

# UNINTERRUPTED MONITORING OF INDUSTRIAL BOILER ROOMS

## HIGHLIGHTS



- ✔ Industrial boiler rooms are known for their complexity and need for continuous remote monitoring. However, since boiler rooms are most commonly in basements, strong and reliable network connectivity is hard to guarantee.
- ✔ **NS Koncept** creates automation solutions revolving around industrial and thermal power processes. For this challenge, it put its trust in our TRB gateways for creating an automated monitoring and control solution.
- ✔ TRB140, TRB142, and TRB145 ensure robust and uninterrupted network connectivity alongside key features like ping reboot and SMS configuration, making them irreplaceable for this demanding solution.

## THE CHALLENGE – RESTRICTED BY UNDERGROUND BARRIERS

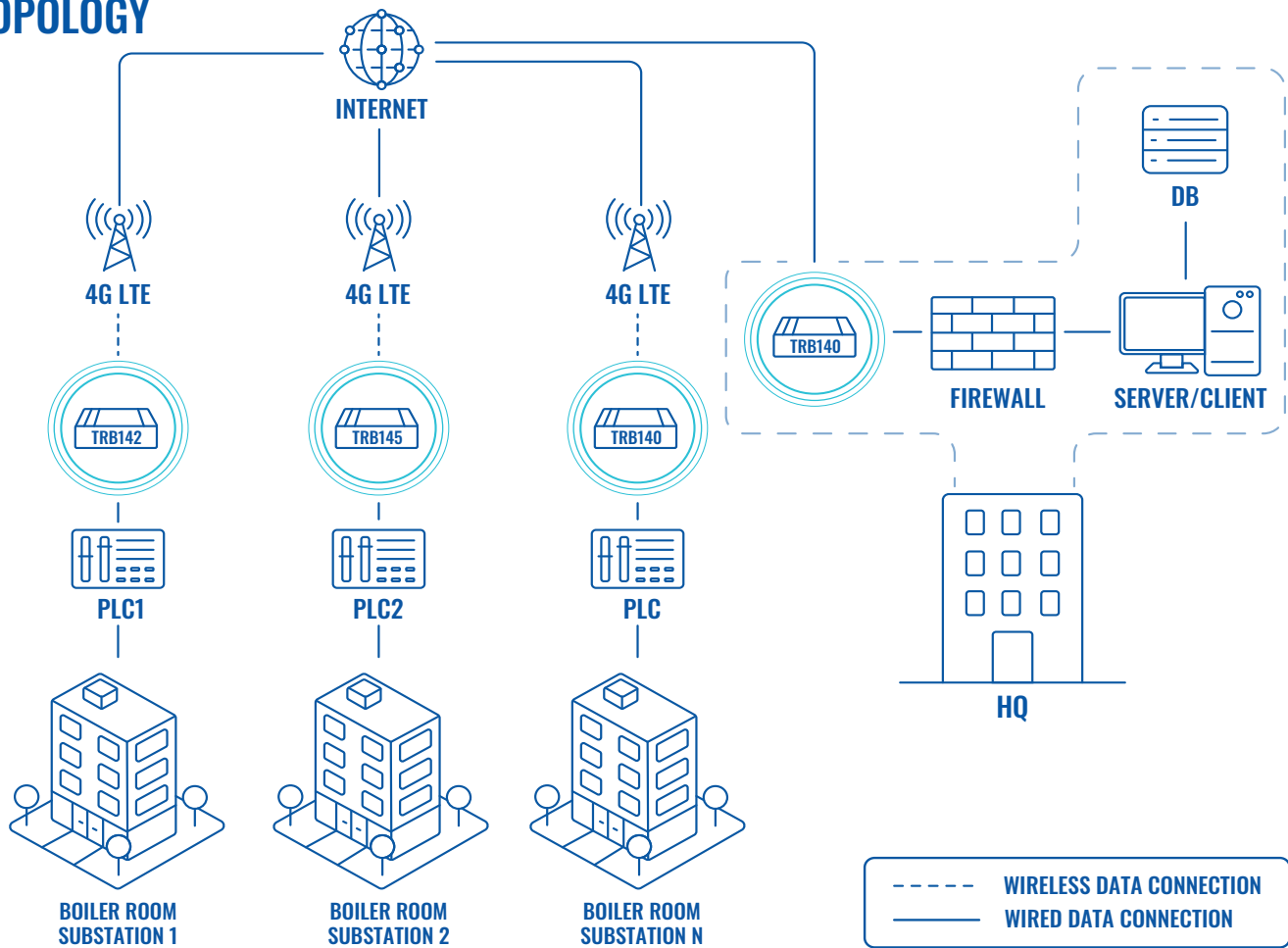
The most complex infrastructures often function much like everyday appliances, and the same could be said about industrial boiler rooms.

Think of an industrial boiler as a pressure cooker. To cook with it, you need to put the cooker on direct heat, wait for the water inside to boil, and let the steam gradually come out. The boiler works the same way; it's just ten times bigger, so it deals with way more intense pressure. And instead of cooking food, it generates steam to supply heating for households.

If the industrial boiler is like a pressure cooker, an industrial boiler room is like a kitchen. And like a kitchen, it needs more than just one appliance. A boiler room needs temperature meters, water tanks, pipes, and other equipment to ensure a smooth heating process. Massive damages, like flooding or boiler explosions, can happen if unsupervised infrastructure busts. That's why monitoring it is not an option, but a requirement.

The challenge we're about to dissect consists of many boiler rooms, all requiring high-speed network connectivity to collect real-time information about equipment parameters and send immediate alarms if anything goes south. However, all of them are located in building basements, where a connection is generally not great, and each of their PLCs features a different communication interface: RS232, RS485, or Ethernet. So, this challenge revolves around three serious concerns: a troublesome location, different communication requirements, and an infrastructure reliant on uninterrupted monitoring.

## TOPOLOGY



## THE SOLUTION – LETTING GATEWAYS TAKE THE WHEEL

NS Koncept took this challenge and evaporated the steam of these concerns by connecting the headquarter’s computers with each boiler’s PLC through a remote network connection enabled by our TRB gateways.

Even though the boiler rooms are located in basements, the TRBs’ reliable network connectivity and features like ping reboot help maintain a stable Internet connection when it has to pass through thick walls underground. This uninterrupted network ensures that all necessary data is continuously transferred to the headquarters for monitoring purposes, making information like temperature, pressure parameters, and instrument status available at all times. Continuous data throughput also helps guarantee that the right amount of power gets generated. If anything is off, the boiler room system notifies monitoring stations through alarms and heat meters indicators.

Besides the robust network connectivity support, our TRB series gateways excel with their diversity of interface ports, which is exactly what NC Koncept needed. All three gateways have different ports: TRB140 – Ethernet, TRB142 – RS232, and TRB145 – RS485. For this reason, communication between a PLC of each boiler room and headquarters’ computers becomes possible. The devices also provide remote control via SMS so you can have complete power over device configuration and access to functions, like changing mobile settings according to your needs.

With many versatile features, our TRB gateways complement this solution with additional benefits while ensuring it stays reliable and simple.

