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Private 5G network

SC D2 PS3 Q1

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Question 3.1: Discuss the rationale, advantages and potential challenges in adopting a private 5G network for a power utility.

- Due aspects such as infrastructure and spectrum sharing, private networks should be deployed in association with Telecommunications Operators through the sharing of Radio Access Networks (RAN sharing). In this concept, the EPUs will be the owners of the antennas, radios and connection between cells and the core network (backhaul link). The other equipment will belong to the Carrier that holding the service.

- RAN in mobile networks are vertically integrated, and hardly allow interoperability between RAN elements from different providers. The concept of Open RAN (architecture that promotes interoperability between disaggregated hardware and software elements for RAN) will permit new vendors can enter the 5G market and develop specific RAN functions, increasing the number of actors in the ecosystem and, consequently, competition.

- The investment for the implementation of a private network can be very high. In these cases, Open RAN solutions can become complementary options to address challenges such as reducing infrastructure and operating costs and managing equipment in a multi-vendor environment.

- The advancement of 5G as a standard platform will enable unprecedent efficiency, flexibility and scalability by RAN solution manufacturers.

- EPUs will be able to enter their optical networks as backhaul for Operators in order to reduce some of the costs of 5G network deployment at their facilities.