

# Paris Session 2022



## Utilization of Characteristic-Based Radio Technologies at EPU's Substations

### SCD2 PS3 + Q3.2

Even with the adoption of 5G, it is expected that utilities will continue to adopt a mix of radio technologies for different purposes. Describe the differences, advantages, and disadvantages between 5G and other wireless radio technologies in the context of power utility use cases.

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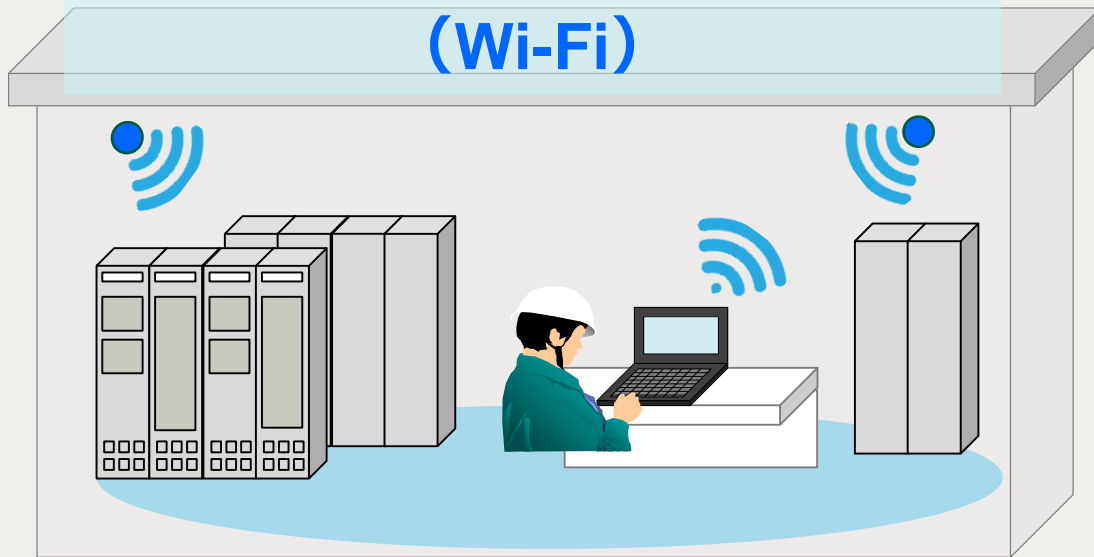


Chugoku Electric Power Transmission & Distribution Co., Inc.

# Case1 Building private Wi-Fi networks in control houses at substations

- Use substations as a satellite office.
  - Allows workers to make efficient use of time
- Ensure stable communication even if a serious disaster occurs.

## Control house at substations (Wi-Fi)



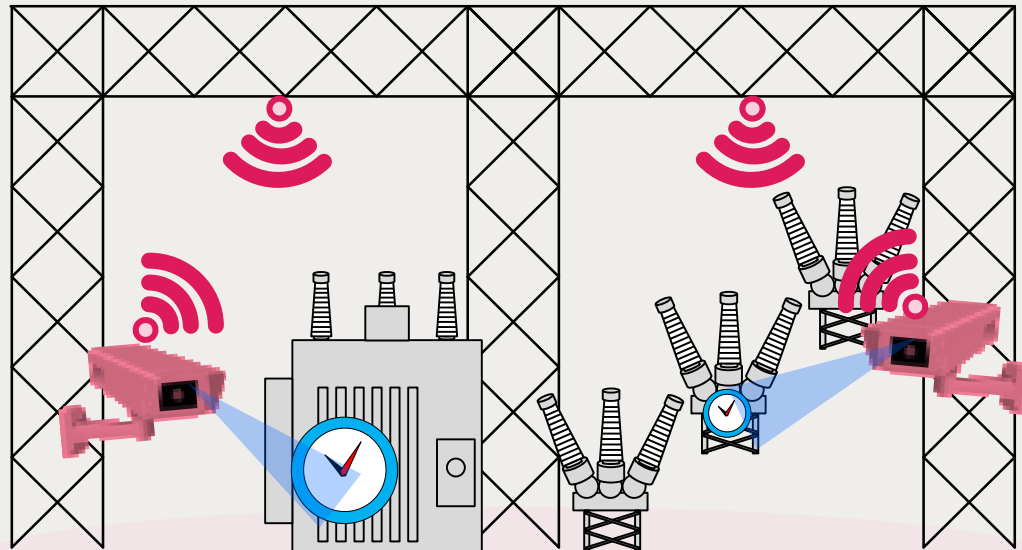
Group Discussion Meeting

	Wi-Fi	5G
Transmission Speed	Slower than 5G	Fast
Latency	Higher than 5G	Low
Security Level	Lower	High
Licensing	No	Yes
Management System	No	Yes e.g. 5GC (5G Core network)
Cost	Low	High
Compatible devices	Many	Less

## Case2 Constructing private LTE networks outside the control houses within the substation premises

- Transmitting analog metering equipment's still images.
  - Set the cameras and read the data at regular intervals.
- The collected data may be used for predicting anomalies by AI analysis.

### Outside (Private LTE)



	Private LTE	Private 5G
Transmission Speed	Slower than 5G	Fast
Latency	Higher than 5G	Low
Security Level	High	High
Licensing	No (in Japan)	Yes
Cost	Low	High
Covered Range	Large	Small

# Keywords for Utilization of Radio Technologies

