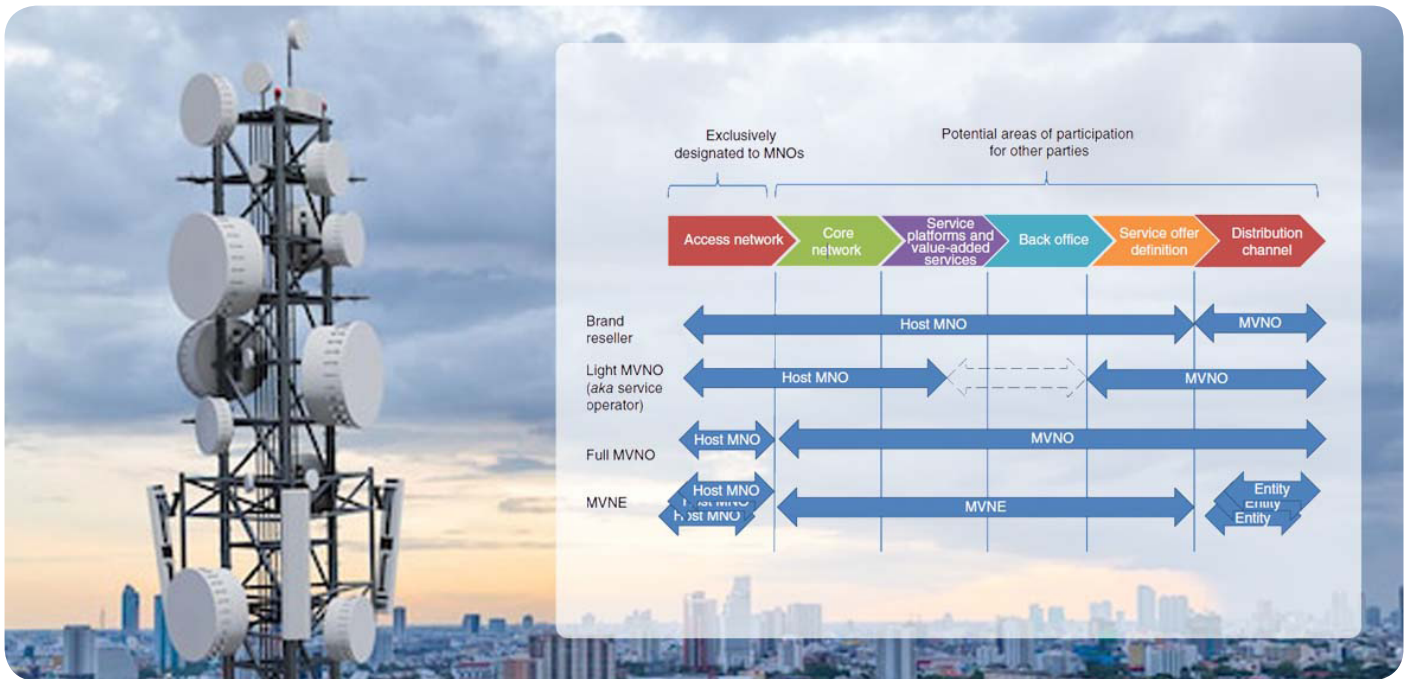
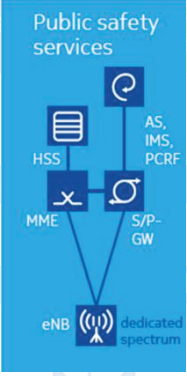
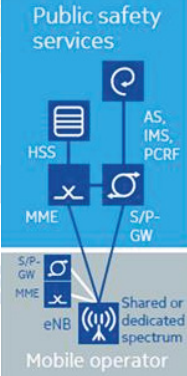
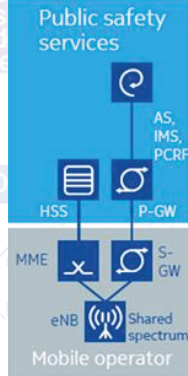
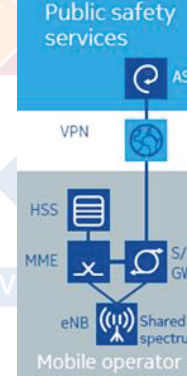




Secure-Mobile Virtual Network Operator (S-MVNO)

Activity field of virtual operators includes a wide range, but on the whole, the operator does not invest in the Radio Access Network (RAN) and uses the RAN of one or more Main Network Operators (MNO) in the country. Virtual operator concentrates on Core Network and invests in it. A parts of the MVNO range includes the operators that presents their private SIM cards without any private infrastructure (Light MVNO). In addition, Full MVNOs including radio infrastructures and other sections of mobile communication network (Core Network Equipment) privately/independently are a part of the range. It is evident that variety of virtual operator's services depends on number of its private infrastructure equipment. In this case, managing the subscribers, security and security control, Quality of Services (QoS), and pursuing the related policy is performed by virtual operator.

Various MVNOs and accomplished Access Point Name (APN) are described in the following table briefly.

Network Type	Private Network	Full MVNO MOCN	Full MVNO GWCN	Light MVNO	APN
Conceptual Structure					
Structure Description	It is a complete operator. Private network including Core and Access parts is available.	In this status, all of the Core nodes are available in the MVNO and using radio part of different MNOs from various operators can be accomplished.	Most of the Core important nodes especially data base of MVNE subscribers except control nodes are available in the MVNO.	Customer interconnects with MVNE (Mobile Virtual Network Enabler) instead of the operator. Billing and charging management and interconnecting with subscribers are in customer's network side.	Core, transmission infrastructure, and access are in operator's side. Customer has only its applicable servers (VoIP Server, POC Server, and ...)