem of new partners) can develop and deliver additional value-added services and solutions. Operators can therefore use the network to serve customers in new ways, giving themselves an advantage in competing for connectivity enabled share of wallet.

- **"Supercharge" existing processes and applications**: 5G brings performance increases which will change the way use cases can be delivered in brownfield environments. As we heard from the senior vice president (enterprise group) of an Asia Pacific operator, fleet management is one such example: "it is operational on 4G and comprises tracking vehicle location; but 5G's latency, bandwidth and capacity reimagines this use case, enabling multiple metrics to be tracked concurrently (vehicle location, driver health, petrol level, traffic patterns) and insights to be generated in real-time (optimum route to get from point A to point B)".

  Moreover, 5G (unlike 4G) will bring mobile technology at scale to the enterprise operational application space, enabling use cases to function reliably and with high performance over a wide area. AR/VR, for example, is typically used in controlled environments (being either cable connected, or wireless and supported by WiFi or private networking solutions). 5G expands its possible zone of operations and means it can be used in the field (e.g. by technicians).

- **Enable new, flexible, dynamic models (slicing, SD-WAN, NaaS, NES)**: next-generation networks promise increased flexibility and can be moulded to the individual demands of customers and applications: the SLAs of network slices are customisable (latency, bandwidth, resilience); network embedded services (NES) exert new demands on the network compared to over-the-top (OTT) applications; operators can define, edit, and set the parametres for SD-WAN. All these examples speak to a shift away from a one-size-fits-all network

But, for operators who want to successfully navigate to the new telco vision, the network and the services which sit on top cannot be their only priority…

The four foundations of monetisation

To successfully monetise next-generation networks, including 5G, telcos need to innovate across the 4 foundations of monetisation: network/OSS, organisation, services, and IT/BSS (see Figure 3).

Figure 3: As operators progress from the legacy to the new telco vision, they will need to innovate across the 4 foundations of monetisation

New telco

Services
- Network is a platform
- Value-added applications/services on top of the network
- Verticalised solutions and segment offerings

Network/OSS
- New architectures – VMs, containers, edge, slicing
- Converged IT, cloud and telecoms standards
- Multiple vendor ecosystem across network components

IT/BSS
- Complex models for procurement and billing
- More digital/self-service models
- Simplified but dynamic portfolio
- Automated and real-time services

Organisation
- Cloud native/Devops/Agile operator
- AI and automation skills
- Culture of innovation and R&D
- Acquire external skills

Source: STL Partners

Across these 4 foundations of monetisation, significant capex is invested in the network (e.g. driving telco cloud, NSA/SA 5G, and edge compute). This is because operators are seeking to lay the foundations for the delivery of new services (e.g. verticalized strategy and moving higher up the value chain). Operators, however, need to take a holistic approach to monetisation in order to become "5G-ready".

While they evolve the network and develop their services strategy, they must concurrently implement organisational change and modernise IT/BSS systems. By working across the 4 foundation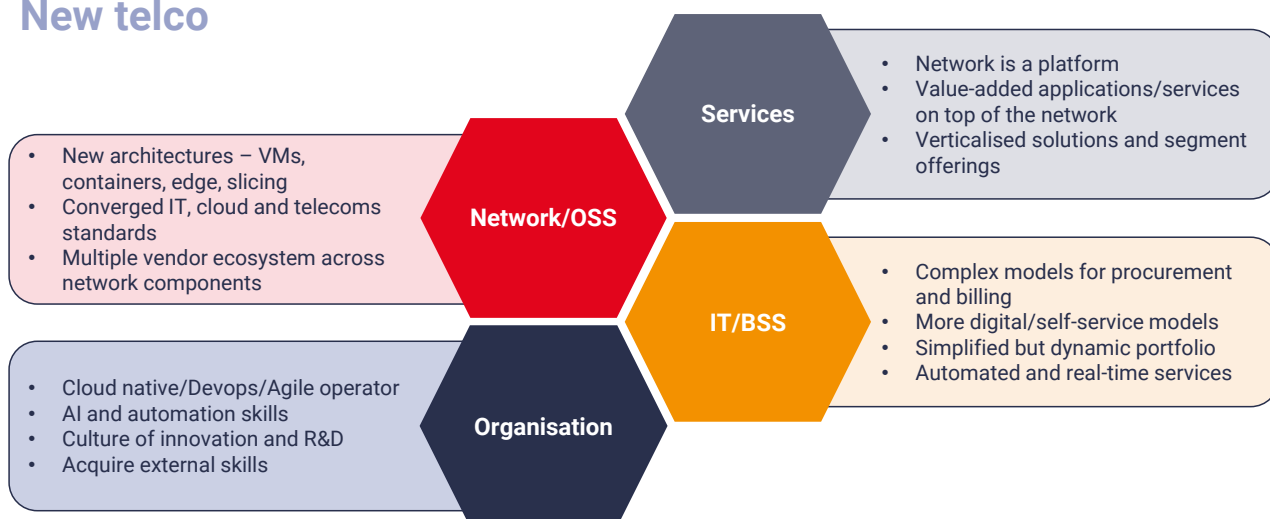s of monetisation, operators can gradually build the appropriate "5G-ready" capabilities and create a seamless customer / partner experience for the new strategies being pursued.

The director of technology strategy for a North American operator from our interview programme described the process of becoming "5G-ready" with a tennis analogy – "if Head or Babolat were coming out with a new racket in a year's time, pro tennis players wouldn't wait until that racket came out to get on court and start practising. So, in the wait for next-gen capabilities that 5G networks will enable, operators need to work on, and innovate across, their foundations of monetisation."
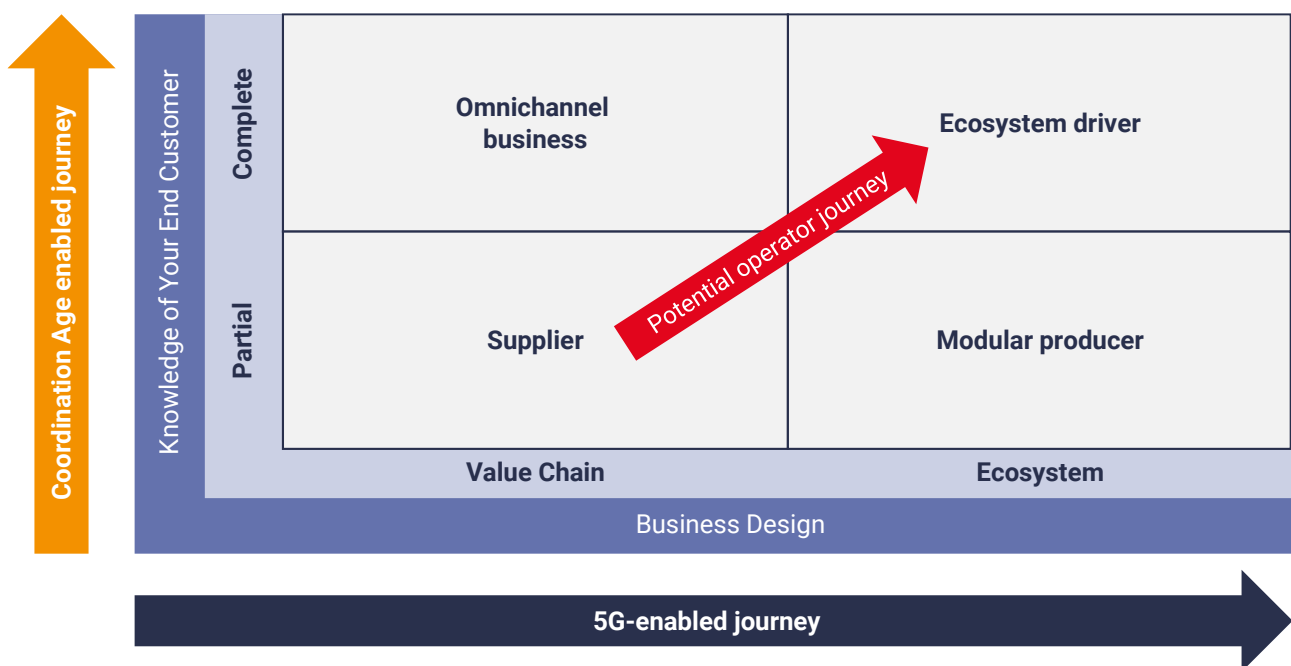
In this report, we explore the transformation of the IT/BSS foundation for operators, identifying the key considerations telcos must make on the journey to becoming "5G-ready", and the recommendations for how to drive next-generation monetisation models.

Driving next-generation monetisation models: 6 key recommendations for operators

The complexities of next-generation monetisation: key considerations for operators

Operators need to consider their place in the ecosystem, including both their relationships with customers and partners. Figure 4 illustrates different roles available to operators, which accordingly have implications on monetisation. The x-axis represents business design (i.e. whether the operator is operating a traditional supply chain model, or ecosystem-driven, partnership model) and the y-axis represents knowledge of the end customer (i.e. what level of interaction and data capture operators have with the end customer, and whether their brand is predominant in the relationship).

Figure 4: The Coordination Age and 5G flexibility are enabling operators to change their business design and relationship to customers/partners

- **Supplier**: operators in the bottom left corner of the quadrant have only partial knowledge of their customer as, through a more traditional or vertically integrated partnership model, they serve their customers indirectly. This can be exemplified by an end-to-end solution that is purchased by an enterprise through a lead systems integrator (SI). The solution is aggregated, and the sale is handled by, the SI and the operator (as a part of the aggregated solution) is an indirect supplier of connectivity to the enterprise. This doesn't mean that the customer has not expressed a supplier preference or that there is no relationship between the supplier and the customer.
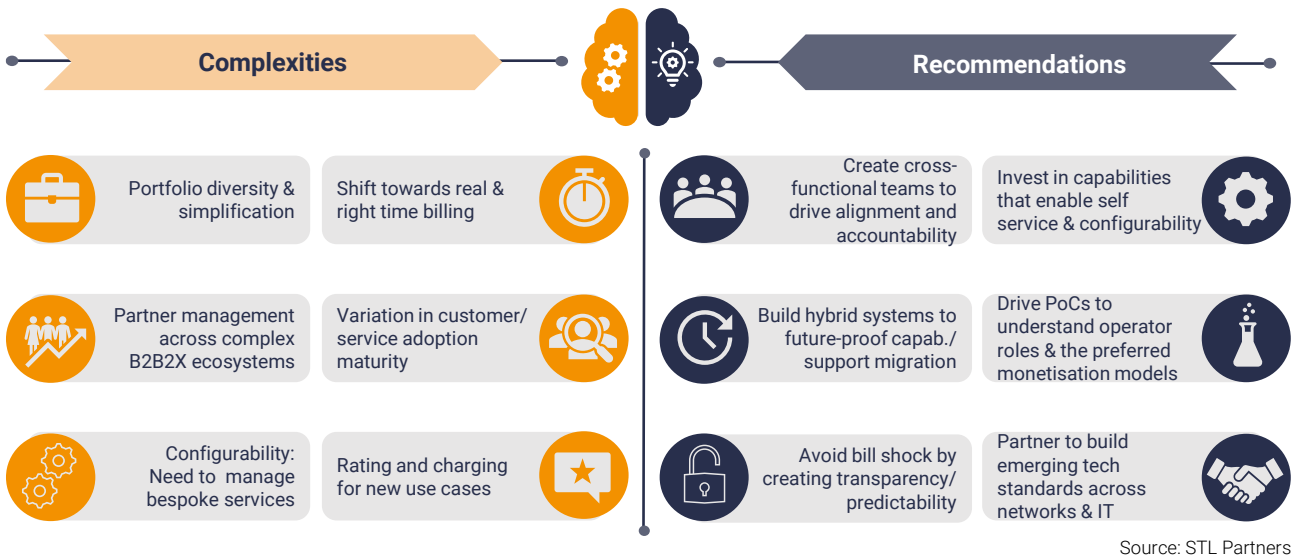
- **Omnichannel business**: operators in the top left corner of the quadrant have more complete knowledge of their customers and serve them directly. Their services are broad in scope, ranging from connectivity solutions to end-to-end solutions. These operators have adopted a vertical supply chain, meaning that they work with a specific set of partners to develop and deliver purpose-built solutions for their customers. Typically, the operator has taken an up-front risk and shouldered the investment to bring this service to market. As part of the top left quadrant, operators here lead the customer relationship in their respective value chains (think TELUS Health or Elisa Smart Factory).

- **Modular producer**: as with the supplier model, operators in the bottom right corner of the quadrant have partial knowledge of their customer but, instead of serving customers indirectly through a traditional value chain model, modular producers are a part of growing, diverse, and open ecosystems. In this role, operators expose their network through open APIs and allow it to be leveraged by a whole host of partners (developers, solution providers, etc.). A "modular producer" play is therefore aligned with the shift towards NaaS, whereby operators are the suppliers of connectivity to whole ecosystems in a flexible and dynamic way. Importantly, operators may have little knowledge of how and why their network is being used by the end customer. This does not mean that they are an invisible commodity provider. For example, PayPal and AWS can be considered modular producers to eBay.

- **Ecosystem driver**: like the omnichannel business model, operators in the top right corner of the quadrant have complete knowledge of their customer, leading the customer relationship. However, in the case of the ecosystem driver, the operator would work across a diverse range of partners, instead of leading a traditional value chain model. Amazon typifies an "Ecosystem driver": it owns the relationship with customers, and partners are able to configure products and sell these under Amazon's brand.

As outlined earlier in the report, in the Coordination Age, operators are trying to take a bigger role with their customers. Rather than only providing legacy core comms they want to play across the value chain, providing services and solutions on top of the network and, in some cases, owning the customer relationship. This diversification of services and ambition to play a role further up the value chain reflects a move up the y-axis in the matrix.

5G and next-generation networks are also enabling operators to move to the right of the matrix. This is due to the flexible and customisable nature of 5G (e.g. NaaS, slicing, NES): rather than building bespoke propositions for individual customers with a closed group of partners, operators can embrace the cloud native and flexible nature of 5G to work across ecosystems in a dynamic way.

This leads to a potential operator movement and ambition to play in the "Ecosystem Driver quadrant". However, this is no easy feat for an operator… leading an ecosystem play is coupled with many complications, challenges, and barriers, including an increased complexity in IT/BSS capabilities and processes.

Figure 5: We outline six complexities of next-generation monetisation models, and six key recommendations for operators

Complexities		Recommendations	
Portfolio diversity & simplification	Shift towards real & right time billing	Create cross-functional teams to drive alignment and accountability	Invest in capabilities that enable self service & configurability
Partner management across complex B2B2X ecosystems	Variation in customer/ service adoption maturity	Build hybrid systems to future-proof capab./ support migration	Drive PoCs to understand operator roles & the preferred monetisation models
Configurability: Need to manage bespoke services	Rating and charging for new use cases	Avoid bill shock by creating transparency/ predictability	Partner to build emerging tech standards across networks & IT

Source: STL Partners

The complexities of monetisation in the new telco vision:

As operators pursue the new telco vision, they will be confronted with a variety of monetisation complexities.

1. Portfolio diversity and simplification

Operators need to overcome conflicting demands: on the one hand, they are diversifying their portfolio, adding new services to their proposition, and partnering with third parties to deliver these; on the other, they must present a simple and navigable experience for users to digest and configure their services. The question, therefore, is how to reconcile growing portfolio richness with the need to deliver a frictionless user experience?

As we heard from the vice president & head of Asia strategy for a global operator, services must be simplified and automated to follow a standardised procurement process. "The operator, who is fronting the solution, must put standardised processes in place for how partners deliver the solution, and for how partners generate revenue from the solution. After there has been standardisation, orders and billing can be automated. The complex innerworkings of portfolios are hidden in the backend; users are only presented with a simple front-end experience."

2. Partner management across complex B2B2X ecosystems

As outlined earlier in the report, the Coordination Age and 5G's flexibility are enabling operators (should they chose to) to move towards an Ecosystem Driver role (see Figure 4). In this role, they are serving diverse 3rd party ecosystems and acting as a one-stop-shop for customers, whereby a broad range of products and solutions can be offered.

Operators aspiring to expand their role will need to work with a large and diverse partner ecosystem and may need to converge solutions across multiple partners who rate/bill/charge in different models (complex B2B2X ecosystems). Telcos who are fronting the solution will need to find a way to aggregate across partners and deliver a simple, seamless, and transparent experience to customers and partners (in right-time).

Figure 6: Operators assembling and fronting solutions must be prepared to manage partner ecosystems and the complexities this brings

Solution orchestration is complex	Partners approach data in different ways
"Orchestrating a solution is interesting, but it also entails managing, and coordinating across, a partner matrix. This is complex and would require new skills and learning." *Global tier-1 operator* *VP & Head of Asia Strategy*	"We have developed an at-home security solution. Our camera partner, however, is not tracking calibration data which makes it difficult to evaluate the success of self-install." *Single country tier-1 operator, NAM* *Director, Technology Strategy*

Source: STL Partners

B2B2X ecosystems are further complicated by the fact that different partners in solutions may capture data in different ways (or not capture data at all). This is evidenced by a case study that we heard from the director of technology strategy for a North American telco – they launched a home smart security service with a camera provider, but this partner is not tracking camera data (e.g. how many are being set up and calibrated by the customer). The North American telco therefore has no insight into how the service is performing and how customers are using the cameras (e.g. is self-set up successful and are the cameras being calibrated, or should professional installation be included?).

As telcos shift to agile ways of working, iterating upon services based on customer use, it is important they can access such data. They should therefore select partners who are data-driven and implement processes for data sharing across their partner ecosystem.

3. Configurability: the need to manage customised services in a productised and automated way

The telecoms industry is experiencing a shift with regards to how the network is consumed. Previously, the network functioned in a one-size-fits-all manner, with telecom assets apportioned to customers and applications in the same way. Now, the network is becoming flexible, and telecoms assets can be apportioned dynamically. Slicing, NaaS and NES mean that the network is more dynamic and customisable (and interfaceable) to meet customer and partner needs.

The flexibility of the network poses questions: how will telcos effectively rate and charge for this? It's a move away from traditional/legacy models where a more standardised approach could be taken across customers. Now, customers are exerting different demands on the network (e.g. a customer watching Netflix which has no specific SLAs vs. a customer cloud-gaming which may have strict

latency SLAs), which complicates bill calculation. Telcos need to figure out how to productise network configurability and determine a new way for paying for these bespoke services on the customer side.

As well as managing customer use of the network, telcos need to manage product configuration through digital self-service channels. Partners and enterprise customers are looking to take more of a DIY approach to solution procurement, leveraging digital portals or APIs to configure, purchase, and spin up solutions and services which match their need. This configuration needs to happen in right-time without manual or lengthy processes for creation of the solution.

The director of technology strategy for a North American telco from our research programme highlighted that "customers using digital channels expect to be able to pick, choose, and configure products", and the chief regulatory officer for a Middle Eastern operator quoted that they were expecting to migrate the majority of their enterprise customers onto digital channels within the next 3-5 years.

4. The shift towards right-time billing and away from end of cycle processing

As enterprises move towards more cloud-like models for adoption of next-generation services (e.g. more opex, consumption based, or as a service models), the traditional fixed day in the month billing cycle is broken. Customers and partners want to be able to access the bill in right time to assess usage stats and understand more about their expected charges and costs (which they may want to pay for in different ways, e.g. prepay for some services, weekly/monthly for others). Enterprises may also want this bill broken down by key cost centres to evaluate their spend without the need to put in specific requests to the vendor, or waiting for long periods to receive the bill.

This is a big shift for many operators that batch process bills with limited information and insights at fixed days in the month. However, a shift to right-time billing will be pivotal in creating a sticky proposition with customers and partners (reducing direct and indirect churn), as well as providing a level of transparency for enterprises as they move to new payment models.

> **"**
> In the future, there will be more demand for real-time provisioning of infrastructural assets, and APIs will act as the interface for doing that
> *- Global Head of Strategy, Global Tier-1 operator*
> **"**

5. Variation in maturity of customers and adoption of new vision models

The telco customer base is heavily fragmented. Each segment may have varying requirements and may want to procure (through physical channels versus digital channels) and pay for services (consumption-as-a-service versus capex heavy versus opex heavy, etc.) in different ways.

In the consumer space, there is a growing need to cater to digital native customers who want an end-to-end online experience: configuring their bundle, troubleshooting, and upgrading. Operators are therefore finding themselves having to maintain their legacy stack and existing services (stores, in-store experience, call centres), while creating a new digital stack and migrating customers across. The complexity lies in simultaneously operating two stacks, transitioning towards an omnichannel IT/BSS system, and managing the migration of customers. However, many consumers will still require a hybrid journey – moving onto assisted or offline journeys to find a better deal, ask technical or payment model questions, touch and feel the product they're purchasing.

In the enterprise space, there is also a move towards digital channels. Adoption by these customers, however, will be a longer process as enterprise sales are typically more complex and handled by an agent: they involve negotiation and cross-stakeholder discussions as the terms of the contract are agreed (see Figure 7).

Figure 7: Operators must manage omnichannel IT/BSS in different ways across enterprise and consumer sales

"We have an app which allows SMEs to purchase enterprise solutions. Everything is done on the app, from entering requirements to provisioning. We acknowledge, however, that it'll take several years to migrate enterprise customers to digital channels, as sales typically involve negotiation.

Single country tier-2 operator, EMEA
Chief Regulatory Officer

"The in-store buying experience has inefficiencies and doesn't cater to the growing segment of consumers in our market who want digital propositions."

Single country tier-2 operator, EMEA
Head of Strategy

Source: STL Partners

With regards to the payment model, we are seeing a cross-industry shift towards the adoption of cloud-like models (consumption or as a service based). However, in a recent survey to 699 enterprises globally,[1] it was clear that enterprises were still early in the adoption of these models with most favouring traditional capex heavy models, and only advanced enterprises favouring the new models.

Across both channel and commercial models, operators face the complexity, in their front and backend systems, of managing omnichannel or hybrid approaches.

6. Rating and charging for next-generation use cases

Mature 5G, or standalone (SA) 5G, promises to enable a host of unique capabilities and use cases – for example, network slicing or augmented and virtual reality (AR/VR) in the field. However, vendors and telcos alike do not yet understand how to charge and bill for these services: Will slices be billed on a data consumption model or SLA requirement tier? Will AR/VR devices be bundled into the opex

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[1] STL Partners survey with 699 industry professionals globally from manufacturing, retail, healthcare and transport & logistics industries, May 2021.

cost of software licenses, or purchased upfront? And how will partners in the ecosystem effectively derive their share of revenue if the cash flow of operator led-solutions doesn't align with their own?

As we heard from the assistant vice president of an operator based in Asia Pacific, slicing is particularly complex as it can't be standardised: "network slices are services, and their SLAs will change in line with the demands of the customer. This presents problems for the productization of network slices and the automation of billing – how can standardisation be introduced into a service which is so changeable? The GSMA and associated partners have been working on guidelines for the technology standards for networking slicing, but not on how operators should run and bill for them".

Even though the technology standards are not set for slicing, there are a host of questions that operators can begin to answer around commercial arrangements, IT infrastructure and processes to support delivery.

Overview of recommendations

From our research programme, we have defined six key recommendations for operators to support the monetisation of next generation networks. These recommendations are focussed on overcoming the challenges listed above, and innovating in the IT/BSS foundation of monetisation to become "5G-ready".

1. Create cross functional teams to drive alignment and accountability

Across our interview programme, the idea of cross-functional teams was a recurring motif (see Figure 8). For example, a North American telco has consolidated parts of its IT organisation within its technology strategy organisation. It was also mentioned by an Asia Pacific telco whose enterprise architecture team sits across both network and IT.

Figure 8: Operators from our research programme emphasise the importance of cross functional teams

"4 years ago we took the IT organisation and put it in the technology strategy organisation. This means that executive responsibility sit on the same table and decisions are made with both organisations in mind."

Single country tier-1 operator, NAM
Director, technology strategy

"It is important to take a holistic approach to 5G monetisation. As part of this, network and IT teams must collaborate rather than operating in siloes."

Single country tier-2 operator, APAC
Head of enterprise architecture

Source: STL Partners

Operators trying to take a holistic strategy should consider creating teams across functions that work together to deliver next-gen services. Organisationally, senior leadership will then sit at the same table to ideate and delegate – driving alignment across teams as well as accountability and responsibility within teams. The move to cross functional teams will also create operational efficiencies and facilitate a quick time to market for new products and services.

2. Build hybrid environments to support omnichannel and customer migration

There is variety in customer digital maturity across both the consumer and enterprise space. This includes their preference for channel, as well as the adoption of new models for procurement of services. Operators should therefore build hybrid environments across channel and commercialisation strategies to support the diverse set of customer needs, while migrating customers who want to onto more advanced systems (e.g. direct interfaces with customers' own internal management tools). Telcos should:

Take an omnichannel approach to their channels

Consumers and enterprises are migrating towards an increased use of digital channels. As the majority of customers will require a hybrid or omnichannel journey (seamlessly transitioning between online and offline channels), telcos need to focus on building out their digital capabilities to create a frictionless omnichannel experience.

To support consumers who increasingly want 'pure' online buying experiences, operators should consider launching digital brands alongside existing brands. As was mentioned by the head of strategy for a Middle Eastern and North African (MENA) operator, as well as by the chief regulatory officer for another operator in the same region, an end-to-end digital experience requires capabilities that cannot be delivered by legacy systems (e.g. customisation of tariff plans, e-customer support, visibility over usage, personalised ads and campaigns). Starting digital only operations with separate brands is a way to enable faster, more risk-free transformation… and learnings can be fed back into the major operator to drive innovation and omnichannel progress.

Enable a hybrid of commercial models

Operators are building hybrid environments to support steady migration of customers to new commercial models. Some customers will favour the more innovative, cloud-like consumption models, while others may prefer traditional models that existing BSS stacks can handle. Therefore, instead of looking at big bang BSS transformation projects, operators can also pursue a more gradual strategy – invest in smaller scale infrastructure that runs alongside existing systems, and slowly migrate customers while delivering the existing experience to others.

As we heard from the global head of strategy (business) for a European operator, it is not about rip and replace; rather, the legacy stack should be maintained to support existing services, while a new complementary stack is developed to enable new services. This approach also affords the opportunity to test and refine as customers gradually migrate, and are encouraged to migrate, to new models.

3. Avoid bill shock (and the fear of bill shock) – create transparency, openness, and predictability around emerging models and the customer bill

As the product portfolio becomes much richer for operators, and the models for monetisation across partners and customers evolve, telcos need to find a way to highlight to customers clearly and transparently the expected daily/monthly/annual charges expected.

For telcos working across multiple partners to deliver, for example, end-to-end solutions, the operator needs to understand how to aggregate the bill across those partners' services (each of which may have a different model) and present that to the customer in right-time and broken down in a meaningful way (e.g. by cost centre).

As we heard from the senior site manager for a North American retailer, as part of a research programme focused on the 5G B2B opportunity, tiered pricing can be an effective way to give enterprise customers predictable yet flexible bills – e.g. an opex/usage model for X use cases where there is a minimum and maximum monthly price: enterprises have flexibility within the tier (the monthly bill will depend on usage) and certainty that the bill won't exceed a pre-agreed amount without plenty of warning.

Operators need to build capabilities which allow them to move towards these new commercial models, but also avoid bill shock – such as the charges that happened with the initial stages of roaming – in an automated way; otherwise they risk deterring early adopters from new services, solutions, and models.

4. Invest in capabilities that enable self-service and configurability

As customers and partners begin to adopt more innovative models for monetisation, so too do they adopt more digital and hybrid models throughout the procurement process. This includes interacting with telco assets (network and BSS) through digital portals (as outlined earlier, two MENA operators from our research programme have launched digital-only brands); and, likely for larger organisations, through APIs. Exposing BSS assets through these digital channels can enable partners and customers to configure and quote for bespoke services more easily. In the case of telco partners, this enables delivery of a stickier proposition to customers and supports reduction of indirect churn. They can also access data on user stats to generate actionable insights and reduce churn.

Internal telco teams must also be able to create new product configurations and bundles (from across the growing telco portfolio) without lengthy procurement periods and timelines for sign off, quoting, and spin up. The head of enterprise architecture for an Asia Pacific operator from our research programme highlighted the importance of being able to develop new services and get them to market quickly. Telcos should invest in capabilities that enable a simple user experience for creating services but manage the complexity and the diversity of the growing portfolio.

Figure 9: Innovative IT/BSS capabilities mentioned in the interview programme
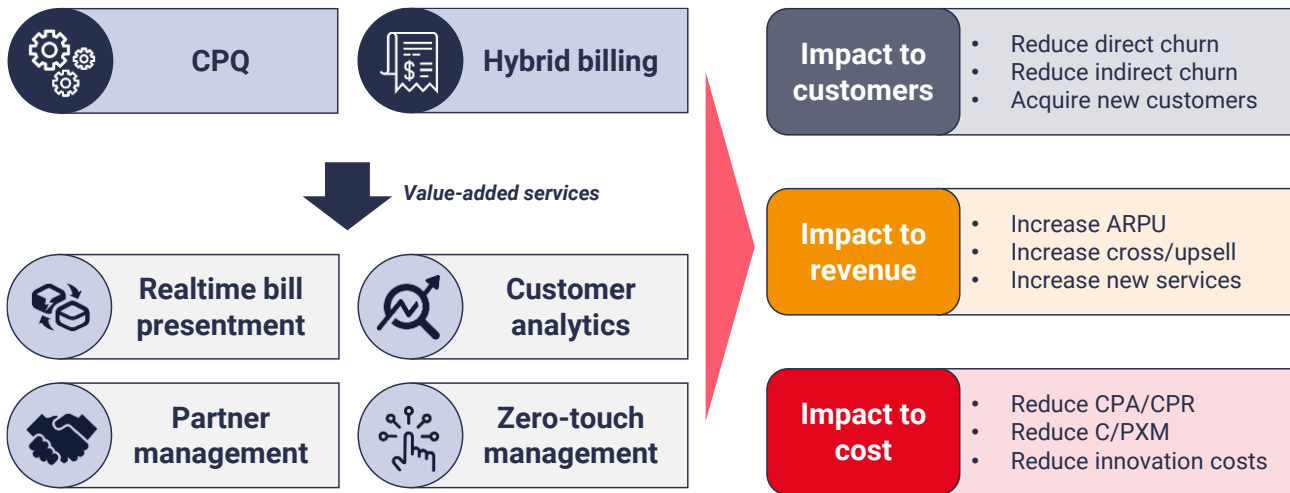
Source: STL Partners

5. **Drive PoCs and proof of values (PoVs) with customers to understand the roles operators can take and the preferred models for monetisation**

As customers are still early in their exploration of next-gen services, operators have the opportunity to take on a strategic advisory role, supporting enterprises in building the business case for 5G. This will not only allow the telco to identify the use cases and the propositions which will add the most value for their customers, but also support in the identification of the role for the operator in the ecosystem and the business models that are most viable for monetisation.

As we heard from the vice president & head of Asia strategy for a global operator, undertaking POCs with customers enables the customer pain point to be identified. The operator in question anticipated that a 5G-enabled video analytics solution (for safety and security) would add value to a shipping port operation, when in reality the customer's pain point revolved around lost time and money on shipment tracking – the port needed an asset tracking solution. This demonstrates the importance of collaborating with customers to ideate relevant use cases, and subsequently to build the business case together.

As was also mentioned in this same interview, running POCs allows the operator to gain an understanding of the ecosystem required to deliver solutions and of their role within it. The example of asset tracking requires hardware, software, and connectivity. Does the operator front the solution and assemble all the relevant components? Or does the operator just provide the on-site private connectivity? There are different roles that operators can play which have different implications on monetisation. It is from PoCs that operators can determine what the right strategy is for them. Furthermore, they can then tailor their investments in transformation, with an understanding of the capabilities required from their IT and IT partners.

6. Work with partners to build common architectures and frameworks for emerging technology, across the network and the IT

Just as there are consortia working on the technology standards for networking, telcos should input into and support the creation of standards for IT in next-gen monetisation. Some operators are hesitant to consider the implications to IT as the tech isn't ready, but this is a chicken and egg scenario – operators should get the backend ready and put pressure on the ecosystem to catch up with technology standards.

Operators should take a proactive role here, identifying partners to support in the building of these standards (e.g. an Asia Pacific telco from our interview programme is trying to do this for slicing). By defining the requirements and potential models and encouraging partners to innovate and create standards, operators can be ready for their arrival and be fast to market with early propositions.

These 6 recommendations outlined above will help operators effectively transform their legacy systems, which are not currently built to handle the flexibility and complexity of next generation monetisation.

Conclusions

Operators have the opportunity to change their business model: the Coordination Age is encouraging them to play across the value chain in a capacity beyond connectivity and to own customer relationships; 5G's flexibility is unlocking the ability to dynamically serve ecosystems rather than particular customers with purpose-built solutions.

But if operators are to successfully navigate to this new telco vision and become '5G-ready', they must be prepared to innovate across their IT/BSS systems. While attention, excitement, and investment tend to cluster around next-generation networks (and the accompanying innovative services they enable), the backend systems must be in place to support monetisation. We summarise the key IT/BSS complexities and recommendations below:

- Complexities:

  – Portfolio diversity and simplification

  – Partner management across complex B2B2X ecosystems

  – Configurability: the need to manage customised services in a productised and automated way

  – The shift towards right-time billing and away from end of cycle processing

  – Variation in maturity of customers and adoption of new vision models

  – Rating and charging for next-generation use cases

- Recommendations:

  – Create cross functional teams to drive alignment and accountability

  – Build hybrid environments to support omnichannel and customer migration

  – Avoid bill shock (and the fear of bill shock) – create transparency, openness, and predictability around emerging models and the customer bill

  – Invest in capabilities that enable self-service and configurability

  – Drive PoCs and proof of values (PoVs) with customers to understand the roles operators can take and the preferred models for monetisation

  – Work with partners to build common architectures and frameworks for emerging technology, across the network and the IT

In particular, our interview programme highlighted that there is a shift towards new monetisation models which require both hybrid and right-time billing capabilities. Current IT/BSS systems are not robust enough to handle these new models, and operators must therefore invest in enabling systems and capabilities. As operators interact with their customer base – across consumer and enterprise – and partners in an increasingly digital way, evolved IT/BSS capabilities will be essential. Moreover, this will give operators flexibility and allow them to cater to the varying requirements of stakeholders to effectively monetise 5G.

Message from our sponsor

With operators looking to leverage 5G, cloud and edge to evolve far beyond the traditional connectivity cash cow model, the importance of innovative monetization and user journeys – and how they should be supported – has become a key factor.

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