Webinar Q&A – How COVID-19 will change telco investments and activities

The responses below are colour coded:

- Dr Rainer Deutschmann (Dialog Axiata PLC) responses in black

- Dr Sukant Mohapatra (Verizon Wireless) responses in blue

- Dean Bubley (STL Partners, Disruptive Analysis) in red

Impact on 5G, fibre and broadband networks

- How do you see the impact of traffic change on network aggregation and broadband delivery if working from home is the new normal?

  – Substantial traffic changes – from commercial to residential geography, from evening peak to more evened out also during daytime, fixed/fixed wireless increase even more than mobile, consumer increase even more than enterprise. Overall network utilisations improved. Capacity is the new currency. Need deeper drive of fibre (vs. MW) – both RAN as well as closer to home/office – capacity and low latency. Last mile (fibre vs fixed wireless) depends on business case and time to market ambition. It is also possible to do both – first fixed-wireless to capture the market, then migrate to fibre.

  – Working from home (in the new normal) may need additional capacity in the last mile access network. Architecturally, aggregation and core network would be the same with capacity augmentation at specific locations as required. Last mile could leverage fibre (FTTH/FTTB) and/or 5G/FWA (Fixed Wireless Access). Specifically with fibre, where home connecting costs are higher (e.g. due to spread of household as in rural America), FWA could be a more economical option than fibre for last mile. Last mile deployment/augmentation strategy will be driven by economics/RoI on a case by case basis.

  – Many fixed broadband networks seem OK (for now) as WFH and School-from-Home has mostly shifted evening "Netflix" peak to more even between 8am-8pm. Older DSL is struggling with upstream capacity, e.g. for cloud / video streaming. Governments will likely encourage faster transition to next-gen broadband and will be pragmatic about fibre, FWA (both 5G and non-5G) and in some places DOCSIS cable. Mix will depend on legacy, urban density, percent living in MDUs (apartments) and wayleaves (digging up road etc). Obviously also depends on things like economic, use of Netflix & equivalents etc. **However, most of this was happening pre-pandemic anyway, so what really changes?** Roads are quieter/faster to dig up, perhaps. Telcos may be cash-constrained. Some govts might position broadband as a human right / something to subsidise.

- What will be the impact on fixed broadband vs 5G roll out prioritisation? Do you expect a strong investment shift from mobile to fixed or, as fixed-rollout will take a lot of time, rather a fixed-mobile-substitution (using 4G or 5G)?

  - Depends on existing spectrum/coverage/capacity in 4G. Fixed wireless 5G for accelerated household/SME capture, fibre best for dense urban, high rise buildings, and enterprise. Highest ROI with optimal interplay of both

  - Depends on the use case and ROI. Household/business where fibre deployment is not economical or not viable, FWA could be a better alternative. Both mobile and fixed will be used based on the situations/scenarios.

  - Fixed will come out of this in a stronger place, with FWA also strong as an infill / temporary / secondary solution. The higher the capacity with 5G FWA (e.g. with mmWave or upper midband), the more the need for external antennas vs. indoor CPE. There are plenty of non-5G FWA as well, e.g. 60GHz solutions like Terragraph. We may see 70/80GHz fixed links for business come to the fore.

    - Indoor use for last 3 metres to the device will be 90%+ Wi-Fi whatever, with WiFi6 & meshes helping, and then 6GHz in a year or two in some places

- What other effects are we likely to see on fibre networks and broadband?

  - Smart traffic management to improve ROI and customer experience. Security – as key contribution from operator to support customers in face of increased cyber threat. Edge intelligence – leverage low latency networks.

  - On network edge we will see more of security and edge compute

  - Might get some interesting shifts in the IXP space, depending on where / how much traffic is routed locally or to content / cloud networks. Traffic management is interesting in short term, but heavily exposed to changes in encryption and third-party VPN use and assorted new protocols like QUIC.

  - Fibre is currently easier to roll out, e.g. getting permissions to shut streets to dig. Half of central London has G.Networks crews…

- Given the regulatory/spectrum and practical barriers to 5G during the pandemic, what's your view on how long it will take 5G to be commercialised across the majority of markets globally?

  - At this time, it looks like there may not be major impact/delay in US and China on 5G deployment. However, different regions of the world can see delay in deployment of 5G due to economic factors/recession, spectrum auction, financial condition of CSP, supply chain disruption etc. Timing will vary by region/country. But this pandemic has also proved

criticality and dependency on telecom that needs major capacity augmentation and investment in network infrastructure.

— 5G basic services – mobile broadband and FWA – will have relatively small delays depending on market, based on spectrum, economic friction etc. Let's say 6-9 month delay to the curves, but some markets like China will push through regardless.

— Far less clear on stuff like URLLC and network-slicing, which was largely overhyped anyway. Not clear that cash-strapped telcos facing economic clouds will prioritise unknown test & new service offers, especially as some verticals will clearly suffer. Lots of them chased sports stadiums etc, so will be nursing wounds. Expect more private networks & new niche enterprise SPs to step in, especially if they can buy/lease spectrum

Consumer services

- How come that Entertainment is the most negative among listed [consumer priorities]? Staying at home would push people more towards entertainment?

    — Reliance more on third-party services like Netflix, gaming and YouTube, and it's unclear whether telcos benefit much from this directly. Telcos with their own content might be okay, unless it's very heavily skewed to sports. Advertising is ugly too.

    — Telcos need to get involved / partner with new emerging players **fast**, e.g. HouseParty or 100 other cool start-ups that will be created. But everyone else will be chasing them, too.

- If the Home residential gateway become the hub of everything inside the home, how do you plan to deal with security, traffic separation, real-time traffic latency and SLA?

    — Multi SSID – support multiple use cases in seamless, transparent, safe and affordable way. Support private, child, and work roles. Multi APN and smart data buckets. Network based security (vs. client based) to provide customers with peace of mind. End-to-end smart traffic mgmt. (service and user based) for optimal use of network resources.

    — Unconvinced there will be "one box to rule them all", especially in markets with lots of Alexa / Google Home devices. There will need to be much better and smarter (probably mesh & cloud based) Wi-Fi that can essentially map and understand the home's layout and different users

    — We might also see multi-access solutions emerge, e.g. "consumer SD-WAN" or dual-connection fibre + mobile, maybe not from the same operator. I can imagine enterprises giving key employees a separate FWA connection.

        · Think divergence, not convergence

- Further to Rainer's magic router, what about home automation?

- Today – and we can expect more to come – we are offered a plethora of solutions with more or less user friendly and secure solutions. Emerging horizontal platforms are from online players (Google, Amazon, Samsung), while telecom providers can provide viable open and vendor independent platforms, for example Dialog Axiata with its SmartLife proposition, with the additional benefit of "peace of mind" – taking care also of the connectivity.

- Agree that this area is very fragmented. But would anyone really want to bet against Amazon at the moment? Bezos has made it clear they'll be making all sorts of investments. In some places the cloud players will end-run the telcos entirely, by building their own wireless for IoT

Telco innovation and automation

- Interesting to see that more respondents expect an increased investment in transformation programmes. Is this real? As such programmes usually burn lot of money, would telcos not be inclined to be cautious about this spending?

- Telco capex is mainly in network and especially RAN. By contrast, simplification, digitisation, automation, and analytics (in this order) will require relatively low investment but provide sustainable differentiator and positive business case within one year. Adoption is key – across customers, employees, and partners

- There are definitive advantages and long term cost saving from digital transformation programs. ML/AI based systems will help on automation and network operation, thus operational cost reduction. Open source systems and forums will help on cost reduction, collaborative use of software and quicker digital transformation.

- Network virtualisation and SDN will help quick adaptation of network resources based on traffic demand/load and achieve operational efficiency.

- Do you think we will see an accelerated shift in customer behaviour towards digital sales and service channels as a result of the current situation? How can telcos capitalise on this?

- The pre-condition for this is readiness – eKYC, self-activation, eSIM, 100% online and self-care, bots and automation, digital payments. The crisis has been catalyst for adoption across all those enablers. However, don't underestimate the power of next generation physical retail – e.g. seamless online/offline, multi-service, hyper-local

- Foot traffic in retail stores and home/business visit will decrease. Consumer and business will demand richer and more consistent omnichannel experience based on digital self-service. Telcos are working to use AI to augment call centres agents and retail stores to provide greater customer insight and real-time decision. Many retail store personnel have been quickly trained to support help desk/call centres.

STL Advisory Limited (trading as STL Partners)
Tel: +44 (0) 20 7247 5003; Email: contact@stlpartners.com
Head Office: Screenworks, 22 Highbury Grove, London N5 2EF
Registered Office: 2nd Floor, 8 Charterhouse Buildings, Goswell Road, London, EC1M 7AN
Company Number: 4747149; VAT Number: 810 5125 78

- Yes, more will be done online, maybe with voice assistants as well as call centres. However, keep an eye on whatever Apple does with its own retail stores. That's a good leading indicator.

Regulation

- As COVID-19 has created spurt in telecom demand there is a fear of customer exploitation by the private sector through higher tariffs. Do you think regulators need to take any actions to sustain competitiveness and price control?

  - Regulators will ensure fair market conditions, competition, transparent auctions and best use of scarce resources (i.e. spectrum). Market and market prices will regulate itself most optimally. For example, see the most recent cable.co.uk report: market prices of around US$0.50 / GB are feasible while running profitable operations (see Sri Lanka on #8 lowest price per GB out of 230 countries worldwide)

  - Little sign of price-gouging. Most telcos seem to be helping customers with bills, removing GB limits etc.

  - In medium term, telecom industry knows it is healthy – and that governments are depending on it. More likely to push regulators for easier access to spectrum, relaxation of competition rules for mergers if smaller operators fail etc. Pricing is less of an issue.

  - In fact many telcos have been trying to help customer and community during this crisis in many ways:
    - Short-term relief to customers those are unable pay the bills
    - Increasing data cap up to certain time period
    - Supporting customer with uninterrupted service even if the network load has significantly increased
    - Helping on initiatives like small business recovery fund