

# ENERGY EFFICIENT 4G ROUTER FOR SMART SOLAR BENCHES

## HIGHLIGHTS

- ✔ [PetroSOLAR PROJEKT doo](#) develops solar-powered, energy-independent products that are easy to install in tourism and commercial locations.
- ✔ Its smart benches display digital advertisements and are designed to enhance convenience for passersby by offering free Wi-Fi services. However, it required a reliable networking device to support this functionality.
- ✔ PetroSOLAR selected Teltonika's RUT200 4G router to provide Wi-Fi connectivity for up to 50 simultaneous users from its smart benches. Additionally, this energy efficient router allows for remote management of the digital screens and their displayed ads.

## THE CHALLENGE – SMART BENCHES AREN'T JUST FOR SITTING

The demand for renewable energy solutions has really taken off in recent years, largely driven by technological advancements and environmental concerns. The global solar energy solutions market is set to grow from \$35.49 billion in 2024 to \$95.18 billion by 2031, with a [CAGR of 15.14%](#). This growth shows that the world is making a big shift in how we generate and use energy.

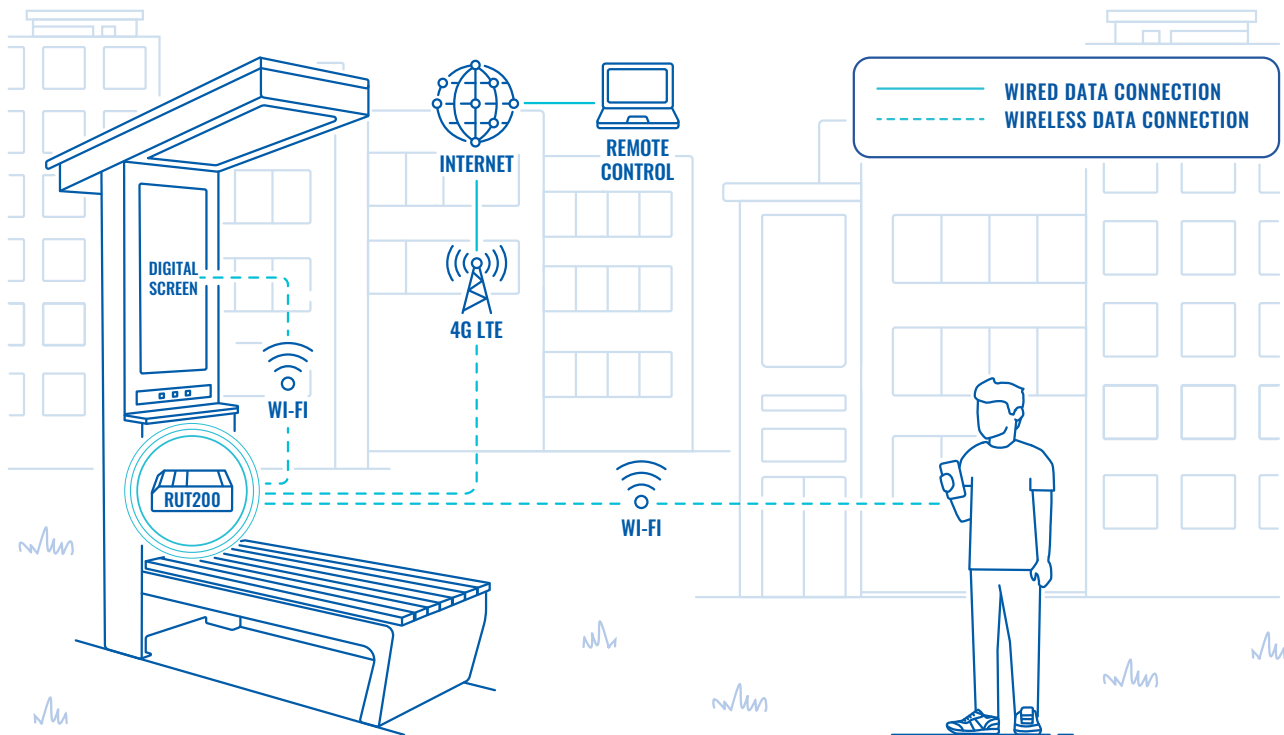
Indeed, many industries are increasingly adopting this way of harnessing energy for their IoT solutions, with a proven track record of [success](#). And if advanced solar and energy solutions were to be encapsulated in one example, it would definitely be the IoT solution of our partner, PetroSOLAR.

PetroSOLAR develops smart solar benches powered by integrated solar panels and built-in batteries. These products offer free Internet access to users and display advertisements, all powered by stored solar energy. But, for all these features to work, benches need network connectivity.

Since these benches need to stay connected 24/7, especially for remotely controlling digital screens, a robust networking device is essential. On top of that, the benches are often outdoors, exposed to rain and extreme temperatures, meaning the router must withstand harsh environmental conditions.

Additionally, controlling Wi-Fi usage is crucial to avoid high data costs, while easy installation and minimal maintenance are key for deploying these benches globally.

## TOPOLOGY



## THE SOLUTION – CONVERTING SUN RAYS INTO WI-FI

When IoT solutions call for a powerful device that's easy to install and manage, you can't go wrong with Teltonika's RUT200 4G router—just like PetroSOLAR chose for its project.

The RUT200 supports 4G LTE Cat 4 connectivity and can reach speeds of up to 150 Mbps. With its single SIM card slot, this router is a game-changer for smart benches, providing reliable 4G connectivity and distributing Wi-Fi to nearby devices. It's also one of our most affordable options, providing Wi-Fi to up to 50 end users—plenty for a single smart bench.

Though it seems simple at first, the RUT200 offers advanced Wi-Fi and hotspot configurations crucial for IoT solutions like this one. This 4G router can limit mobile data usage, control Wi-Fi access duration, schedule wireless connection times, and block unwanted websites. With these features, PetroSOLAR gains comprehensive oversight of its wireless networks, preventing data overuse and access to unauthorized content.

By receiving and transmitting reliable network connectivity, the RUT200 SIM card router also supports remote management of digital screens. This allows PetroSOLAR to control them from anywhere in the world.

Another highlight of this 4G LTE router is its low power consumption, using less than 6.5 W at maximum capacity. With a power input range of 9-30 VDC, the RUT200 fits seamlessly with PetroSOLAR's 12 V solar-powered system. This compatibility ensures continuous operation, even when solar conditions are less than optimal.

Designed with rugged aluminium housing, this 4G router can handle extreme temperatures ranging from -40 °C to 75 °C and humidity (10% to 90%, non-condensing). Not to mention the RUT200 is as small as a deck of cards, making it an ideal choice for space-limited applications that face harsh environmental challenges.

Small but definitely mighty, the RUT200 SIM card router offers advanced Wi-Fi configuration and integrates seamlessly into any setup.

