QUESTION ITU-R 236/1[[1]](#footnote-1), [[2]](#footnote-2)

Impact on radiocommunication systems from wireless and wired  
data transmission technologies used for the support of  
power grid management systems[[3]](#footnote-3)

(2011)

The ITU Radiocommunication Assembly,

considering

a) that there is increasing demand for and use of power grid and power usage management and sensing for efficiency, reliability and economic purposes;

b) that data transmission capability is an essential element of power grid management systems;

c) that the physical design, data rate, bandwidth and frequency requirements for such data transmission capability may vary according to the physical design and operational requirements of the power grid;

d) that such data transmission capability may be satisfied by telecommunication systems, including Power Line Telecommunication (PLT) systems;

e) that radiation from such wireless or wired communication systems may cause interference to radiocommunication services;

f) that power grid management systems may deploy remote sensors on a widespread basis,

decides that the following Questions should be studied

**1** What are the technical and operating features and the characteristics of wireless technologies and devices in support of power grid management systems?

**2** What are the data rates, bandwidths, frequency bands and spectrum requirements needed in support of power grid management systems?

**3** What are the interference considerations to radiocommunications associated with the implementation of wireless and wired technologies and devices used in support of power grid management systems?

**4** How will spectrum availability be affected by interference associated with widespread deployment of such technologies and devices?

further decides

**1** that the results of the above studies should be included in Recommendations(s) and/or Report(s);

**2** that the above studies should be completed by 2023.

Category: S3

1. This Question should be brought to the attention of ITU-R Study Groups 4, 5, 6 and 7 and ITU‑T Study Group 15. [↑](#footnote-ref-1)
2. In the years 2017 and 2019, Radiocommunication Study Group 1 extended the completion date of studies for this Question. [↑](#footnote-ref-2)
3. The “power grid” in this case is the electricity distribution network that delivers electricity to individual customers in local areas. Power grid management systems are high-capacity, two-way communications networks with embedded sensing that are installed on existing electric distribution networks to transform them into interactive, automated, self-healing smart grids. These grids are managed by monitoring and controlling network elements. [↑](#footnote-ref-3)