

The themes for IoT in 2020 are clear, even without MWC

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Tom Rebbeck

The cancellation of Mobile World Congress 2020 (MWC20) means that some IoT-related announcements have been delayed, but there are still some developments in the market that are affecting telecoms operators. Perhaps the most interesting is the apparent split between what is happening on wide-area networks and the emerging private networks proposition. The gradual introduction of eUICC and iSIM is increasing the threat of churn, putting further pressure on connectivity prices and making it harder for operators to offer other services.

Partly because the wide-area connectivity market is becoming so tricky, operators are increasing their attention on private networks where they should be better insulated from price competition and better placed to sell more than just connectivity. Whether they can achieve this is an open question, and early signs are not especially promising.

The wide-area market is becoming ever more challenging

The focus in the wide-area market is moving away from removable SIM cards and towards eUICC and iSIM. Churn was very difficult when a physical card had to be replaced. However, when connectivity is embedded into the hardware or the chip, the process of changing connectivity provider is much easier, thereby increasing the threat of churn and the pressure on prices.

The move to eUICC and iSIM also makes selling services beyond connectivity (which has been a struggle for operators) especially challenging. In the traditional model with a separate SIM card, the connectivity buyer was also typically involved in building the IoT solution, and so influenced decisions about hardware, platforms or applications. Operators were well-placed to at least try to sell products beyond connectivity.

In the new model with eUICC and iSIM, operators will no longer be in contact with the people responsible for pulling together an IoT solution, and in many cases, they will work solely with the module manufacturers or chipset vendors. Most operators currently make at least 95% of their IoT revenue from connectivity; they will need to be more creative if they are to reduce this figure as the value chain evolves.

IoT MVNOs are innovating further

We were expecting to hear about smaller IoT MVNOs' plans for eUICC and iSIM at MWC20. Some launches have been delayed, but in early March 2020, Truphone [announced its eSIM solution](#) (Truphone provides the RSP and bootstrap connectivity) along with STMicroelectronics (the SIM solution). Other players, such as Eseye, have similar solutions.

In the lead up to MWC20, [INCE said](#) that it was extending its 10-year, 500MB, EUR10 offer for IoT connectivity to 103 countries; this is further evidence of the price pressure on IoT connectivity.

The larger operators will need to respond to these announcements. Vodafone talked about what it was doing with Arm and iSIM at MWC 2019, and Deutsche Telekom announced its SIM on a chip (nuSIM), but we expect to see further developments in the coming months. One announcement that did happen in February 2020 was that of the launch of [Monarch Go](#) by Verizon and its partner Sequans. Monarch Go is an LTE-M modem with embedded connectivity that links to Verizon's ThingSpace platform and various other services on that platform, such as location tracking and security.

The push to private networks continues

We were also expecting private networks to be a big theme of MWC20. Indeed, many operators have some sort of private network initiative (see Figure 1 for a simplified summary; [our report on industrial IoT](#) has a more-comprehensive table).

Figure 1: Selected examples of mobile operators' private networks

Operator	Date announced	Initiative/customer	Technical partner	Commercial (yes or no)?
AT&T	September 2018	Samsung semiconductor factory in Texas	Samsung	No (trial)
China Mobile	April 2019	Mining project with China Molybdenum Co, YueXin Group	Huawei	Yes
Deutsche Telekom	February 2019	Osram	Ericsson	Yes
KPN	October 2019	Shell Pernis	Huawei	No (trial)
Orange	December 2019	Port of Antwerp	ZTE	No
Telefónica	June 2019	Mercedes Benz	Ericsson	Yes
Telia	April 2018	Nokia factory Oulu in collaboration with Intel	Nokia and Intel	Yes
Telstra	September 2019	South32 Cannington lead and zinc mine	Ericsson	Yes
Vodafone	June 2019	eGo	Ericsson	Yes

Source: Analysys Mason, 2020

Private networks are still in the experimental phase, and all players are trying to discover which of the matrix of business and technical options fit which use cases. These early-stage private networks typically use a mix of 4G and 5G access technology and the levels of integration with the public network vary. Operators are exploring how the private networks team should be organised: as a separate team, part of IoT, in the networks division or somewhere else. Operators are also considering how to combine private networks with other services, such as edge and cloud. The answers to these questions should help operators to differentiate their propositions, most of which look unpromisingly similar. 5G provides some degree of differentiation against legacy private network solutions, but this advantage may not last once Wi-Fi 6 gains traction.

The private network opportunity sharply contrasts with developments in the wide area

Service providers are working very closely with their customers for private networks; they are, after all, putting their equipment in the customers' premises and managing a critical part of their operations. The resulting

connectivity is more-valuable and churn is far harder than for standard wide-area contracts. These projects also provide an opportunity for operators to pitch other capabilities, such as security, application development or professional services.

Operators will want to do a better job of selling these additional capabilities alongside private networks than they have done with wide-area networks, but they will need to build credibility and do so rapidly if they are to be successful. They may need to make acquisitions alongside partnerships, something that most operators have been reluctant to do for IoT.

MWC is a valuable way to get a sense of the trends that are shaping the market. However, the key themes for IoT in 2020 are evident even without the annual gathering. In the wide area, operators will need to develop a response to a value chain that is being reorganised around eUICC and iSIM. In private networks, they will need to develop propositions that have a level of differentiation that their current offers lack.