APPLICATION EXAMPLE

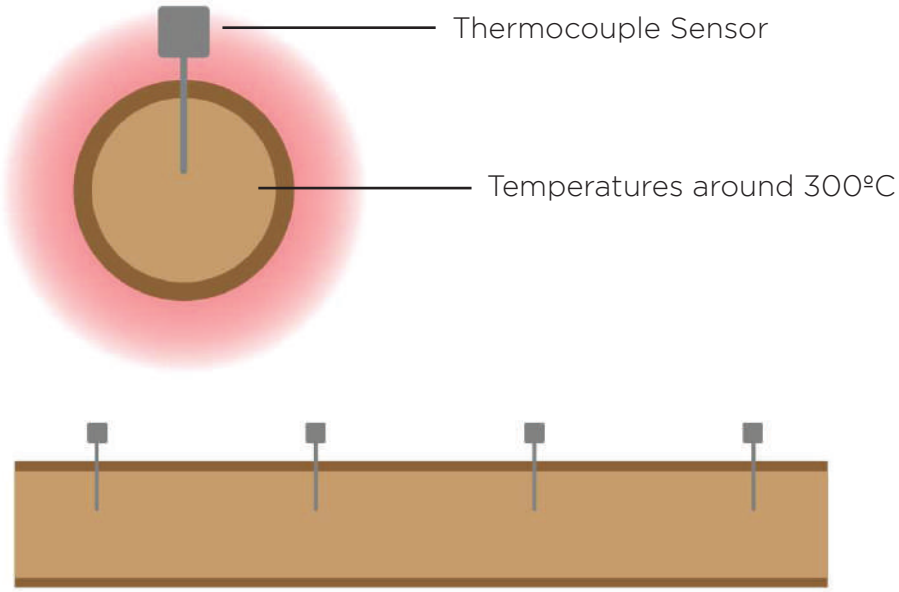
TEMPERATURE MONITORING
IN INDUSTRIAL FURNACES

Monitoring temperature solution for industrial furnaces that transform coal into coke (fuel used to produce steel).

MAIN GOAL

Monitor the temperature in high temperature by-product-collector tubes, connected to the top of the industrial ovens.

Collector tube



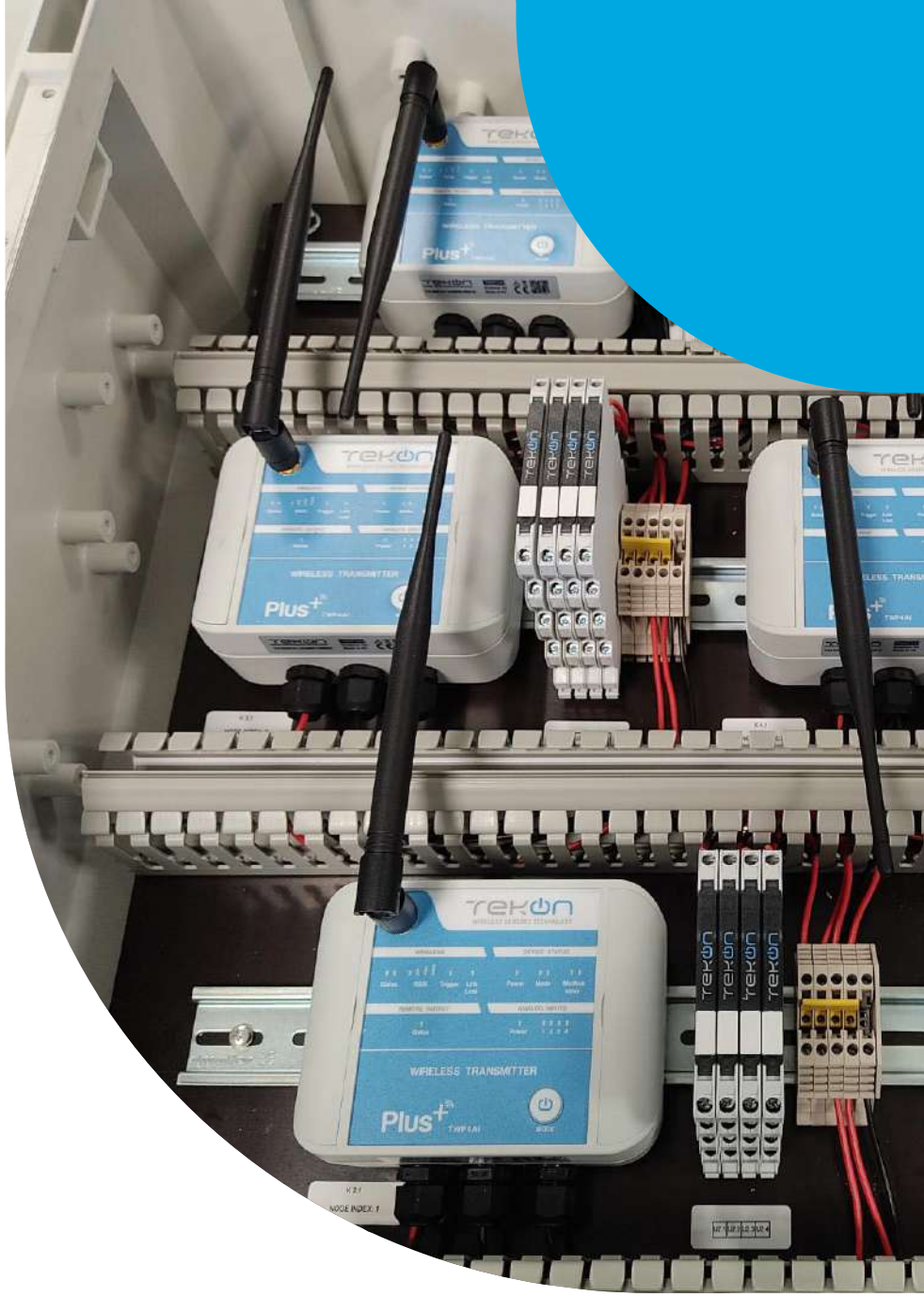
SOLUTION

SENSING

Tekon Wireless System can be installed in a clean and safe area, close to the ovens. Wireless and wired transmitters and also receivers, are installed inside a panel, to be protected from contaminants and dust. In this example, the panel contains 4 TDU301-I din rail transmitters (directly connected to the thermocouple sensors), 1 PLUS TWP-4AI wireless transmitter (collects 4-20mA signals from the TDU301-I transmitters) and 20 cable glands for the thermocouple sensors.

GATEWAY

WGW420 receiver collects data from the PLUS TWP-4AI transmitter and connects to the automation system via Modbus.



SOLUTION

SOFTWARE

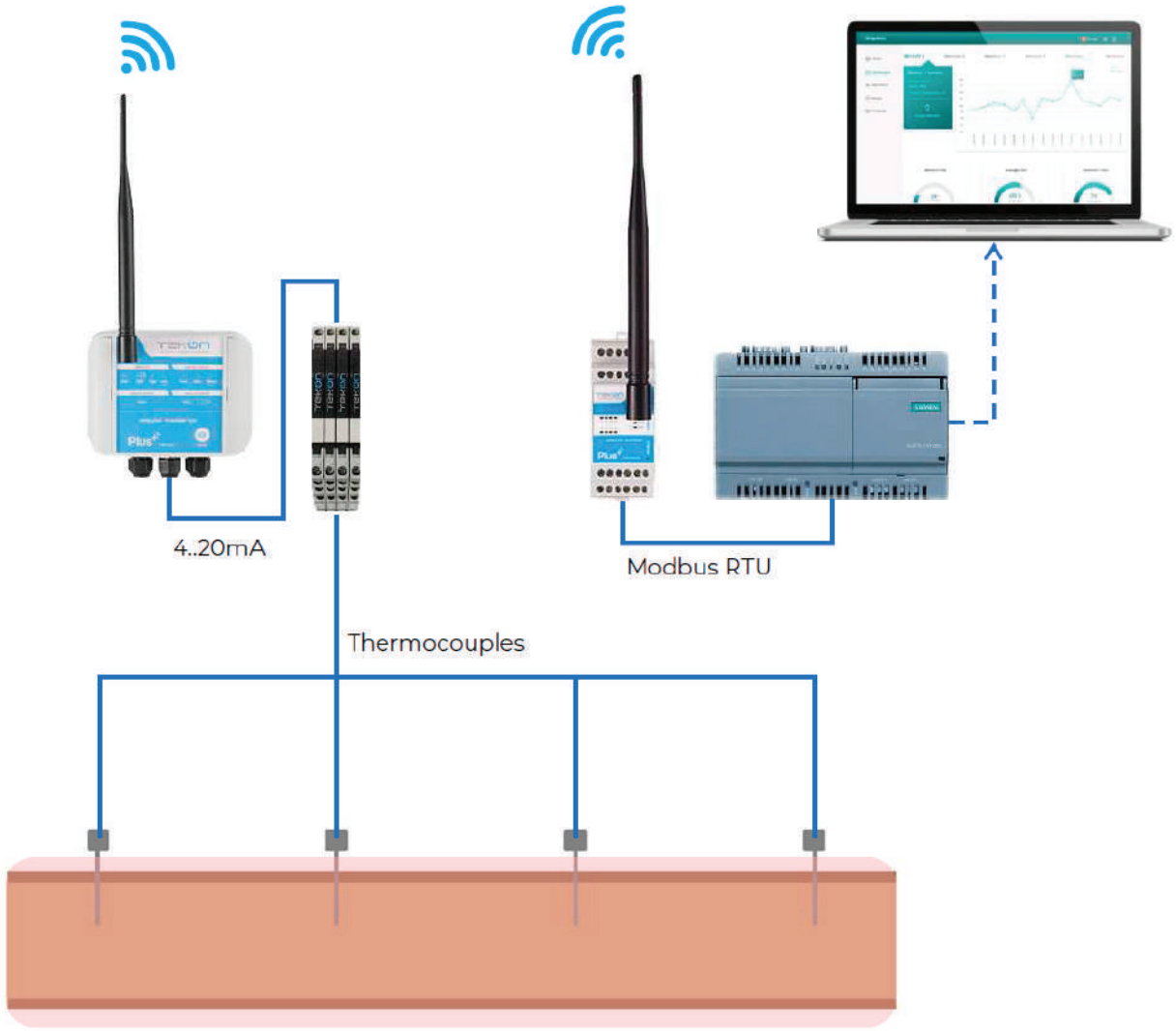
The tool for data analysis is **Tekon IoT Platform**, which aggregates all collected data and provides simple and/or advanced data visualization and analysis options. The integration of the solution in the cloud allows remote access from any device, such as a tablet, smartphone or computer, and ensures that, even away from the infrastructure, those responsible for processes can be constantly informed and close to the ongoing operations. The platform also allows the configuration of alarms and notifications 24/7.

APPLICATION DIAGRAM

Installation of temperature monitoring devices in a harsh and extremely hot environment.

Wireless Solution

Panel installed in a clean and safe area, next to the furnaces, containing 4 wired TDU301-I din rail transmitters (directly connected to thermocouple sensors), and 1 PLUS TWP--4AI wireless transmitter, which communicates directly with the PLUS WGW420 gateway. This gateway connects to the Tekon Electronics platform via Modbus RTU.



CONCLUSION

In this type of projects, the implementation of a temperature monitoring system has the following advantages:

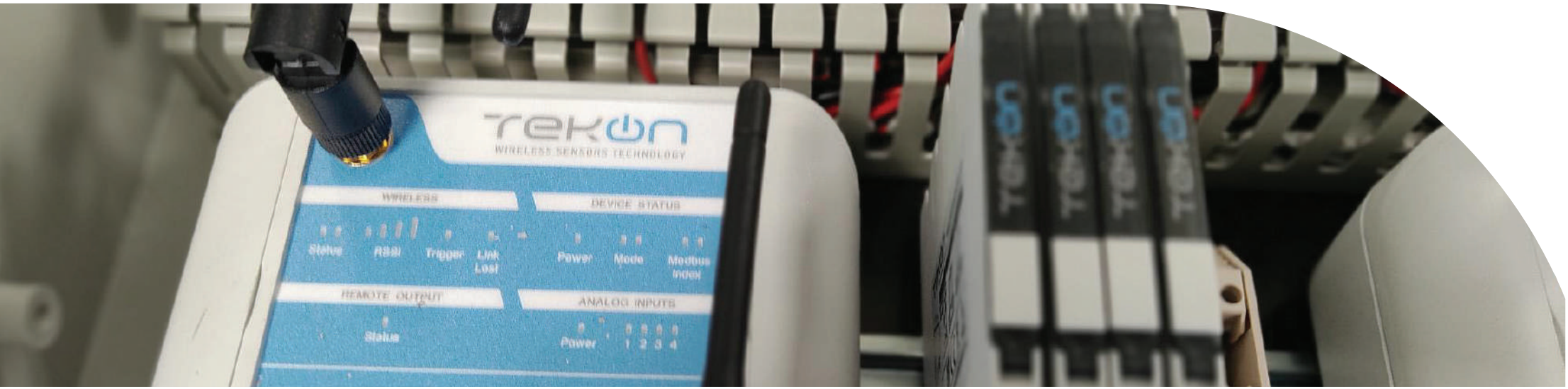
1 - Plug-and-play implementation after installing the probes (quick and easy).

2 - Pre-assembled solution, with low cost installation (reduced commissioning hours).

4 - Scalable system, prepared for the future and for the challenges of Industry 4.0. The network can aggregate up to 55 transmitters per gateway, ensuring automatic mapping and the best connection conditions for the transmission of data packs.

5 - Easy access to information in a single data aggregating point, facilitating KPI's process registration and a better management optimization.

6 - By allowing the digitilization and modernization of processes, the use of this real-time monitoring solution is essential for all companies that are seeking to leverage their competitiveness and obtain better results.



WIRELESS SENSORS TECHNOLOGY

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