

A private mobile virtual network operator approach will offer new opportunities for utility companies

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Ian Adkins

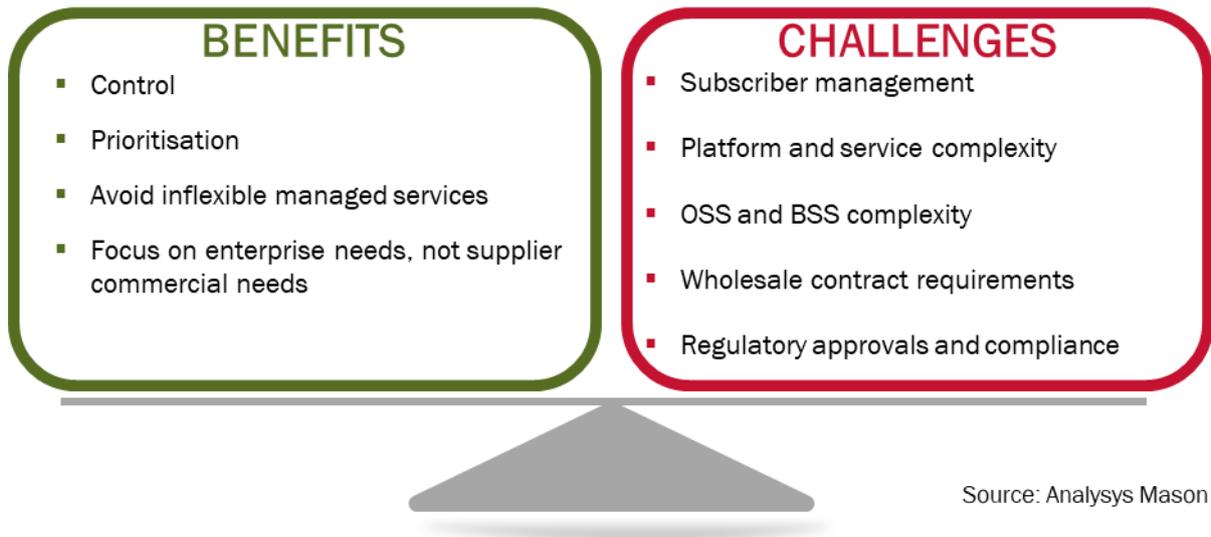
“Telecoms networks are an essential component and enabler of the secure and efficient operation of critical national infrastructure (CNI) such as utility networks.”

Utility networks depend on telecoms networks, and the resilience of telecoms networks is therefore coming under the increasing scrutiny of governments, regulators and investors. In addition, utility companies are facing the dilemma of whether to rent their telecoms networks as inflexible and expensive managed services from commercial operators, or whether to develop their own telecoms network and application services to satisfy their specialist needs. The [trend for many commercial enterprises is to develop more-agile strategies that use cloud and over-the-top \(OTT\) services and adopt an ‘-as-a-service’ approach](#), but the self-provision of networks has many attractions for a utility.¹

Analysys Mason works with utilities to develop telecoms strategies. Using mobile solutions as an example, many utilities worldwide have requirements for field engineers and fixed-location, nomadic and wide-area network monitoring devices to be served with a variety of voice, data and bespoke OTT services. A private mobile virtual network operator (P-MVNO) is an MVNO, but implements services for private enterprise use only and does not offer services to public users. A P-MVNO could provide the in-house needs of a utility. The opportunities afforded by future 5G deployment and the deeper reach of fibre that is expected from the acceleration of residential FTTB/H fibre roll-out in many countries could be catalysts for a P-MVNO approach. However, introducing and sustaining a P-MVNO model has many challenges that the utility company must overcome, across a range of technical, commercial and regulatory complexities inherent in the telecoms market. Some benefits and challenges for implementing a P-MVNO are illustrated in Figure 1, highlighting the dilemmas faced by a utility.

¹ For more information, see Analysys Mason’s research on business approaches to IoT. Available at www.analysismason.com/services/Research/Operator-business-and-iot.

Figure 1: The benefits and challenges of implementing a P-MVNO



A summary of some of the issues we have considered are listed in Figure 2.

Figure 2: The challenges of implementing a P-MVNO [Source: Analysys Mason, 2019]

Challenge	Issues
Subscriber management	<ul style="list-style-type: none"> Legacy SIMs and new devices (including eSIMs) Number porting and forced network switching Legacy radio devices (e.g. analogue UHF and VHF, GSM-only M2M) Data migration
Platform and service complexity	<ul style="list-style-type: none"> Internal resources (skill and capability levels) Standards compliance Vendor roadmaps (future services may be phased) QoS and prioritisation on mobile operator's network
OSS and BSS complexity	<ul style="list-style-type: none"> Integration of legacy and new devices Steering of SIMs and traffic between technologies Interface with existing systems (e.g. NOC, SCADA) as well as new systems (e.g. IoT, OTT services such as group call) Technical and management complexity
Wholesale contract requirements	<ul style="list-style-type: none"> Bespoke wholesale access terms and features Mobile network operator (MNO) roadmaps (e.g. spectrum, coverage in key regions, specialised services) International roaming, transit and peering Transition from existing MNO retail services Sophistication of MNO wholesale division
Regulatory approvals and compliance	<ul style="list-style-type: none"> Satisfying 'telco' regulatory requirements, e.g. licences, numbering requirements Data protection and handling Provisioning and controlling devices Security measures

Does the P-MVNO model offer real opportunities for utility companies or does it present too many challenges?

Most utility companies should consider a P-MVNO approach, in spite of the issues outlined above. In doing so, it is critical that utilities engage with both MNOs and national regulatory authorities.

Analysys Mason has the technical and market knowledge to help utility companies to assess this situation, and to prepare and present a strategic and business-oriented solution to management, internal stakeholders, vendors and host networks. Analysys Mason also has knowledge of the competitive and regulatory aspects of telecoms markets worldwide, which we can use to provide comprehensive advice.

For any organisation seeking to implement a P-MVNO, or considering any deployment of their own telecoms network, please contact Ian Adkins, for a no-obligation consultation.