

Webinar follow up



# 5G BUSINESS STRATEGIES WEBINAR

Questions and answers from the 5G business strategies webinar from  
STL Partners

Our presenters:

Chris Barraclough, Director

Dave Burstein, Editor, Wireless One and Associate Analyst, STL Partners

JANUARY 2019

## Attendees' questions from the session

Here are the questions that you submitted during the session and answers from our presenters.

1Q29:Q9900-400Mbps speeds are available today on Category 9/12/16 4G handsets, what is real speed on 5g?

<b>Dave Burstein</b>	Don't believe the hype. Per Neville Ray, T-Mobile CTO, says low and midband (sub-6) is 19-52% faster. That's a high estimate. Millimetre wave does get to a gigabit, but few are building that.
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Expecting the (generally) risk-averse CFO function to drive service innovation from within a telco is doomed to failure – surely the impetus has to come from the marketing function?

<b>Chris Barraclough</b>	Yes, innovation needs to come from marketing, product development and management, etc. but the finance department holds the purse strings and has to free up enough resource for these areas of the business to innovate. Currently, too little resource is allocated to innovation.
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How many markets or operators are taking a shared infrastructure approach for 5G? V/S Spectrum auction and each MNO build their own network?

<b>Dave Burstein</b>	If I had to give a number, 10% to 25%, Especially in less dense areas.
<b>Chris Barraclough</b>	I think this should be a priority in most markets. Reducing capital expenditure is a priority and shared networks are clearly a way of allocating capital more efficiently!

How to build 5G coverage outside densely populated areas (e.g. rural areas)?

<b>Dave Burstein</b>	5G below 6 GHz is 4G hardware with NR software. It has the same reach as 4G and slightly more performance. Marketing tool.
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How to make money with 5G (to cover 5G network costs)?

<b>Dave Burstein</b>	Please see the ideas in my presentation and look out for the next STL Partners research on 5G strategies coming soon (Q1 or Q2)
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Interesting to see NTT as low capex and R&D investment... but still high on margin

<b>Dave Burstein</b>	Margin (and pricing) has much more to do with competition.
<b>Chris Barraclough</b>	Certainly NTT Docomo (the mobile arm) invests heavily in operating expenditure beyond R&D to grow new, non-network-based services (mobile money, content). This expenditure wouldn't be captured in the R&D %. Also, although it does have an international arm, the vast majority of business is in Japan and single market operators tend to have more scale and capital efficiency than multi-nationals.

Of the capex spend, what % will be on radio versus what % on core virtualisation and deep fibre?

<b>Dave Burstein</b>	NSA – using the 4G core – will dominate for years the core spending will be similar.
<b>Chris Barraclough</b>	I think radio will be 60-70% – new kit on masts – and mobile core will be lower. Virtualisation is slowly being adopted but spend is very low at the moment.

What makes China Mobile higher in R&D opex (slide 22)?

<b>Chris Barraclough</b>	Good question, I haven't looked in detail. I should. My bad.
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We had similar discussions when industry was moving from 3G to 4G. Is this move from 4G to 5G any different?

<b>Dave Burstein</b>	Actually, less significant. Advanced 4G has almost all of what people call 5G
<b>Chris Barraclough</b>	Not really except the financials of the industry are worse this time around and continue to head south so getting it right is more important

What are the best examples of non-network service innovation you have seen by Telcos?

<b>Dave Burstein</b>	Safaricom mobile money
<b>Chris Barraclough</b>	Yeah, m-pesa is the classic but there is also Easy-Paisa from Telenor, NTT Docomo (money and content), TELUS (health), Singtel (advertising) but most of these have involved substantial M&A to build scale. But just because these telcos have chosen such services doesn't mean they are right for all – my point is that telcos need to build an innovation capability which enables them to develop services that align with their corporate strategy.

What is the anticipated role of artificial intelligence in unlocking the real business potential of 5G?

<b>Dave Burstein</b>	AI/machine learning has enormous potential in almost anything with a lot of data. Telecom has that. We are just starting to see the results, however. Phil Laidler has some thoughts here and it's worth getting in touch to talk it through with him.
<b>Chris Barraclough</b>	I think it's part of the story - gaining more insight into how the network is used (to reduce cost and add value to customers).

What threats do you see to 5G from other technologies delivering on the same values: for example WIFI 6 for industrial cases, LoRa for IoT, etc?

<b>Dave Burstein</b>	Wi-Fi works well for IoT, has cheaper equipment, and doesn't require paying the telco. Lots of use many places. LoRa is a good idea but so far few are buying.
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When do you expect 6G to come?

<b>Dave Burstein</b>	I'm on the ITU-Focus Group 2030 working on it. But many of the tools will become important even if not called 5G, three to seven years forward.
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When do you expect network slicing and associated use case start coming into the market / become available and profitable?

<b>Dave Burstein</b>	<p>Network slicing has been shown on 4G and can be run in the RAN today. Although I can't find anyone who has put it into production.</p> <p>Incidentally, despite all the hype, I'm very sceptical slicing will find a market of interest. It turns out the networks are all designed to give decent basic service and that is enough for nearly all practical purposes. Once you have fibre and a system in place, the cost of spare capacity is very low, mostly a slightly better router and interface. So most networks actually have very reliable basic service. Few need to buy better.</p> <p><i>(This answer was updated on Feb 1 to correct an error)</i></p>
<b>Chris Barraclough</b>	Yeah, I agree it will take time and I think when it comes it will be something quite difficult to differentiate on – so hard to generate additional revenue from. Essentially, network slices will be part of being an operator and you have to do it but you won't make lots of new sweet cash money from the capability on a sustainable basis.

Mentioning slicing; how many slices will initial implementations see – 1, 2, 5, 10, more..?

<b>Dave Burstein</b>	As many as customers will buy. Until proven otherwise, that's not many.
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When there are going to be low-cost smartphones supporting 5G at sub-6 GHz frequencies?

<b>Dave Burstein</b>	OEM price difference is ~US\$80 for a mid or high range phone. Retail will be higher. It will come down every year, but there still will be a gap in 2022-2023.
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What is the edge cloud value model for telcos?

<b>Dave Burstein</b>	Unproven. Depends on who will buy. Cost to do 15-25ms is not huge, so may be good business. Cost to get under 10ms so high no one is committed to that yet.
<b>Chris Barraclough</b>	I think edge is pretty interesting as it should enable telcos to provide additional value at relatively low marginal cost (the infrastructure is already there). Telcos need to build services on the back of low-latency edge that they can monetise. Just having edge doesn't make you money any more than having a 5G network does.

What services will come for edge cloud? You mentioned that DT was building edge cloud so, this is a service focus, or not?

<b>Dave Burstein</b>	DT is building edge cloud, as are the Chinese. Beyond multi-player Pokemon Go, there are no certain services needing the 20-25ms.
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How should telcos consider investing in edge computing? And in what circumstances will telcos have an advantage?

<b>Dave Burstein</b>	Telco edge clouds will always have a speed advantage over everyone else, who can't touch the bits until it goes through the telco network. The telco can put an edge cloud in the middle to the network, saving 10ms and higher. Full analysis coming.
<b>Chris Barraclough</b>	STL has been doing lots of work on this and it's worth a call with Phil Laidler or Dalia Adib about this, they're our edge specialists. You should also look out for our next edge webinar (probably around March) or catch up on our last one that you can find on our (soon-to-be-updated) <a href="#">webinar page</a> .

## How will Huawei's difficulties affect 5G pricing and take-up?

<p><b>Dave Burstein</b></p>	<p>I've written extensively about Huawei and have some depth. It's not possible to predict what Trump will do. Impact on industry if he escalates to a Huawei quarantine: real but ultimately modest. Samsung, Ericsson, and Nokia produce equipment for all the same purposes. Huawei is a little ahead on many items, but the others are getting there. Taking Huawei and ZTE out means there only are three vendors, which will raise prices. If we assume a 15% increase in the cost of equipment, then total cost would go up 25% as equipment is only part of the cost. Passed through to customers, that would raise prices a little but not enough to make much of an overall difference.</p>
<p><b>Chris Barraclough</b></p>	<p>I'm not convinced it will make a whole host of difference. Huawei still has a big Chinese market which will win the 5G race in my view.</p>

## Next steps

### More questions?

To talk about any of these points in more depth, please contact your account director or your usual contact in the consultancy team.

### Want to read the research?

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