

IOT GATEWAY FOR REMOTE MANAGEMENT OF OIL AND GAS PIPELINES

HIGHLIGHTS

- ✓ SCADA systems are essential for supervising and controlling data from pipelines that transport fossil fuels, such as gas and oil.
- ✓ To successfully implement predictive maintenance and gather real-time data, SCADA systems need reliable connectivity devices.
- ✓ And ideal choice for it is Teltonika's TRB145 IoT gateway, providing not only uninterrupted and secure connectivity, remote monitoring and management capabilities but also a bundle of other exquisite features.

THE CHALLENGE – ALL DATA SHALL PASS

Although the world is currently taking steps towards increased usage of renewable energy, fossil fuel, such as oil and gas, remain a popular energy source. The process of extracting fossil fuels from the Earth is quite intricate and complex, involving [multiple stages](#), such as rig preparation, testing, drilling, transportation, and many more.

Despite being a challenging process, it offers numerous benefits, including providing a reliable, high-density energy source that drives industrial growth and powers global economies. One of the most environmentally cautious ways of transporting oil and gas is pipelines, which coincidentally are safe, efficient, and cost-effective.

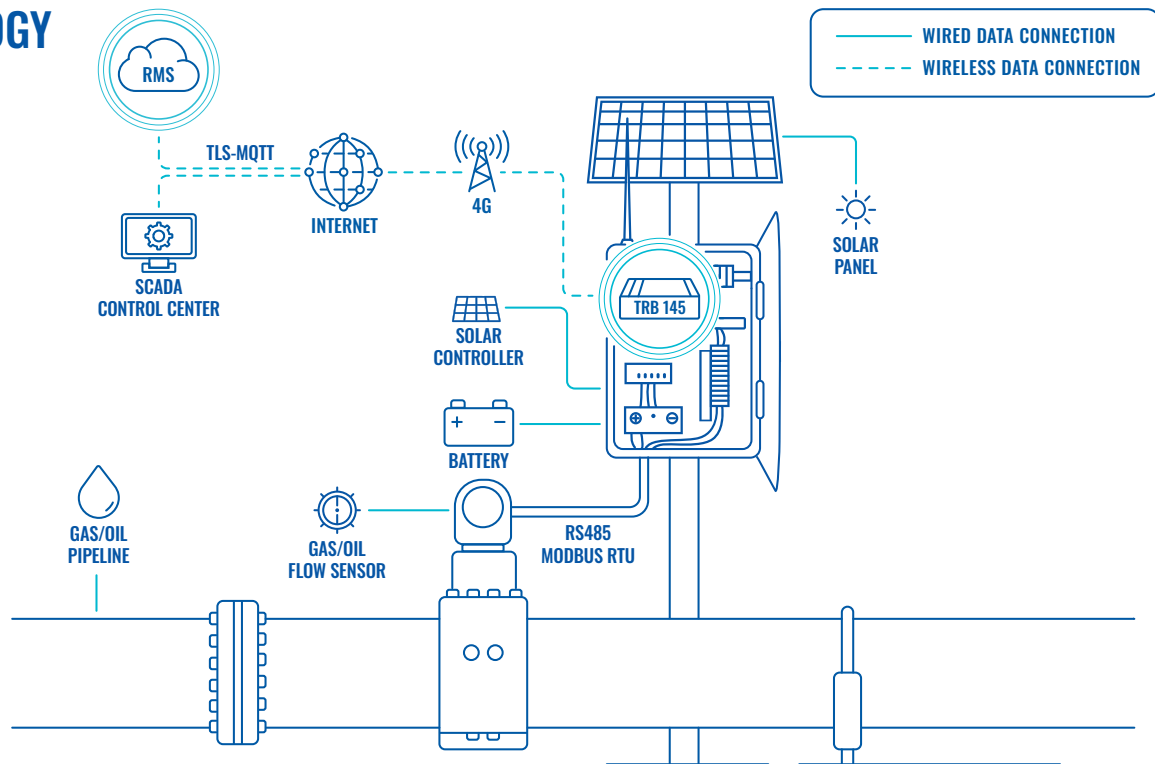
These pipelines need flow sensors, indicating the amount of liquid and gas moving through each pipe, and SCADA systems for constant monitoring, allowing to diagnose all possible safety, production, or material issues that could affect the flow.

However, all this wouldn't be possible without Internet connectivity, allowing SCADA systems to receive real-time data from the flow sensors and later transmit it to the SCADA control centre.

Due to gas and oil pipelines usually being in a remote location, remote monitoring and management capabilities are essential. For these reasons, a reliable connectivity device with remote management and monitoring capabilities is vital.

The perfect choice for this noble quest is Teltonika's RS485 IoT gateway, the TRB145!

TOPOLOGY



THE SOLUTION – IOT GATEWAY TO SAVE THE DAY

Teltonika's TRB145 IoT gateway is renowned for its reliable mission-critical 4G LTE Cat 1 connectivity that comes with an RS485 interface for serial communication, perfect for industrial applications like this one.

Although providing connectivity and remote monitoring and management capabilities is what our TRB145 IoT gateway is foolproof at, there is another important element to consider here.

The more – the merrier, right?

You see, to successfully monitor a large pipeline network, plenty of flow sensors and SCADA systems were used. To transmit data from each flow sensor to the SCADA system via the Modbus protocol, and later transmit telemetry to the SCADA control centre, many TRB145 devices were needed.

Luckily, our 4G LTE gateway consumes less than 5 W and can be powered by solar energy or batteries due to its wide power supply range and low energy consumption. This device is also very price-competitive, so rest assured that employing many of them won't make you break the bank!

Our IoT gateway's compatibility with Teltonika's [Remote Management System \(RMS\)](#) allows for remote monitoring capabilities, troubleshooting, fully customised alerts, and automation schemes. RMS is also perfect for cost-effectiveness and efficiency, allowing engineers to remotely fix network issues or update firmware.

Moreover, our 4G LTE gateway supports industrial protocols such as [DNP3](#), MQTT, and Modbus for M2M communication. Let's not forget a myriad of supported VPN services, including OpenVPN, IPsec, [ZeroTier](#), Stunnel, and many more, so you can rest assured that your connectivity solution will be safe and sound!

This 4G LTE gateway is not only secure, energy-efficient, and easy to install, but also ultra-small. Industrial environments tend to be low on space, so our TRB145 measuring at only 74.5 x 25 x 64.4 mm is a perfect fit.

Lastly, its sturdy aluminium housing can withstand operating temperatures varying from -40 °C to 75 °C, making it reliable and resilient industrial device!

So, don't miss out on this great choice. Grab your TRB145 and fuel your IoT solution with connectivity!

