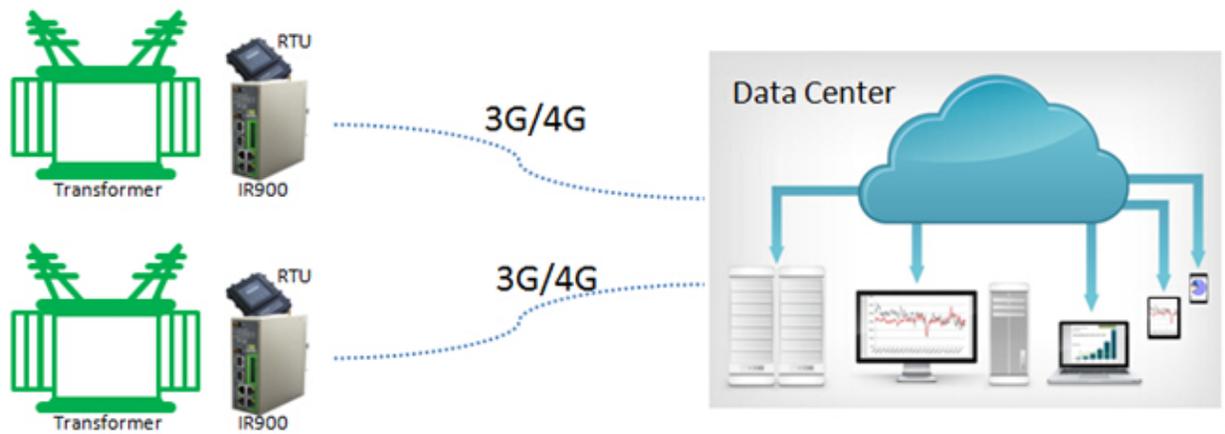


## Transformer Monitoring

To safeguard and continuously improve the operational quality of electrical distribution networks, power utilities are increasing their efforts to monitor every device on the distribution network. As a critical component of any smart-grid deployment, substation monitoring is key to these efforts.

In order to observe the power consumption status of distribution end-use sectors, power utilities hope to obtain real-time monitoring data from substations. This data is vital for analyzing the operational status of end-users and to detect potential problems, which may shorten outage duration, thus improving the power supply quality.

A transformer monitoring solution for power utilities has been successfully deployed utilizing the **InHand Networks InRouter900 series technology**. By integrating an embedded 4G LTE or 3G communication module and data acquisition solutions, the IR900 helps utility customers avoid incurring additional cost for telemetry software and hardware. The InRouter900 transmits operational data from the substation to the cloud monitoring center to achieve instant substation monitoring for thousands of devices spread over the grid. The InRouter900 also supports email and SMS alarms so that when a malfunction occurs in a substation, the IR900 will quickly generate an alarm message and transmit it to operations staff by email or SMS. Real-time online awareness allows technicians to shorten outage durations, prevent events such as rolling blackouts, and minimize impacts to the quality of consumer power distribution.



The solution provided the following advantages:

- Upgraded power supply efficiency and shortened outage durations - Less operations support costs with a central cloud platform
- Rapid repair of any malfunction with alarm functionality
- Quick response to unexpected problems.

This solution for substation monitoring is designed for scalable, quick deployments with no downtime, ensuring positive budgetary performance. Substations become intelligent, allowing customers to detect and solve potential problems in the distribution network quickly and efficiently. With the embedded data acquisition and local alarm functions in the InRouter900, customers can enjoy real-time monitoring of the substations with upgraded fault response efficiency and reduced on-site support.