2021 Trends to Watch: Telecoms Operations and IT

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“In current stressful circumstances, service providers that provide a fragmented customer experience will be quickly punished”

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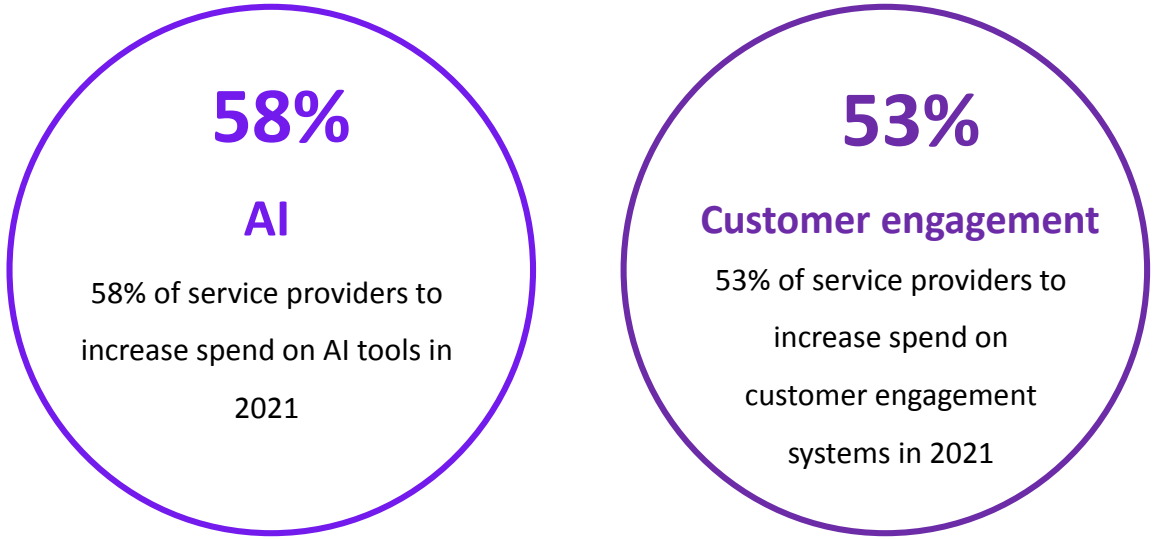
Contents

Plenty of telecom IT opportunities despite COVID-19

- The COVID-19 crisis has impacted service provider spending plans, but technology never sleeps, and several key areas of telecoms IT will demand attention in 2021.
- Overall telecom IT vendor revenue is expected to grow by 2.3% in 2021—a welcome improvement on this year's anticipated 0.6% decline—although still below the 4% CAGR for the period to 2025.
- However, despite the overall sluggishness, there will be strong areas of growth, especially around anything to do with AI-driven network automation, data management, and monetization.
- Automating the increasingly complex network and service management environment has become a major priority for CSPs, along with the AI and data management capabilities required to support this. Service providers also need to invest in customer engagement solutions to digitize and unify the customer experience, and the 5G monetization tools required to support a wide range of new services and business models. And underlying it all is the continuing shift to the cloud, and the need to adopt cloud-native technologies and practices.

Telecom IT to see several strong areas of growth



AI and customer engagement will see a strong increase in investment in 2021, as well as areas such as network and data management and monetization

Source: Omdia

Key messages

Growing service provider appetite for cloud and cloud-native telecom IT

Underpinning everything is the continuing shift to the cloud and the need to adopt cloud-native technologies and practices. Whichever cloud migration approach you choose, it is unlikely to go well without embracing Agile operating principles to support it.

AI investment finally starts to catch up with the hype

Automating the increasingly complex network and service management environment has become a major priority for service providers, along with the AI and data management capabilities required to support this shift.

Customer engagement resurgence is driven by COVID-19

Service providers are already under pressure to automate and digitize customer engagement, but this will not be sufficient if they do not also invest in the IT tools capable of supporting a consistent and unified customer engagement strategy.

5G monetization remains a priority

5G monetization will continue to be prioritized. Service providers need the tools to support a wide range of new services and business models. This will require not just 5G-ready policy and charging systems but also a broad mix of customer and partner management capabilities.

Key recommendations

Service providers

- **Service providers need to start trialling, testing, and implementing Agile practices** across the organization so that they are well prepared for their cloud migration. CSPs also need to take stock of and fill any gaps in in-house capabilities and IT skills.
- **Service providers need to look beyond performance, monitoring AI use cases.** Utilizing AI to perform closed loop automation presents a much bigger opportunity to transform RAN and core operations into something more proactive.
- **Service providers should seek to convert the short-term shift to digital interaction into a permanent change in customer engagement**. However, at the same time they need to develop a consistent and unified customer engagement strategy and invest in solutions that allow them to deliver a consistent omnichannel experience.
- **Service providers need to invest in new 5G-ready policy and convergent charging systems if they have not already done so**. Most 5G monetization solutions will need to include charging and policy capabilities and service providers need to also consider additional features such as customer management, partner management, product catalog, and analytics.

Vendors

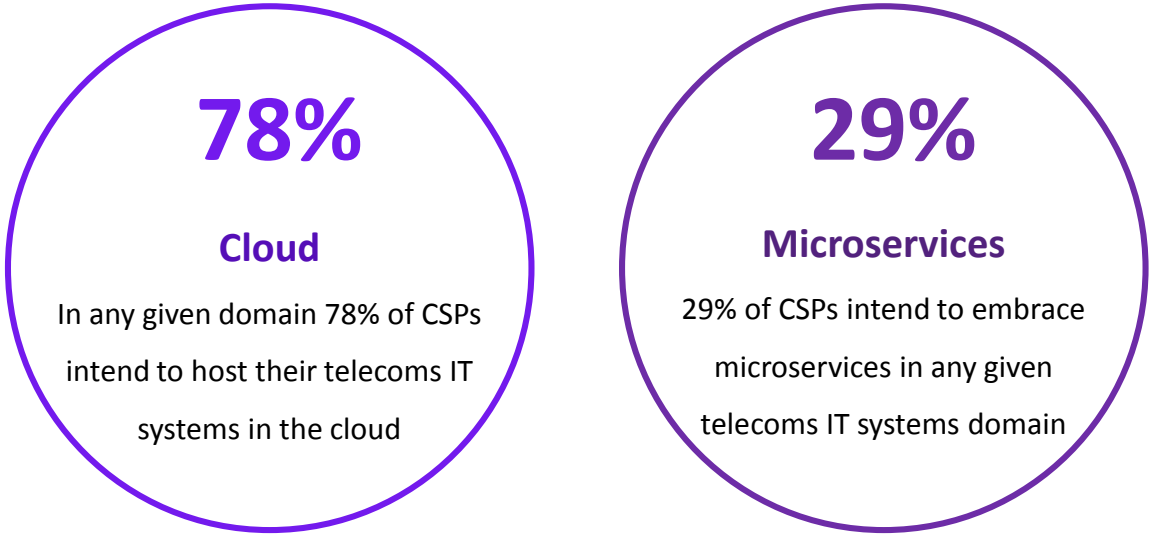
- **Vendors will need to provide CSPs with hands-on support to help them embrace Agile and DevOps principles and transform development practices**. Vendors will need to provide strong training and support and offer easy-to-use tools to help close gaps in in-house IT expertise.
- **Vendors cannot focus on AI capabilities in isolation.** They need to address associated areas, including improving data management and embracing open APIs to enable CSPs to access and make effective use of data, as well as support a common analytics platform to help CSPs streamline analytics workflows.
- **Vendors should ensure that their customer engagement solutions provide a unified view across the customer journey**. They should also be able to orchestrate the customer experience across any channel, business function or department.
- **Vendors will need to assist service providers with 5G monetization use cases**. 5G will be characterized by complex B2C, B2B, and B2B2X business models which will necessitate fast and flexible monetization systems. However, such flexibility will not be sufficient by itself; vendors will need to provide guidance with 5G monetization use cases and be prepared to co-develop such use cases with CSPs.

Growing service provider appetite for cloud and cloud-native telecom IT

Growing service provider appetite for cloud and cloud-native telecoms IT

- The shift to the cloud continues apace. We have now reached the point where in any given domain, 78% of service providers intend to primarily host their telecoms IT systems in the cloud, although of course systems do not equate to workload. The proportion of the workload in the cloud may still be relatively low, but there is clearly momentum.
- By contrast, the adoption of cloud-native technologies has been slower. To get the most out of the cloud, applications should be cloud native. But over the coming year, CSPs still intend to run a large proportion of telecoms IT systems on legacy monoliths, and on average only 29% intend to embrace microservices architectures in any given domain.
- Nevertheless, there are encouraging signs of change. Omdia's ICT Enterprise Insights 2020/21 survey shows that nearly 80% of CSPs believe that migrating IT systems to microservices-based architectures will be an "important" or "very important" project in 2021.
- This growing interest in microservices and cloud-native IT needs to be accompanied by adoption of Agile, DevOps, and CI/CD practices if CSPs are to obtain the full benefits. Service provider interest in these is also growing, but they face a steep learning curve.

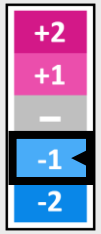
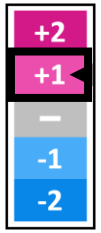
Need to accelerate the shift to cloud-native



Slow pace until now. However, the good news is that nearly 80% of CSPs view migrating IT systems to microservices as an important project for 2021.

Source: Omdia

CSPs need support to establish Agile, DevOps, and CI/CD practices

Player type	What will the impact be?	Impact rating	How should players respond?
Service providers	To get the most out of the cloud, applications should be cloud-native and CSPs need to adopt Agile, DevOps, and CI/CD practices. However, such capabilities are not all maturing at the same rate, creating potential bottlenecks. Even if CSPs initially adopt a targeted greenfield approach, they will eventually need to scale up across the organization. When we ask senior decision-makers about the challenges their organization faces in migrating business support system /operations support system (BSS/OSS) to the cloud, their biggest concern is limited in-house IT expertise.		Service providers need to start trialling, testing, and implementing Agile practices across the organization so that they are well prepared for their cloud migration. CSPs also need to take stock of any gaps in in-house capabilities and IT skills and if they require vendor support they should ensure they include it in RFPs. Whichever cloud migration approach a CSP chooses, it is unlikely to go well without the necessary cloud-native skill sets and processes to support it
Vendors	The adoption of cloud and cloud-native architectures by service providers requires the adoption of new processes and organizational structures. This in turn requires vendors to adopt a more end-to-end approach to their product offerings and take a more holistic view of how they support their service provider customers.		Vendors will need to provide consulting services or partner with consultancies in order to help CSPs embrace Agile and DevOps principles and transform development practices. Vendors need to take full advantage of underlying Kubernetes capabilities, provide strong training and support, and offer easy-to-use tools to help close gaps in in-house IT expertise, including software development kits (SDKs), low code, and no code IT solutions.

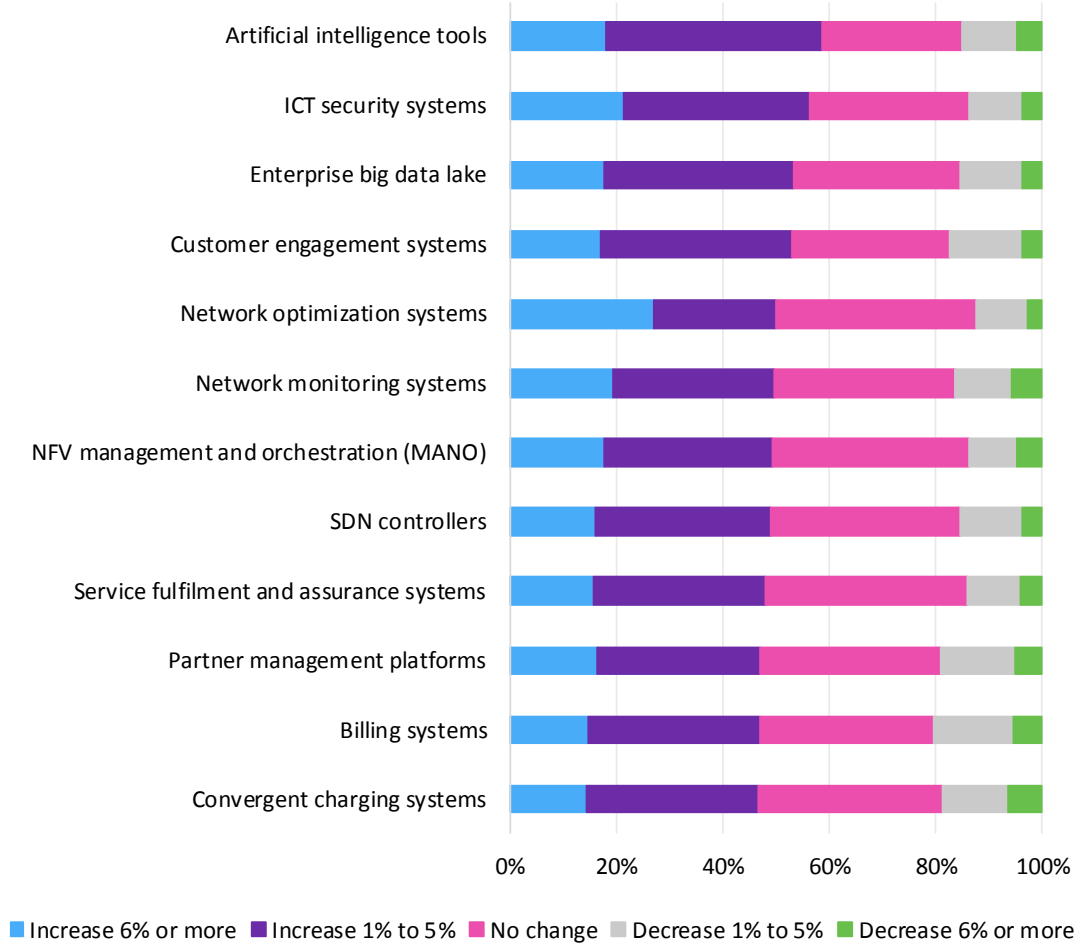
AI investment finally starts to catch up with the hype

AI investment finally starts to catch up with the hype

- Telecom AI has been much hyped, but it is only now that investment is starting to pick up, as service providers realise they need the automation tools, data analytics functions, and intelligence to support 5G network management, slicing, private mobile networks, and new business models. COVID-19 is also making it more of a priority for CSPs to improve operational efficiencies.
- Nearly 80% of CSPs see the use of AI/analytics to automate network activities as an “important” or “very important” IT project for 2021, with nearly 60% of CSPs planning to increase investment in AI tools.
- Automating network and service management processes is considered the most important OSS project over the next 18 months, as CSPs start to edge towards integrated solutions that can support closed-loop automation.
- Top AI use cases are expected to include network fault prediction and prevention, automation of end-to-end life-cycle management, and the management of network slicing. The range of use cases is growing fast, and soon the Telefonica CTIO will not be alone in claiming “We are building a new operating model using AI capabilities.”
- AI and analytics will also support a variety of non-network use cases, including using AI to support new business models such as contextual offer management as well as automating and personalizing customer engagement.

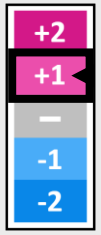
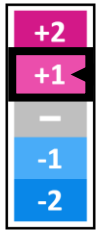
AI investment is turning into a service provider priority

What are your IT spending plans for each of the above systems during the next 18 months?



Source: Omdia

AI tools are only part of a bigger picture

Player type	What will the impact be?	Impact rating	How should players respond?
Service providers	As a major vendor recently commented: “every client is looking for network automation.” Automation is becoming critical to operating the increasingly complex RAN and core network environments, especially the new 5G core network environment. Cloud-native and distributed cloud architectures and the growing importance of the network edge are adding to the complexity. AI is increasingly needed because existing operations are too reactive and rely heavily on human operators to execute functions.		Service providers need to look beyond performance monitoring AI use cases. Utilizing AI to perform closed loop automation presents a much bigger opportunity to transform RAN and core operations into something more proactive. CSPs can also start to explore AI at the edge in order to automate and optimize service delivery. However, it is essential to prioritize those AI initiatives that are likely to deliver a decent ROI because they are closely aligned with the new revenue areas associated with 5G or already being explored on 4G.
Vendors	Vendors are applying AI in the OSS domain in order to increase automation, support network slice lifestyle management, and the complex operations and management of 5G networks. They also need to invest in associated areas such as the network data analytics function (NWDAF). Vendors will also need to take a multi-layer approach to implementing AI within the network, as network slicing and distributed cloud will require multi-layer control and orchestration to meet SLAs.		There is pressure on vendors to move faster from proofs of concept to productizing and embedding AI capabilities. However, effort will need to focus not just on AI capabilities but in also addressing associated areas, including improving data management and embracing open APIs to enable CSPs to access and make effective use of data. Vendors will need to support common analytics platforms to help CSPs streamline and accelerate analytics workflows, as well as support industry initiatives to define open interfaces to ease access to CSPs’ network and support systems data. To support network automation, vendors need to adopt a multi-faceted approach.

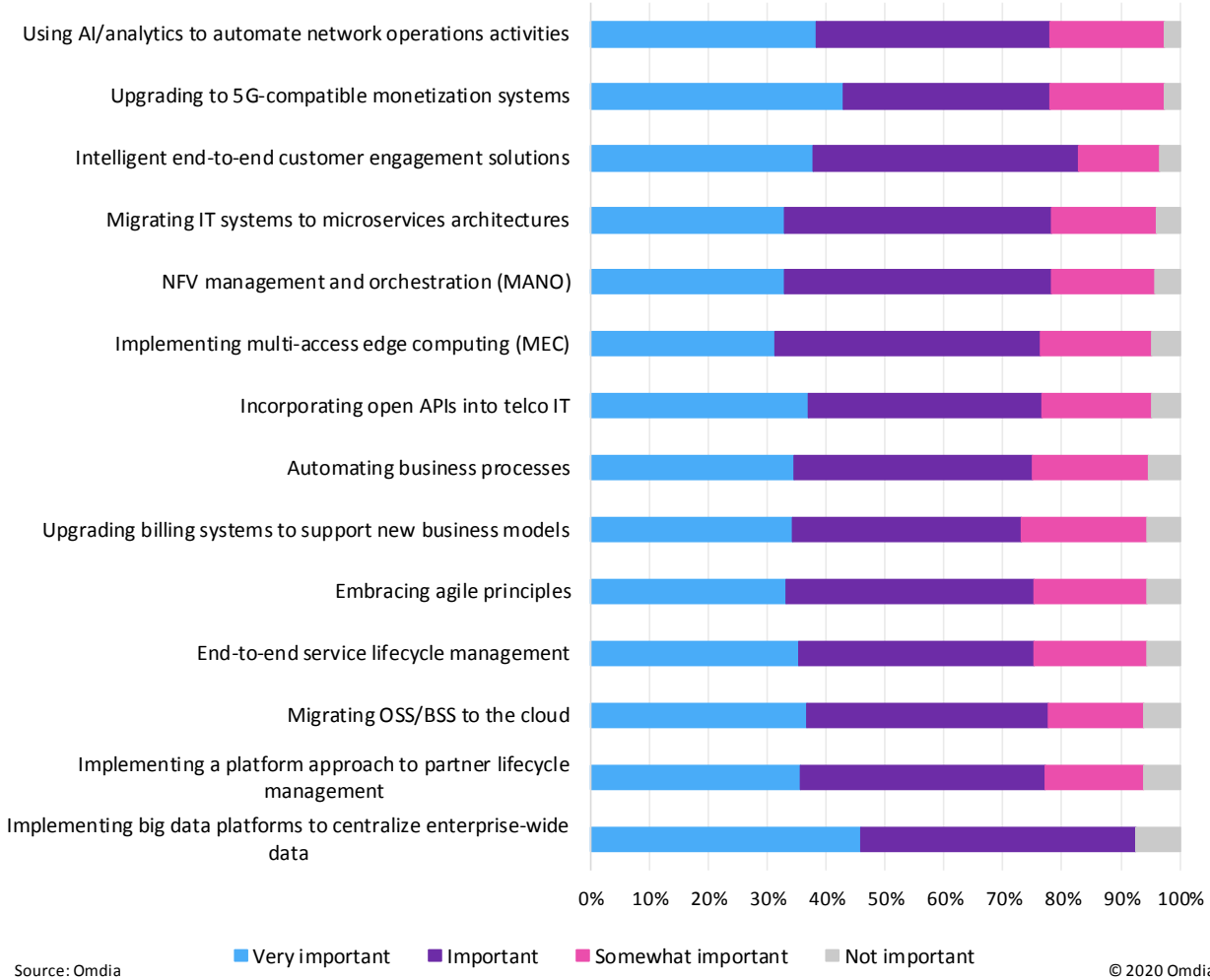
Customer engagement resurgence is driven by COVID-19

Customer engagement resurgence driven by COVID-19

- Service providers are already under pressure to automate and digitize customer engagement. The COVID-19 pandemic has brought major changes to the customer engagement environment as a result of retail outlet and contact center closures and a sudden shift to digital and remote working operations.
- This has led to a resurgence of CSP investment in customer engagement tools. Over 80% of CSPs see end-to-end customer engagement solutions as an “important” or “very important” IT project for 2021, and almost as many plan to upgrade their customer engagement solutions over the coming year.
- Furthermore, CSPs plan to incorporate AI and advanced analytics capabilities into their customer engagement strategies. Top AI investments include automating and personalizing customer engagements and deflecting calls from call centers (e.g., with chatbots).
- Investment in customer engagement will not be limited to the B2C side of the business, as the top IT projects to improve B2B operations will focus on improving customer engagement for enterprise customers and enterprise end-users. Investments will include improving self-service portal capabilities and evolving self-service channels into new areas.

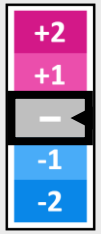
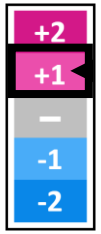
Importance of customer engagement

How important are the above IT projects to your company?



Source: Omdia

Customer engagement needs to be more than just digital catchup

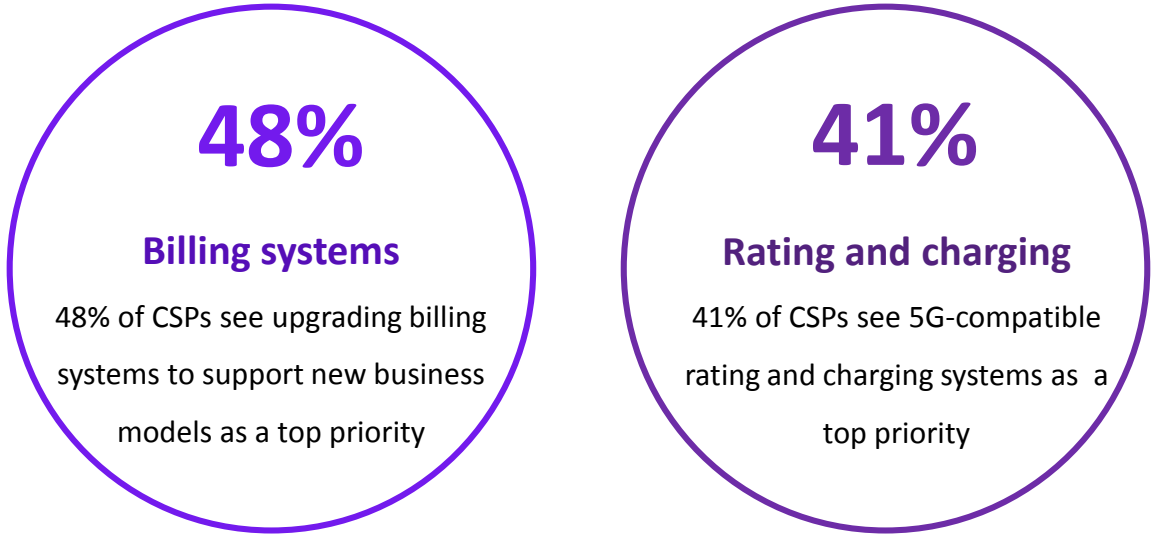
Player type	What will the impact be?	Impact rating	How should players respond?
Service providers	The COVID-19 pandemic has brought major changes to the customer engagement environment, but up to now, much of this has been reactive and focused on a shift to digital and to support remote working. Progress towards enabling omnichannel customer engagement has not always been as advanced as it should be. In the current stressful circumstances, those service providers that provide a fragmented customer experience will be quickly punished. It is more essential than ever to deliver a consistent customer experience across voice, chat, web, and video.		Service providers should certainly seek to convert the short-term shift to digital interaction into a permanent change in customer engagement. However, at the same time they need to develop a consistent and unified customer engagement strategy and invest in vendor solutions that enable them to deliver a consistent omnichannel experience that coordinates interactions across digital and nondigital channels. CSPs also need to make targeted use of AI to better orchestrate customer journeys, as well as invest in well integrated central data repositories and robust data management capabilities.
Vendors	The impact of COVID-19 is boosting customer engagement investment, although the initial opportunities are applications that support the digitization of customer engagement and this initial phase is mainly geared towards filling gaps exposed by the pandemic, such as self-service applications. However, vendors must not allow this short- to medium-term opportunity to derail them from pursuing more long-term strategic investment opportunities.		Vendors should ensure that their customer engagement solutions provide a unified view across the customer journey, as well as the ability to orchestrate the customer experience across any channel, business function, or department. Vendors will need to take advantage of the full gamut of AI, automation, and data management and cloud capabilities if they are to meet CSPs' increasingly complex customer engagement requirements, whether by offering these themselves or through close partnerships.

5G monetization remains a priority

5G monetization remains an investment priority

- 5G investment has not been derailed despite the impact of COVID-19. Omdia expects 5G RAN investments to surpass LTE by the end of 2021, and although total global market may peak in 2022 as initial China 5G rollouts finish, 5G as whole will continue to grow. This will of course drive the need for 5G monetization solutions. This fits with the longer-term pattern, with BSS revenue forecast to grow at a CAGR of 3.6% over the period to 2025.
- CSPs will continue to invest in the BSS domain over the coming year in order to improve their ability to support network slicing, private mobile networks, IoT use cases, and the flexible pricing required to support new business models.
- So it's no surprise that the two top BSS investment priorities over the coming year are upgrading billing systems to support new business models and investing in 5G-compatible rating and charging systems. Improving self-service capabilities and migrating revenue management systems to the cloud will also be important.
- Feedback we have had from CSPs suggests that although billing is a current priority, we will see increasing interest in 5G policy control (PCF) and 5G convergent charging (CHF) as well as increasing appetite to invest in integrating policy control and charging systems.

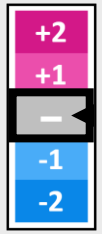
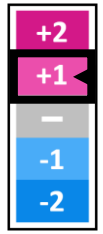
BSS investment priorities



Top two BSS priorities for 2021 are upgrading billing systems to support new business models, and investing in 5G-compatible rating and charging systems

Source: Omdia

5G monetization is a more complex undertaking than many realise

Player type	What will the impact be?	Impact rating	How should players respond?
Service providers	If operators delay on 5G-related software investments, they risk being left behind. Many of the high-profile features of 5G will only feed through in phases, but CSPs cannot afford to wait until the full capabilities of 5G are available to begin monetizing the network. Apart from anything else, they need 5G monetization solutions that can handle speed, agility, and frequent changes of scale.		CSPs clearly need to invest in new 5G-ready convergent charging systems if they have not already done so. However, the full range of 5G monetization solutions they adopt will be shaped by the use cases they hope to support. Most vendor 5G monetization solutions include charging and policy capabilities, but there are numerous additional features that will need to be considered such as partner management, product catalog, analytics, and customer management.
Vendors	5G will be characterized by complex B2C, B2B, and B2B2X business models and the short time required to bring multiple products and services to market and slice, personalize, dynamically charge, and experiment. Vendors' monetization systems will need to be highly flexible to support this. However, it will not be a free for all—vendors will need to develop use-case based transformation roadmaps to help guide CSPs through each phase of the 5G journey.		Microservices architectures and cloud-ready IT solutions are becoming standard for 5G monetization solutions. However, many CSPs still need help with cloud-native skill sets and processes, and so vendors should ensure they highlight the services, training and tools they have available to help CSPs transition to new operating models. Vendors will also need to assist service providers with 5G monetization use cases and should be prepared to co-develop such use cases with CSPs.

Appendix

Appendix

Methodology

This report was produced through a combination of primary, secondary research, and Omdia data. Primary research included briefings and industry surveys. Secondary research included conference presentations and publicly available information. In addition, various Omdia's databases and forecasts were used.

Further reading

ICT Enterprise Insights 2020-21 - Global Telecoms, (September 2020)

Telecoms IT Vendor Revenue Forecast Report: 2020–25, (October 2020)

Telecoms IT Vendor Revenue Forecast 2020-25, (September 2020)

Market Landscape: CSP Operational Support Systems, (September 2020)

Streamlining analytics workflows for CSPs drives efficiency and reduces costs, (September 2020)

Omdia Market Radar: Customer Engagement Solution for CSPs, 2020–21, (July 2020)

Using AI in the CSP core network, (July 2020)

Using AI in the RAN: Identifying and Addressing the Roadblocks, (June 2020)

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Appendix

Omdia Consulting

We hope that this analysis will help you make informed and imaginative business decisions. If you have further requirements, Omdia's consulting team may be able to help you. For more information about Omdia's consulting capabilities, please contact us directly at consulting@omdia.com.

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