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SERVICE AND BUSINESS MODEL INNOVATION: WHY AGILITY WILL BE KEY IN ENABLING NEW REVENUE STREAMS FROM 5G

Webinar: Questions and answers

Service and business model innovation: why agility will be key in enabling new revenue streams from 5G

This document outlines the questions and answers received from the STL Partners and CSG webinar, 'Service and business model innovation: why agility will be key in enabling new revenue streams from 5G' which was hosted on Wednesday 10th May.

You can watch the recording of the session, and also access the slides, using the [link here](#). We have included the following timestamps for the webinar recording:

- **01:55** for the introduction to our presenters and panellists
 - **Malcolm Crouch**, Regional CTO, CSG
 - **Phil Laidler**, Director, Consulting, STL Partners
 - **Henry Osborne**, Consultant, STL Partners
 - **02:44** for STL's presentation on "Enabling new revenue streams for CSPs through live video capture"
 - **21:00** for CSG's presentation on "5G Innovation"
 - **41:55** for Q&A session
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If you have any questions not addressed in the webinar or this Q&A document, or want to hear more about our research findings or from our speakers, please contact:

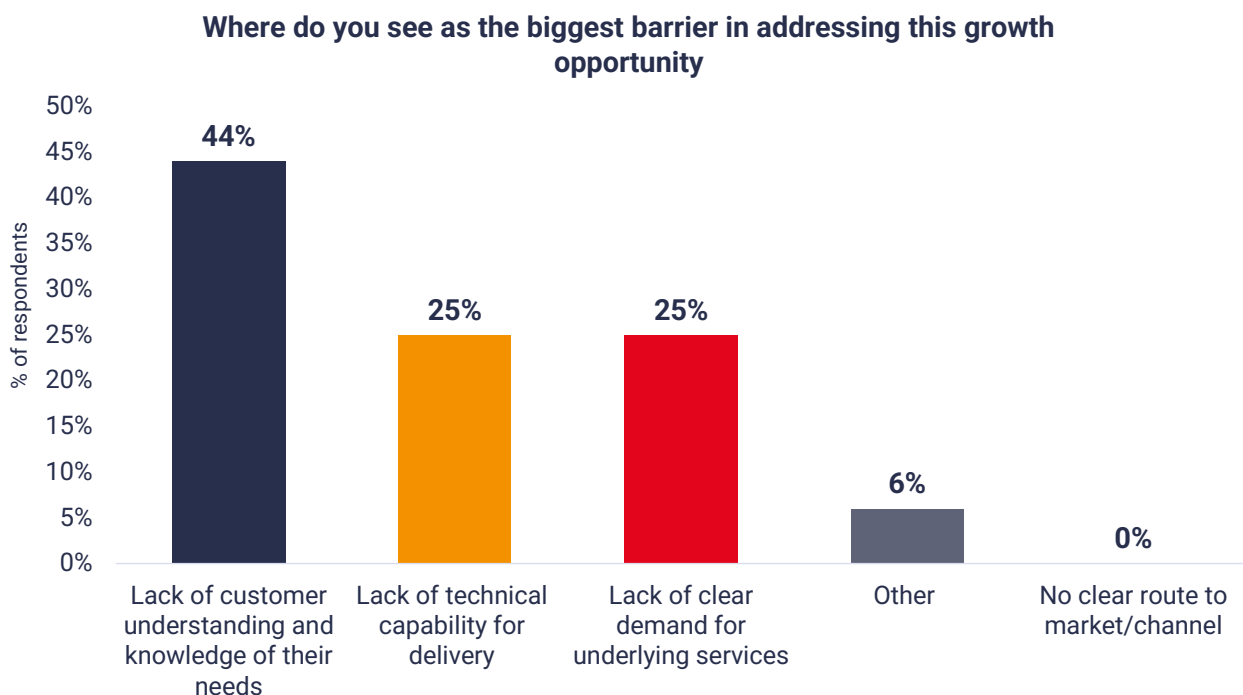
- **Henry Osborne**, henry.osborne@stlpartners.com
- **Philip Laidler**, philip.laidler@stlpartners.com
- **Malcolm Crouch**, malcolm.crouch@csgi.com

Webinar questions and answers

The below questions were received from the webinar audience during the live session. The first section includes the live poll followed by questions and answers asked during the webinar and the second section includes questions that were not covered on the webinar.

Live questions and answers

Poll: As part of the webinar, we asked live attendees what they saw as the biggest challenge in addressing the live video capture opportunity with results shown below:



Q: From your perspective, would you say that that you see a lack of customer understanding on the enterprise side as the largest barrier for telcos?

Phil Laidler, STL Partners: I was slightly surprised by these results, we've seen a number of examples of these sorts of solutions. And actually, we've tended to get a bit of pushback in terms of clear demand for underlying services. So it's interesting to see here that the poll results suggest that the biggest barrier, at least for this audience, and at least in this region, is more around the knowledge and needs. And I think that is something that needs to be addressed. And the way you address that is you develop more knowledge and understanding that means you focus on the skills, the recruitment, the way that you build the capabilities, and the investments you make as operators on skills. The key takeaway is operators do need to invest in understanding the markets they're serving, particularly as that's where the focus needs to be. It needs to be focusing on the customer having the skills in house

to understand their needs and their market, rather than worrying too much about the plumbing. It's really getting that and about our presentation today focused on what is the opportunity, what are the customer needs? What are the challenges those customers have? How could slicing help to address those? I'd agree with the finding; but it surprises me. It's not what we've systematically heard on it. So it's kind of interesting. And it points the way to where the investments need to be.

Malcolm Crouch, CSG: I believe the answer to your question is a mix of yes and no. It's not surprising to me that this is the case. Our industry has failed in effectively educating the user community about the potential of 5G. We have not done a great job in explaining what can be achieved with 5G and providing use cases to customers. This lack of understanding is evident, as customers are unsure about the capabilities of 5G. We have not invested enough time in exploring and demonstrating the possibilities and practical applications of 5G. Instead, we have focused too much on technical aspects without effectively educating people about its benefits and breaking it down in simpler terms. Additionally, there is a perception barrier regarding the cost of 5G.

One operator in Korea outlined three principles to consider: affordability, necessity, and data security concerns. If these criteria are not met, 5G may not be suitable. While this approach may work for top-tier customers, it may not be sufficient for those in lower tiers. To address this, we need to focus on educating and providing solutions to a broader range of markets. It's crucial not only to educate individuals but also to educate our partners on how they can integrate 5G into their products and solutions for various industries. By making these services more accessible, we can foster development and growth. Ultimately, education is key. I would be interested to see how opinions change in the coming months, and it would be valuable to conduct a poll to assess any shifts.

Q: Vodafone recently announced that they have provided their 5G standalone network for sliced broadcasting for ITNs coverage of the coronation. With that in mind, could you drill down a little bit more for us into how this use case might impact tier one broadcasters?

Phil Laidler, STL Partners: Yes, we have chosen this video capture use case for a specific reason. It has not only been observed recently in the UK but also in other countries where several operators have adopted it as the first commercial slicing application. This trend is becoming common, and there are valid reasons why our focus has been primarily on tier one broadcasters. However, there is a clear opportunity for a wider customer base. This presents a chance to increase average revenue per user (ARPU) and offer additional services such as production equipment and managed services.

We believe this use case will be one of the first to be commercialized by operators, while many more will follow. The reason it is compelling is that broadcasters are already accustomed to paying a premium for upstream connectivity and reserving services through transponder links with satellites. They are under significant commercial pressure to expand coverage while reducing costs, creating a strong business case. Broadcasters are actively seeking this service, and it addresses a clear need. This particular use case resonates strongly with its customer base, unlike others where finding such alignment can be challenging.

We anticipate witnessing more launches of this use case throughout the year, including in Germany, the UK, and Asia. It is interesting to explore why this particular use case stands out and why it will

drive new service development. It is crucial for operators not to approach these opportunities as isolated projects. Instead, they should adopt an innovation architecture that is scalable, repeatable, and cost-effective, as some initiatives will succeed while others may fail. Avoiding an expensive innovation process allows for quick production of solutions. If successful, scaling them becomes possible, and if not, shutting them down and moving on is essential. This mindset is crucial for operators entering this domain, and they need the necessary capabilities, platforms, and partnerships to support this approach.

Q: Do you have any other examples of how network slicing may impact different verticals; following your conclusive remarks that we will see different innovation models within each industry?

Henry Osborne, STL Partners: I think, as we've seen in this presentation, network slicing has a huge potential within the live video capture industry. But that's not the only industry where we can see change. I think it's really about prioritising and analysing the business case for each. So the different use cases, and work out where you will get a return on your investment. And some of these services may take considerable time to work out how they will actually come to market. I think we've seen considerable traction with mobile cloud gaming. So, network slicing offers significant advantages, and aims to reduce the amount of jitter and service inconsistency that we typically see. Slicing can provide these latency corridors which can address the key pain points that we usually see it in in cloud gaming. This is similar to the broadcast example.

We talked through how many models there are during the presentation. Mobile cloud gaming is similar to live video capture. And so this could be with a data plan upgrade where telcos sell the slices directly to consumer as part of the package upgrade, or they can have some sort of a gaming bundle. So they could enable retail cloud gaming service with the upsell of 5G and slicing data plans, I think there are several other industries and use cases, but it's about working out, which one is the most tangible and will get a return on that investment.

Malcolm Crouch, CSG: Both Henry and I have repeatedly fallen into the same trap here. We mistakenly referred to it as "slicing," when in fact, what you were describing is "quality of service." I realized that I made the same error by using the term "slicing" on my side. "Slicing" is a technology term, but the desired outcome is actually the business aspect of quality of service. What I find intriguing is that 5G provides the potential for different levels of quality of service. You can opt for a dedicated slice that offers high-quality service tailored to specific characteristics. Alternatively, there's a tier below that where a shared slice is set up for a particular service type. Lastly, there's the option of a blanket service where you utilize everything, including 5G connectivity.

Fundamentally, what 5G offers underneath it all is the ability to deliver quality of service within the underlying network itself, without the need for overlay methods like deep packet inspection used in the past. It's a native capability. However, when discussing it from a business perspective, the focus should be on quality of service, whether it pertains to latency, bandwidth, scalability, or other factors. Quality of service is the business-oriented aspect rather than merely the technical aspect of slicing.

I apologize for falling into the trap of using "slicing" instead of "quality of service." It should have been stated correctly. In essence, if the objective is to achieve quality of service, that becomes the key attribute to consider.

Q: How do you see telcos needing to re-orientate their business models away from traditional methods and towards new models like B2B2X marketplaces?

Phil Laidler, STL Partners: Yeah, I think it aligns with Malcolm's point about having the right to play. If operators treat their network as a separate, independent resource and only try to bundle in other capabilities, devices, and applications, where is their right to differentiate from competitors? Anyone can acquire that commodity. However, what's fascinating about 5G, slicing, and other capabilities related to quality of service is that the network becomes relevant again. Now, operators have the ability to mandate quality of service, provide instructions to the network, and derive key insights dynamically. The network transforms from being a connectivity problem that needs to be worked around into an integral part of the solution. This is the basis for why operators have a stronger right to play. Suddenly, there's a mandate to bring the ecosystem together, combining infrastructure, communication, and quality of service with applications and devices. Operators now have a more influential role.

We find this incredibly exciting for operators. It offers them an opportunity to play the role of coordination aides, as Henry initially highlighted. This doesn't mean they should aspire to be central in every aspect. They can be central for some elements while contributing to other areas. Nonetheless, it provides a better aspiration, a proven path to growth, and the ability to generate new service revenues while adding more value to their customer base. That's what truly excites us about this use case example and 5G in general. It finally makes the network relevant and positions it as an essential part of the solution, rather than an obstacle that application providers must navigate. It brings to life the opportunity we envisioned from the outset of the [coordination age](#).

Q: How do you see these new demands on digital services affecting the charging and billing environment?

Malcolm Crouch, CSG: Yes, Henry mentioned a simple example earlier about gaming. So let's consider the consumer side of gaming. For instance, if I want to purchase a gaming service, I can look at it like buying a mobile plan. I would buy a gaming plan that includes a certain number of games, a specific amount of data bandwidth, and access. It's a straightforward business-to-consumer (B2C) model, similar to purchasing a mobile phone where you can bundle the handset or goggles with the plan.

However, let's say I become a gaming provider and I want to host my games on your network, let's say you're X telecom. How would I go about doing that? I would reach out to you and request a slice with specific characteristics. I would need features like auto-scaling, support for a minimum number of subscribers, scalable matchmaking, and a certain amount of edge compute locations to ensure low latency. Now it becomes quite complex. I want to bring the games and other components to the table to create a comprehensive package on the business-to-business (B2B) side. This complexity involves quoting for the service, fulfilling the requirements and managing the service effectively. The challenge lies in dealing with various partners and integrating their services seamlessly.

To handle this complexity, you need strong catalogue integration and roll out these services, along with mechanisms to configure, price, quote, fulfil, generate revenue and settle. The back end of this process becomes crucial. You need the capability to bring together multiple aspects in real time. It's not just about provisioning the 5G network piece in isolation. You need an end-to-end solution that enables you to configure and fulfil the service dynamically. That's where the complexities arise and why I mentioned the importance of the journeys within that wheel. You need to move from exploration to onboarding and have platforms that can support these steps.

Catalogue-driven processes play a significant role here. The processes are driven by the catalogue itself, defining the execution from metadata rather than the processes accessing the catalogue. Having a solid concept of cache is integral and the systems need to support this. Real-time capabilities are crucial, enabling end-to-end automation without manual intervention. It's about achieving automation and zero-touch operations, as we've been hearing. Monitoring and running the entire process in real-time is equally important.

Post-webinar questions and answers

Q: Building on some of the themes from the webinar, do you have any examples you can share of CSG enabling operators to build out agile and flexible use cases?

CSG: Use-cases are typically solutions. Solutions require multiple elements (internal and 3rd party). CSG enables operators to achieve agility and flexibility by being catalogue driven meaning the processes (service eligibility, qualification, pricing, costing, and fulfilment) are driven from catalogue meta-data. When ingesting 3rd party elements into catalogue it is not just pricing and costing, you similarly need to ingest the method to fulfil externally. CSG has been actively contributing to evolve TMForum standards to allow such meta data to be captured within the information data model. Proof points were piloted in [TMF Catalyst projects](#) (zero-touch principles) which CSG now leverages with customers.

Q: How do you see telcos needing to re-orientate their business models away from traditional transactions and towards new models like B2B2X marketplaces?

CSG: Phil stated it nicely on the webinar. Telcos have the "right to play" in this solutioning space with 5G. This does not imply they play alone as solutions require multiple elements: a mix of telco (5G, Edge compute, ...) and 3rd party. Telcos will need to participate in multiple different business models. To help explain, let me change B2B2X to be B2T2X, where T = Telco. In B2T2X, the telco provides the complete solution embedded by the 3rd party, where they will need to work with domain industry experts and customers to formulate these solutions to move up the value chain. In T2B2X the business or 3rd party may consume telco services (NaaS- Network as a Service), this is where the emerging camera standards become important. The B (business) offer their 5G based solution across multiple operators in different countries, thus need a consistent method to consume NaaS. Yes, telcos need to participate in marketplaces for both their solutions B2T2X or provide services to support T2B2X models and partner services. Telcos do not want to repeat 4G where they invested heavily to make low % gain and OTT grew orders of magnitude more over the top. So, they will need to re-orientate to be relevant.

Q: How do CSP's plan to compete with hyperscalers offering 5G services?

STL Partners: Hyperscalers are increasingly involved in the telecoms industry and the production of services around its associated technologies. Hyperscalers are simultaneously competitors, partners and vendors to CSPs and some are more willing to go head to head with operators in certain domains like private 5G.

When surveying CSPs on the topic, we often see hyperscalers being viewed with extreme caution, and the 'threat of hyperscalers becoming telecoms companies' is often cited as the main drawback in [surveys](#). STL believes telcos will want to grow revenues beyond connectivity and hyperscalers can be a means of achieving that, as exemplified by the increasing prevalence of [hyperscaler-telco partnerships](#). Telcos must leverage the competitive advantage of working with hyperscalers for accelerated go-to-market & lower CAPEX while ensuring it does not lead towards vendor lock-in and seclusion in the role of connectivity provider. This webinar demonstrates one example of how CSPs can leverage their existing infrastructure to take advantage of new revenue streams and stop hyperscaler encroachment.

Q: Could you detail how this slicing opportunity might impact tier 1 broadcasters? Are there any key benefits that you see coming from utilizing network slicing over their traditional setup?

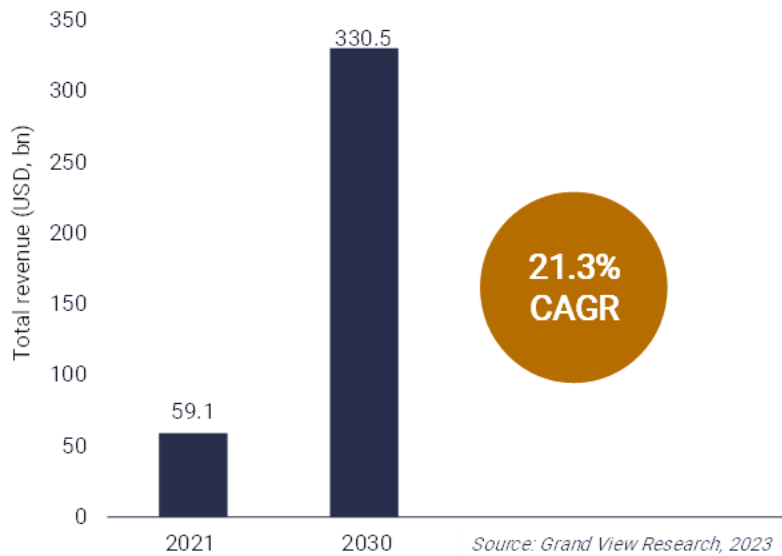
STL Partners: A sliced network allows cameras with SIMs to upload their individual stream directly to the cloud, contribution links taking priority over public connections. This drastically reduces the equipment required at the site, centralizing and cloudifying the processing and production suite which would have otherwise been done on site and reducing the necessary equipment the broadcasters will need to rent.

Not only does this make live video capture cheaper from a transport and equipment perspective, but it also ensures the crew can cover more content in less time. In this way, 5G enabled content capture could become an important tool for larger players wanting to reduce their costs whilst increasing their coverage.

Q: You have spoken specifically about the live video capture opportunity in APAC market, is there also an opportunity globally e.g. in Europe and North America?

STL Partners: Yes, I think the live video capture opportunity is not just limited to APAC and has widespread applications globally. The trends we identified in the presentation (Covid-19 pandemic, rise of social media etc.) have also triggered an increase in the proliferation of live content worldwide. The global video streaming market expected to reach over 330bn USD by 2030 (see chart below). At STL we have seen recent slicing deployments both in Asia for example with Far EastOne for the broadcast of the WJS marathon in Taiwan but also in Europe and globally with Vodafone for the TV broadcast of the coronation of King Charles III.

Global video streaming market size



Q. Which customer group do you think represents the greatest opportunity for network slicing for live video capture (Tier 1/2/3)?

STL Partners: As stated in our presentation there are three distinct customer groups that operators can focus on. The opportunity is no longer just the traditional Tier 1 broadcasters. It really lies with the Tier 2/3 segments. We have seen a rise in the number of Tier 2/3 broadcasters with a massive increase in the number of influencers/vloggers doing live content. Slicing provides affordable, high-quality solutions. It reduces the capital required for expensive equipment, OB vans. For tier 3 specifically slicing gives the potential for fast video production turnaround and reliable social media livestreams.

Get in touch:

If you have any questions intended for CSG or would like to learn more about their solutions, please contact:

Malcolm Crouch, Regional CTO, CSG, malcolm.crouch@csgj.com

Suzanne Pelizzari, Director, Global ABM, CSG suzanne.pelizzari@csgj.com