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Be sure, be safe.

ISA100 Wireless Gas Detector for Safety Applications

Shinji Nakajima

NEW COSMOS ELECTRIC CO.,LTD.

Agenda

- Reason why ISA100 Wireless is the best choice for gas detection
- ISA100 Wireless gas detector
- Solution examples
- Summary

Reason why ISA100 wireless is the best choice for gas detection

Current state of Japanese industrial field

- Old facility buildings
- More demanded technical transfer due to aging workers
- Increased importance of disaster countermeasures

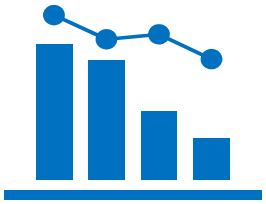
IIoT, AI, and Big data analysis are key solutions.

Introduction of IIoT at the Japanese government level (e.g. revision of laws) is going on.

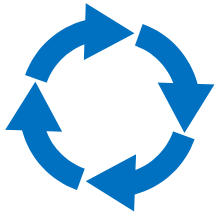
Wireless is a key technology for IIoT

because of its low installation cost

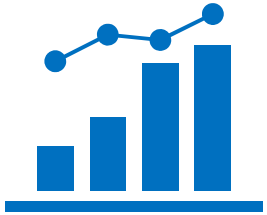
Expectation for wireless gas detectors



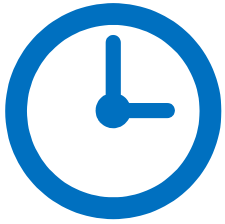
- No cabling and low initial cost
  - Temporary use (constriction, maintenance work)
  - Enhanced monitoring by increased number of detection points



- Easy and flexible installation
  - Added gas detection at key facilities or remote/inaccessible area



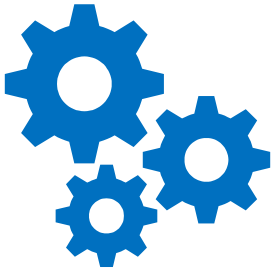
- Can be used as wireless routers (relay points) thanks to a large number of installation points
  - Increased investment effect by introducing wireless network at plant



- Fast response time specified by laws in Japan
  - Combustible gas: 30 seconds or less

Why is ISA100 Wireless the best choice for gas detection?

- Best latency time
  - Constant communication
  - Communication time configured by second



- High connectivity and less downtime
  - Disconnection prevented by redundancy paths/connections
  - Easy troubleshooting by manual routing

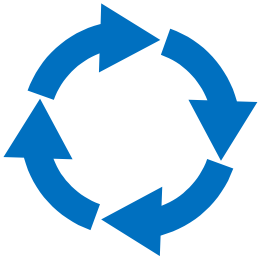
- Interoperability by global standardization
  - International standard (IEC 62734)
  - High infrastructure investment (different devices can be connected to the same network)

Low risk, high investment effect

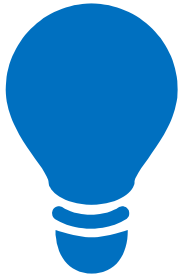
ISA100 Wireless gas detector

Requirements for wireless gas detector

- Early detection of a gas leak
  - High frequency communication (5 sec or less)
  - Low concentration detection



- Can be installed at most suitable location
  - Flexible installation because of battery-powered
  - Installation at a remote/inaccessible location where difficult to maintain



- Gas leak alert to workers
  - Controls warning lights and buzzers

ISA100 Wireless gas detector options

Select a gas detector in accordance with your purpose.

Power	Built-in Battery	External power supply	
Sensor	Built-in sensor	Built-in sensor	Sensor in external device
Product sample			
Installation cost	Low (No cabling work)	Middle (Power cabling work needed)	Middle (Power/external device cabling needed)
Battery management	Required	Not required	Not required
Suitable configuration	Middle/long freq. communication, IO	High freq. communication, routing and IO	High freq. communication, routing and IO
Installed limitation	No	Yes	Yes, but suitable for high maintenance location

ISA100 Wireless gas detection network

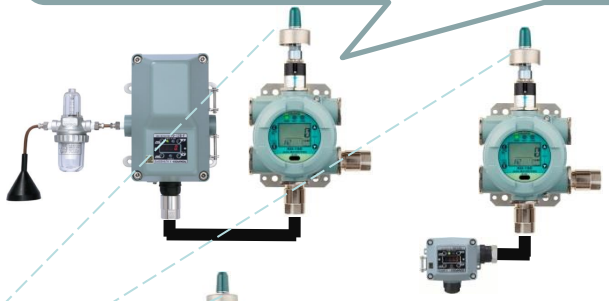
ISA100 Wireless is key technology to safety management

Stable communication by extending wireless module

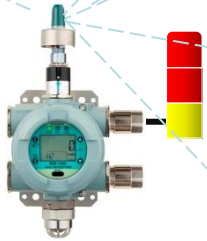
Wireless system

Suitable for routing because no need of battery replacement

Remote monitoring by connecting external pump type detector



Install at desired location because it is battery-powered

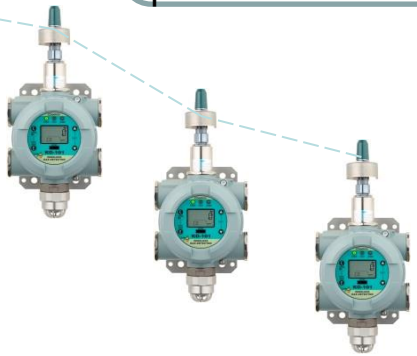


Temperature, Pressure device etc.

Possible to connect other devices

Detection at ppm level as well as H2 detection

Controlling warning lights by build-in relay contacts



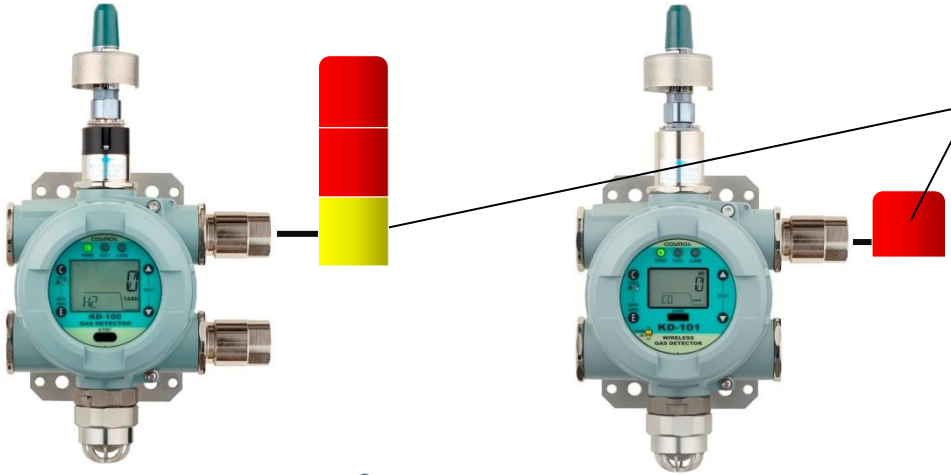
Remote monitoring by using routers

Example of solutions

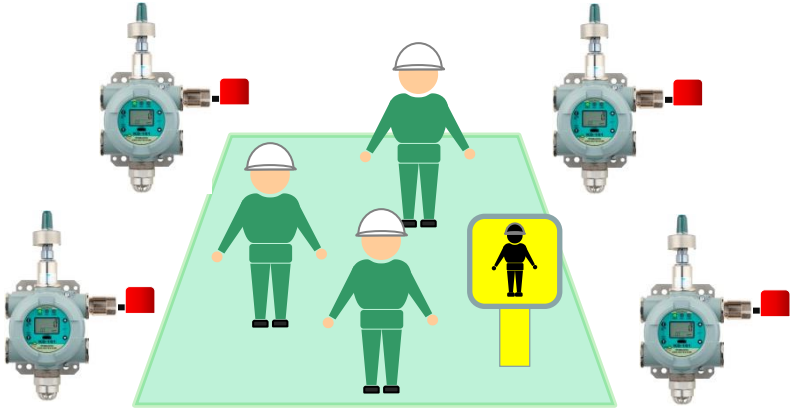
Solution 1

Target: Safety monitoring during work

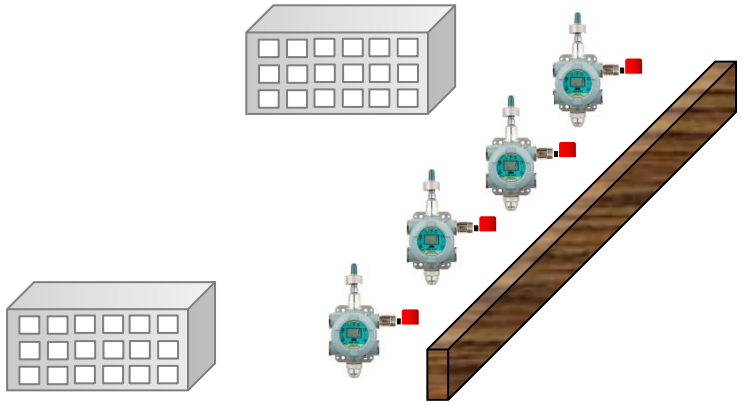
Solution: Visualization with signal tower, warning lights, etc.



Lights are controlled with relay contacts



Safety monitoring during work



Safety barrier

Solution 2

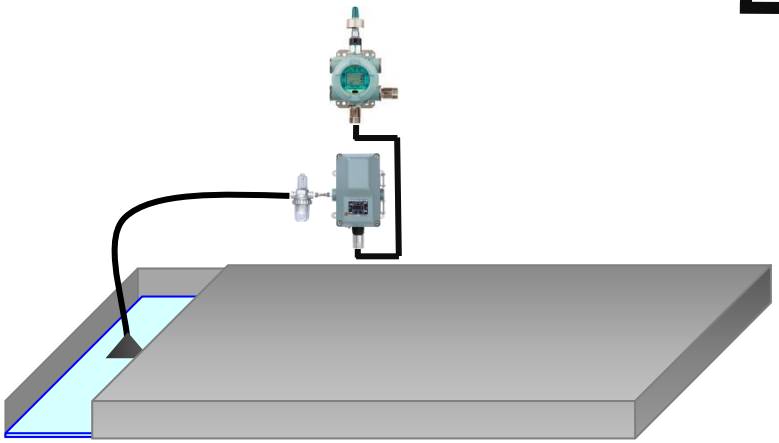
Target: Detection at a location where it is difficult to maintain

Solution: By making another pump type gas detector to wireless

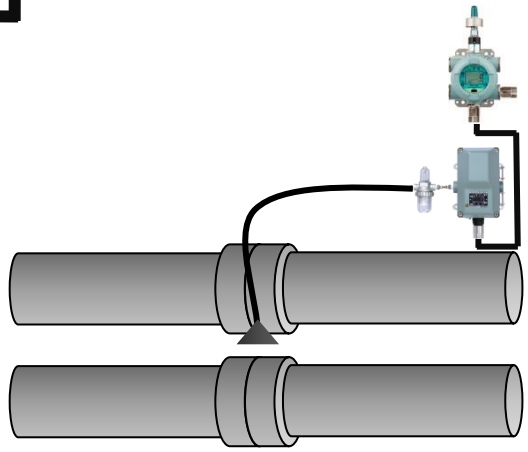
Pump and gas sensor build-in external device

Sampling gas in a remote area

Wirelessly sends gas concentrations.



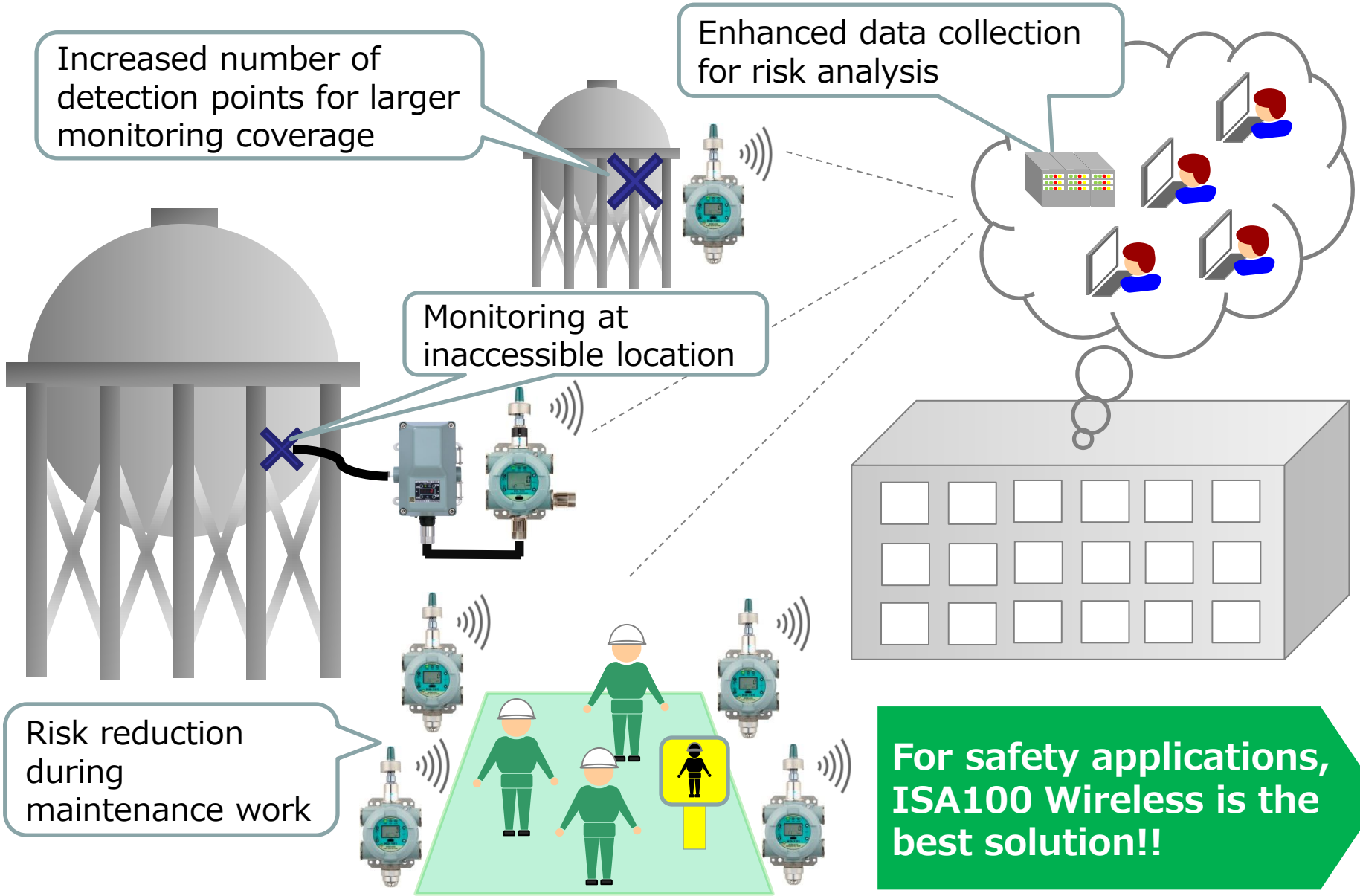
Inside a pit



Small and enclosed space

Summary

Summary



For safety applications, ISA100 Wireless is the best solution!!

Thank you