GCC telcos have recently been racing to announce new firsts in 5G services, with Gulf authorities seeing this new technology as a key pillar in their diversification strategies. Yet, telcos here face the same challenges as elsewhere when it comes to 5G: initial rollout requires major investment at a time of falling voice use and cheap data, while the future rewards the technologies 5G could facilitate remain uncertain. Nonetheless, a combination of deep – largely state-owned – pockets and a willingness to bet on the future will likely keep the 5G race going, even if some of the smaller players may struggle to keep up.

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First in Line

When it comes to firsts in 5G, Saudi Arabian telco STC has a strong claim in the region, announcing as far back as May 2018 that it had gone "live." More recently, in January 2019 Qatar-headquartered Ooredoo claimed the first "trial international 5G call in the Arab World," while in October 2019 the UAE's Etisalat claimed the first "standalone" 5G call (that is, without using any existing 4G infrastructure) in the MENA region. Yet, the following month Saudi Arabia's Zain announced it was offering the first 5G international roaming services, for its customers travelling in Kuwait.[1]

Whatever the accuracy of these achievements, the Gulf states' desire to be seen to be at the front of the queue in 5G development comes not only from a natural competitive urge between them and the telcos, but also from state development plans.

In Vision 2030s from Abu Dhabi to Bahrain, ICT is seen as a major enabler of diversification and economic growth. 5G promises the next level in this – a step change that has often been described as "not just another G."

Value creation vs development costs

The exponentially faster download speeds of 5G can potentially enable a whole series of breath-taking new technologies and entirely new services, such as driverless cars, massive internet of things, a wide range of robotic and artificial intelligence (AI) applications and a vastly enhanced smart city.[2]

Hyper-connectivity would allow manufacturers, for example, to create integrated systems across the entire production cycle, in real time, from research and development of a new product to after-sales. Remote censors, combined with robotics, drones and AI, could enable maintenance and repair of oil and gas facilities far out in the desert, or at sea, or facilitate remote surgical operations, conducted in an Emirati hospital by a surgeon in California.[3]

All of these are potential revenue streams for the telcos, although they often face the snag that they are still largely in development. Driverless cars, for example, which were tested on the streets of Dubai in October 2019, have had mixed reviews, and remain some years away from commercial deployment, while the implications in areas such as car insurance, for example, remain to be worked out. Other innovations are more likely to be seen sooner – in the Gulf, oil and gas companies are particularly interested in repair and maintenance applications for remote and dangerous locations and in the monitoring of gas trains and other major plants.

In the meantime, deployment of 5G infrastructure will require next-level investment, stretching throughout the supply chain. Attaining download speeds 10 times faster than 4G, and with an ability to connect 10 times more devices at ultra-low latency, first of all requires a major expansion in fibre-optic cable capacity – including new and larger submarine cables.

Then there are the base stations. Initially, 4G facilities will be adapted, but then a “build out” of new stations has to be undertaken as the high radio frequency of 5G requires more base stations than 4G. Telcos may have to pursue tie-ups with municipalities and traffic authorities to place these facilities on lampposts and other street architecture, or seek planning permission for new pillars to hold the new kit. Operational and business support systems will also have to be brought in – particularly as the new applications that 5G enables begin to be used. Finally, ongoing concerns over health among some sections of the public will also require an industry response, even if only to assuage local fears.[4]

All of this is happening, too, at a time when telcos have been struggling with a much faster technological cycle and fast-falling revenues, from both voice and data. While the reign of 2G lasted approximately 20 years, from the mid-1980s to around 2003, its 3G and 4G successors ran a much shorter course – around eight-nine years – before facing redundancy. On the latter point, and using Bahrain as a regional example, total outgoing mobile voice traffic, international and domestic, fell from 2.3bn minutes in the fourth quarter of 2016 to 1.5bn minutes in the first quarter of 2019. Data

traffic did, however, go up – from 49m GB in July-Sept 2016 to 67m GB in Jan-March 2019 – yet the price of data has continued to fall and so overall telecoms revenues have shrunk. According to the Bahrain Telecommunications Regulatory Authority, in 2015 total sector revenue stood at BD453m ($1.2bn), while in 2018 it was BD431m ($1.1bn).[5]

At the same time, with high connectivity and market saturation across the Gulf (Bahrain, for example, had 139% mobile phone penetration in 2018) one of the main benefits of 5G – that it might enable a country to leap-frog to ultra-high-speed internet, jumping over the expensive and time consuming stage of laying fibre-to-the-home broadband – does not really apply in GCC countries such as the UAE, Qatar, Bahrain and Kuwait, where most consumers already have fast download speeds. National broadband strategies are already gaining traction, too, in more rural and remote regions of Saudi Arabia and Oman, where connections had previously been slower.

As a further challenge, on the demand side, there have been few 5G handsets available up to now, with Samsung so far dominating the global market with a 74% share in the third quarter of 2019, when it shipped 3.2m of its five, 5G models. The 5G iPhone is expected to launch in September 2020, with many potential consumers likely taking a wait-and-see attitude, given the usual glitches with first-generation models.[6]

Footing the bill – smaller telcos will need to get creative

Some Gulf telcos are likely to push through the time lag between the need to deploy expensive infrastructure and applications becoming commercially viable by appealing to the deep pockets of their state owners.

The UAE, for example, has seen rapid rollout of new base stations, with the country's Telecommunications Regulatory Authority Executive Director of Spectrum, Tariq Al Awadi, telling media in December 2019 that the Authority's national strategy had already achieved 80% 5G coverage of "populated areas, main cities". The strategy has worked closely with the UAE's two telcos, Etisalat and du, both of which are majority owned by the government's Emirates Investment Authority.[7]

Where the pressure is truly on, however, is with telcos that do not have such back-up – or find themselves in neighbouring markets in the Gulf that may be a more marginal part of their overall business. Sharing infrastructure may be one response, although one obstacle to this may be ongoing

concerns over one of the chief infrastructure manufacturers, Huawei. Some GCC telcos – such as Viva Kuwait – have opted for Huawei's 5G kit, while others, such as Bahrain's Batelco, have gone for Ericsson equipment. Future sharing may therefore pose some inter-operability issues, as well as political risks.

Nonetheless, the Gulf still has a range of 5G firsts to be proud of, with Dubai's Expo 2020 likely to see 5G applications on display in abundance – the Expo area has long been targeted as the first place the UAE will see complete coverage. Behind the futuristic technology, however, telcos may well be facing some more old-fashioned strains, when it comes to footing the bill.

Jonathan Gorvett is a journalist and analyst with many years experience researching and writing about the Gulf and the wider Near and Middle Eastern region. His interests include political and economic risk, development and the evolving place of GCC countries in the international diplomatic, political and economic landscape.

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