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SMART INFRASTRUCTURE – THE ROLE OF EDGE COMPUTING

Webinar: Questions and answers

Smart infrastructure – the role of edge computing

This document outlines the questions and answers received from the STL Partners and Telco Systems webinar, '**Smart infrastructure – the role of edge computing`** which was hosted on Thursday 2nd November 2023.

You can watch the recording of the session, and also access the slides, using the link here.

If you have any questions not addressed in the webinar or this Q&A document, or want to hear more about our presentation or from our speakers, please contact:

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Webinar questions and answers

The below questions were received from the webinar audience during the live session.

Post-webinar questions and answers

1) What connectivity technologies are being used in buildings to connect, monitor and control assets?

> **Johnson Controls (Narasimha Krishnakumar):** *There are a variety of connectivity technologies in buildings to connect monitor and control assets - These include Wi-Fi (private), 5G broadband, 4GLTE, satellite networks as well as wired ethernet technologies. There is a lot of diversity in terms of connectivity and once the connectivity is established, Edge computing solutions can aggregate the data, analyse it and drive outcomes such as controlling and monitoring the assets.*

2) In terms of the statement "lower cost at the edge than transferring data to the cloud", what level of savings are possible? Can you please give an example and quantify the savings?

> **STL Partners (Matt Bamforth):** *Transferring data has a cost, and naturally the more data you are transferring the higher this cost. Video data takes up more bandwidth than audio data for example, so would be more costly to transfer back to the cloud. Therefore for applications which are very data-intensive, such as video streaming, by processing this data at the edge you can save significantly on backhaul costs. The actual cost savings would depend on the amount of data, distance of transfer, provider, etc.*

3) Implementing edge computing solutions can be expensive, involving not only the devices but also the necessary infrastructure and maintenance. What sort of returns does it provide with specific cases, and how quickly?

> **Johnson Controls (Narasimha Krishnakumar):** *There is no doubt that one is going to incur costs in implementing edge computing solutions. However, one needs to focus on the goals of the business as they think about the future. The value of edge computing is multifold and begins with providing visibility of operations at the edge by collecting and measuring the data. This data will not only help visualise the operations but also provides insights into actions taken. In a building setting, it is all about decarbonisation by saving energy and reducing emissions along with a multitude of other benefits. Any investment in building related edge infrastructure can have a very quick payback if*

energy reduction is the goal that customers want to pursue. The payback can vary based on the speed at which customers are willing to proceed and the choices of technologies that they make.

4) What are the "low hanging fruit" when it comes to Smart City applications or use cases? What model benefits "the most"?

STL Partners (Matt Bamforth): *In the presentation I mentioned a few different use cases in smart infrastructure and there is definitely low-hanging fruit amongst these. Generally, we would see low-hanging fruit as those applications which require little or no disruption to current services and little integration. Video analytics can be a good example of this as you can overlay applications on existing infrastructure if you do the processing at the edge (instead of on the actual camera). Edge platforms which enable you to run on top of multiple existing systems in a building are especially valuable for this reason.*

5) Any use cases in Smart Infrastructure with respect to “International Border-Crossing” Interconnected Smart Cities?

STL Partners (Matt Bamforth): *There are a lot of use cases which leverage edge at international border crossings. Of course, many of these are video analytics applications whether to identify people crossing or as part of the broader security infrastructure. Edge is important here for multiple reasons, of course to reduce bandwidth but also to satisfy security or data sovereignty requirements.*

6) In reality the users will be connected to different provider networks, how does edge computing for smart infrastructure work when the users are not all on the same network? (i.e. one Car might be on carrier A and another car on carrier B and the smart infrastructure on carrier C)

STL Partners (Matt Bamforth): *For smart traffic infrastructure a lot of the applications would not rely on the cars themselves being connected to the network. For example, video analytics or other sensor technology would track where there are vehicles on the road and this would enable smart traffic lights or would be accessed by 3rd parties e.g. navigation applications via an API.*

7) What is the top edge computing use case in the market that is offered by service providers as wholesalers?

> **STL Partners (Matt Bamforth):** *Some service providers are wholesaling their edge infrastructure to other service providers wishing to offer an edge platform. However, we have not seen any evidence of service providers offering an application that they own on a wholesale basis, certainly not these covered in this presentation.*

8) With regards to the presented use cases: do you see some level of priority among them?

> **STL Partners (Matt Bamforth):** *I think amongst the use cases presented it is the smart energy use cases that I find the most exciting. We must revolutionise our energy infrastructure if we are to successfully transition to a future powered by renewable energy, and use cases such as smart microgrid management will be essential for this. That being said, this use cases is a little further into the future, while building-level use cases are things that can be implemented in the short term. Better climate management systems, better management of energy demand and supply, and personalised energy consumption analysis are already commercialised and contribute massively to sustainability efforts.*

Get in touch:

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

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