

# Services

Services



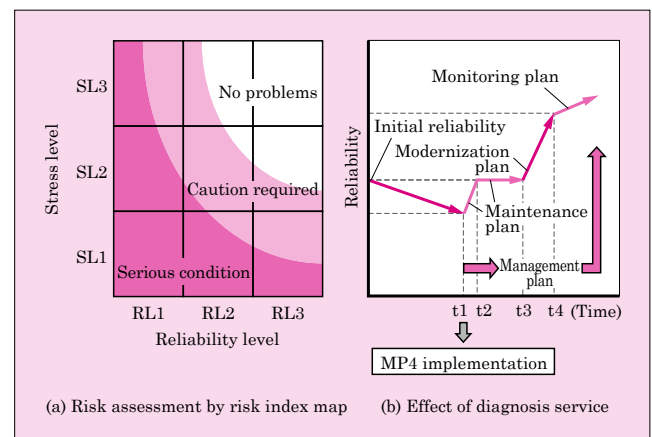
## Services

### 1 Overall Diagnosis Service for Electric Distribution Facilities

The overall diagnosis service for electric distribution facilities is a proposal service that helps to improve the reliability and stability of electric distribution facilities. It does this by combining the facility diagnosis technology of Fuji Electric and the consulting technique “MP4” of Schneider Electric. It analyzes risks that can impede the stable operation of an electric distribution facility and minimizes the effect of the risks on the production facility. The steps of MP4 are as follows:

- (1) The distribution system and the production facility are identified.
- (2) The stress level and reliability level of the electric distribution facility and electric equipment are evaluated.
- (3) Using a risk index map, the overall importance of the electric distribution system including operation and management is analyzed.
- (4) As four recommended items, a maintenance plan, a modernization plan, a monitoring plan and a management plan are proposed.

Fig.1 Risk assessment and effect of diagnosis service



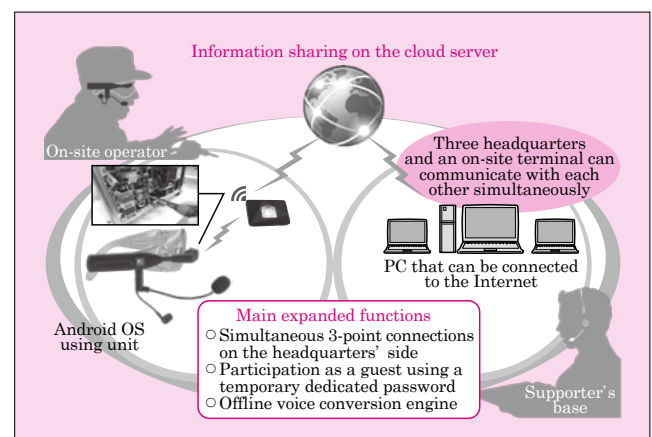
### 2 Functional Expansion of “FWOSP” Wearable Remote Operation Support Package

The “FWOSP” wearable remote operation support package is a cloud service that supports an improvement to on-site work quality and efficiency and the handing-down and accumulation of technical know-how.

We have expanded the instruction and support function to bi-directionally connect a glass-type wearable unit held by an operator and a PC at the headquarters with sounds and images, as well as the operation support function to record work procedure for instructions in advance and work results with voice. [(2) and (3) are options].

- (1) By simultaneously connecting a work site and three headquarters, it enables more accurate operation support for on-site operators.
- (2) Issuing a temporary dedicated password has enabled instructions and support to be given by third persons while tightening security.
- (3) Work results can be recorded with voice even when offline, for example, in a poor communication environment.

Fig.2 “FWOSP”



## Services

### 3 Diagnosis Service for Photovoltaic Panels

The revised “Feed-in Tariff (FIT) Scheme for renewable energy” was enforced on April 1, 2017, and maintenance, inspection and management of facilities were incorporated in the assessment criteria to secure long-term stable power generation. To meet these criteria, Fuji Electric has provided remote monitoring and maintenance work as optional services.

There are various challenges of monitoring abnormalities in the amount of power generated by photovoltaic power generation facilities and degradation of photovoltaic panels. Fuji Electric has developed a diagnosis algorithm that detects an abnormality in the amount of power generated and degradation of photovoltaic panels by identifying changes in performance of the photovoltaic panels systematically. We have constructed a wireless string measurement system using this algorithm on a cloud environment and have started providing it as a diagnosis service for photovoltaic panels.

Fig.3 Example of screen of measurement system and abnormal condition of photovoltaic panels





\* All brand names and product names in this journal might be trademarks or registered trademarks of their respective companies.