

# Temperature monitoring on a chimney

- ❑ **Industry:** Refinery
- ❑ **Region:** South America
- ❑ **Products:** [YTMX580 \(Multi-Input Temperature Transmitter\)](#)  
[YFGW520 \(Field Wireless Access Point\)](#)  
[YFGW410 \(Field Wireless Management Station\)](#)



## ❑ Introduction

It was found that exhaust gas temperatures fluctuate in the chimney resulting in the gas components transforming into polluted substances. Existing instrumentation did not monitor this. To prevent this gas transformation creating these substances, additional temperature control of the exhaust was necessary and critical.



## ❑ Expected Benefits

- Low cost and easy installation for controlling the temperature  
No wiring is required.
- Better temperature control  
By controlling temperature in the chimney, to keep the exhaust gas clean/ environmentally friendly.



YFGW520 (Field Wireless Access Point)  
YFGW410 (Field Wireless Management Station)



YTMX580 Multi-Input Temperature Transmitter

## □ Challenges

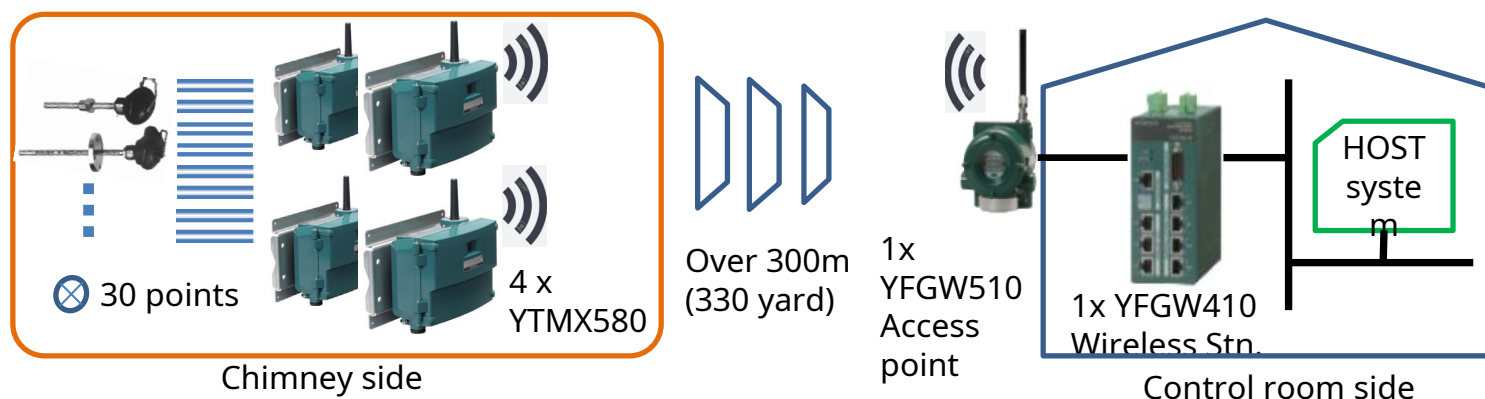
- The number of measurement in the chimney totaling 30 points.
- The location of measurement points were 30 meters above the ground.
- The chimney is located about 300 meters away from central control room.

## □ Solution

For chimney temperature monitoring;

The choice by the client was Wireless Multiplexer YTMX580 to monitor the temperature in the chimney. **Four YTMX580s were deployed in easy accessible elevated positions to cover 30 measurement points reducing maintenance costs of cabled solution deployed for this application.** Reliable ISA100 wireless communication enabled **communication between the devices on the chimney and control room 300m away.**

Yokogawa plant-wide field wireless system was selected as the best wireless solution.



## □ Conclusion

The client deployed only four units of YTMX580 along the chimney to cover 30 measurement points. **Wireless YTMX580 eight channel temperature transmitter enables this cost effective solution.**

Controlling chimney temperature decreases pollutants reducing environmental burden. From maintenance point, less cable requirements results in the faster deployment. Consequently the client had a significant cost saving with less cabling and faster installation.

The client is planning on deploying additional wireless applications in their plant to take full advantage from **Yokogawa's plant-wide field wireless infrastructure.**

### Yokogawa Electric Corporation

**YOKOGAWA ELECTRIC CORPORATION**  
9-32, Nakacho 2-chome, Musashino-shi, Tokyo 180-8750, Japan

**YOKOGAWA CORPORATION OF AMERICA**  
12530 West Airport Blvd, Sugar Land, Texas 77478, USA

**YOKOGAWA EUROPE B.V.**  
Euroweg 2, 3825 HD Amersfoort, The Netherlands

**YOKOGAWA ENGINEERING ASIA PTE. LTD.**  
5 Bedok South Road, Singapore 469270, Singapore

**YOKOGAWA MIDDLE EAST & AFRICA B.S.C.(c)**  
P.O. Box 10070, Manama, Building 577, Road 2516, Busaiteen 225, Muharraq, Kingdom of Bahrain

All Rights Reserved, Copyright©2017, Yokogawa Electric Corporation