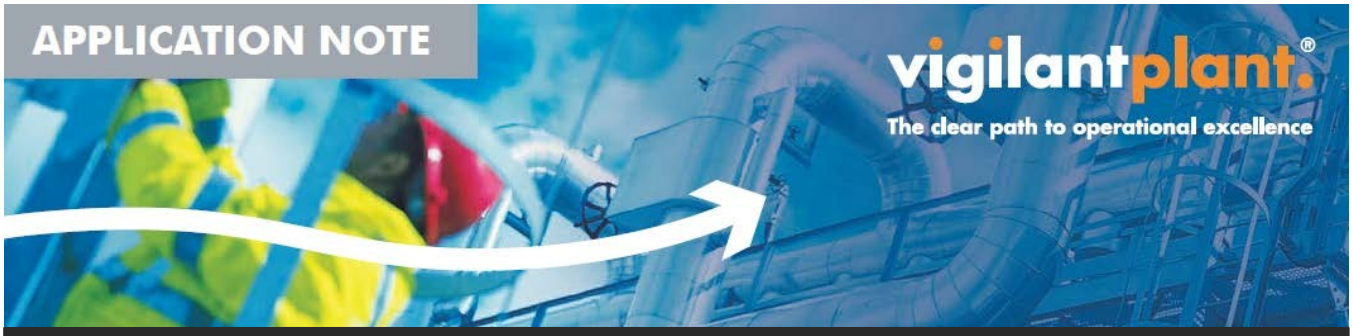


Groundwater well level monitoring at pharmaceutical site

Region: Europe
Customer: Gedeon Richter Plc.
Industry: Pharmaceutical
Products: FN110 (Field Wireless Communication Module)
FN310 (Field Wireless Multi-Protocol Module)
YFGW410 (Field Wireless Management Station)
YFGW510 (Field Wireless Access Point)

Requirements

Ground water well level monitoring is needed.

It is a part of company's, Gedeon Richter Plc.'s development program in environmental protection. The customer also wanted to streamline the company's infrastructure on environmental protection.

Up to now water well level has been monitored by patrol per week. No data of sufficient time resolution was available to record and monitor the levels of the groundwater wells.

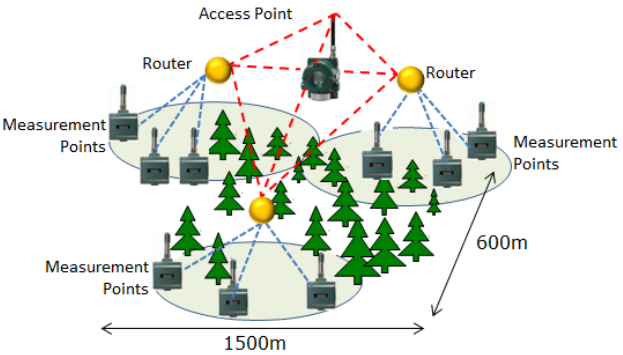
Measured data requested by customer at least 4 times per day with an on-line monitoring system in a rather wide (1500m x 600m) industrial area.

Benefits

- Hourly measured data is available.
  Use of this data provides a great opportunity to achieve a more accurate understanding of the flow of groundwater under the plant.
- Manpower patrolling cost is dramatically reduced.
- A system consisting of few, compact yet robust industrial components.
- Long life battery powered instruments enable easy installation and maintenance.

Challenge

The main obstacle to overcome is the lack of proper technological infrastructure near the wells, such as electric connection or computer network. System must cover significantly large (1500mx600m) area with industrial conditions (buildings, pipe bridges) and vegetation (trees, bushes).



Covers huge area using SkyMesh[*1] topology

(*1) Please refer to;

"An Excellent Method to Lay Out ISA100.11a Field Wireless Devices"

(Yokogawa Technical Report / English Edition Vol.55)

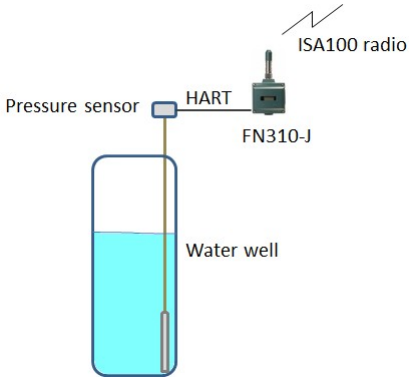
https://www.yokogawa.com/rd/pdf/TR/rd-te-r05502-009.pdf

Solution

- Offered suspension pressure sensor and FN310-J.
- Quoted 5x FN310-J as routers to cover all area, avoiding influence of trees.
- Data update time is 1 hour (3,600 sec.).

Equipment List

FN110 x25 FN310 x25
YFGW410 x1 YFGW510 x1
Pressure sensor x20



Built-in battery of FN310-J powers pressure sensor

Conclusion

- Corporate social responsibility is steadily maintained to accommodate a request of the up to date regulation.
- Manpower patrolling cost is dramatically reduced.
- The reports and Real-Time system are accessible by competent leaders and professionals on corporate intranet.
- The SkyMesh topology introduces high reliable radio network despite challenging industrial conditions – e.g. buildings, pipe bridges, vegetation and huge distances.
- The installation of the entire system takes only one day following mechanical preparations.
- Both signal and power wiring cost are dramatically reduced.
- Low power consumption instruments achieve battery life of at least 2 years.

FN310 Field Wireless Multi-Protocol Module
with FN110 Field Wireless Communication Module

Customer's voice

Thank you for providing a great advantages of wireless solution to us.

The Yokogawa wireless system has not only met but highly surpassed the needs and requirements of us.

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