



# 5G GATEWAY FOR REMOTE CONSTRUCTION WORK

## HIGHLIGHTS

- ✓ The throughput provided by 4G is not enough for construction workers to operate heavy machinery remotely and with the comfort other professions have come to enjoy.
- ✓ The TRB501 industrial 5G gateway offers lower latency, better spectrum use, and 5G carrier aggregation with its 3GPP Release 16 modem, making it possible for the machine and its remote operator to remain synchronized using VR technology.
- ✓ The TRB501 features a high-speed 2.5 Gbps Ethernet port for high-bandwidth backhaul, and its compact, durable design makes it a versatile, reliable, secure, and sturdy option.

## THE CHALLENGE – A DREAM OF COMFORT

As the march of innovation moves ever forward, our lives become easier and more comfortable. However, while many of us have the luxury of working from home in our slippers, or even from a beach resort with a good Internet connection, not all jobs enjoy the luxuries of remote work.

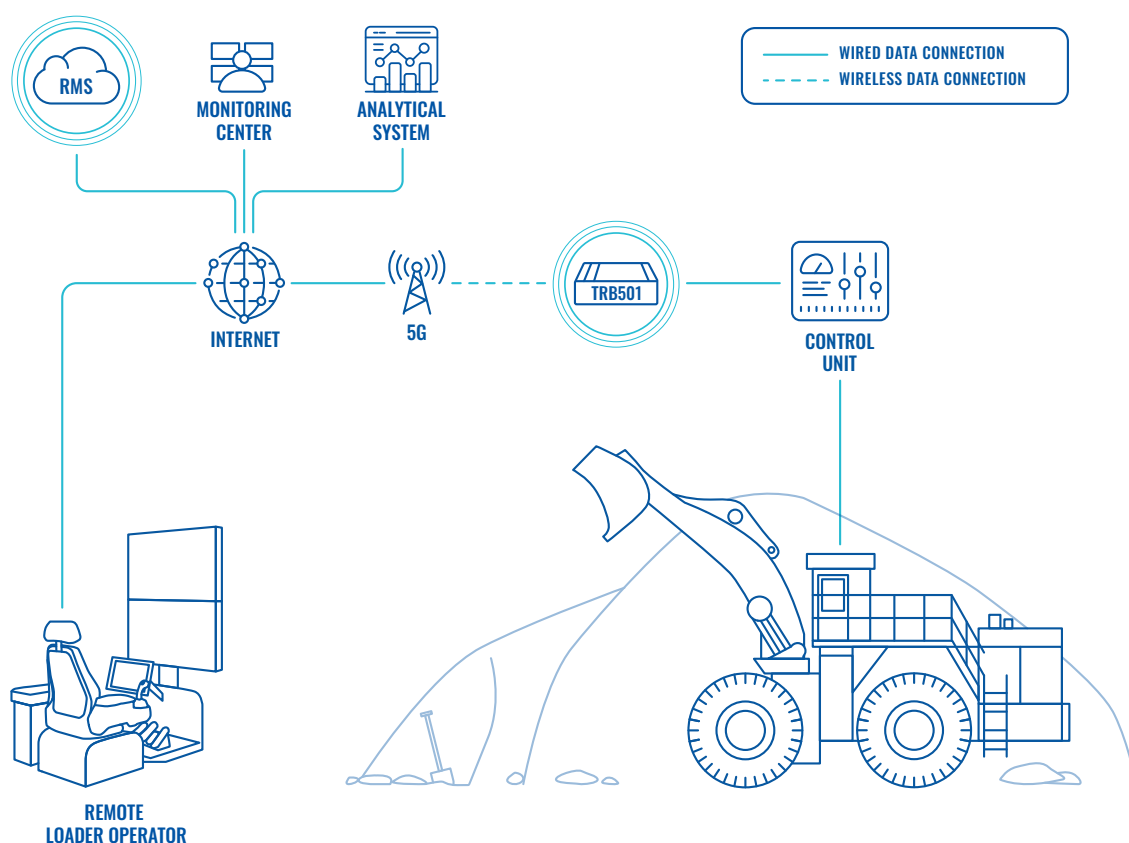
Imagine a construction worker operating heavy machinery, like an excavator or a backhoe loader. The nature of their job not only means they have to be on-site but also that their work environment is far from comfortable. Icy cold, scorching heat, dust, mud, rugged terrain, and the list goes on and on. And that's without even mentioning work that needs to be done in hazardous environments. Not exactly the peak of comfort technology always promises, is it?

They probably would work from home if they could, but building an entire paved road from scratch isn't a task a makeshift home office can help with. However, this didn't stop innovators from coming up with remote solutions in which the operator can utilize virtual reality (VR) technologies to operate heavy machinery from a remote station that comes with all the comforts we've come to enjoy.

The problem is – the bandwidth such a solution would require is beyond the capabilities of a 4G network. Like hoverbikes and teleporters, the technology just isn't there yet.

Or is it?

## TOPOLOGY



## THE SOLUTION – 5G PAVES THE FUTURE

4G is not enough, but what about 5G? While this technology has already been around for a few years, it's only now starting to gain momentum as the infrastructure is finally catching up. It's a good time to start enabling remote capabilities for a wider range of professions, and what connectivity device is better suited for this than our TRB501 industrial 5G gateway?

The TRB501 provides a significant performance boost, delivering end-to-end latency of single-digit milliseconds. This, along with its 3GPP Release 16 modem, which offers better spectrum use and 5G carrier aggregation, enables the remote operation of such machinery using VR. This makes it so the remote operator and on-site machine work in seamless synchronicity. And if you think this sounds like science fiction, we're pleased to inform you that we've reached the point where it really is just science.

Importantly, none of the staple features of 4G Teltonika connectivity devices had to be sacrificed to accommodate this 5G support. The TRB501 comes with a high-speed 2.5 Gbps Ethernet port, making it ideal for high-bandwidth backhaul. Its sturdy design is perfect for industrial environments. It is also just as versatile and compact, making it easy to slot into your setup.

Not too long ago, working from home was a logistical challenge for most people. With our TRB501 5G gateway, even construction workers could start working remotely today. It's hard to say where's the limit of 5G technology, but rest assured that when we do reach that limit – we'll do it remotely, while wearing slippers.

