SOLAR POWERED REMOTE Wi-Fi HOTSPOTS

SUMMARY

The majority of the world's population lives in urban areas. To be more precise, in 2010, about 50.5% of the people lived within city limits, which means most of them had access to modern amenities like electricity and internet connection. However, the rest, 49.5%, live in more remote or rural areas, where internet connectivity and electricity are often unavailable as the whole infrastructure away from the city hubs is vastly underdeveloped.

CHALLENGE

As industrial and other projects expand into less populated areas, stable and fast internet connection at an affordable price becomes one of the biggest challenges. If the site is located far away from any power grid or internet line, laying down new infrastructure is often expensive and inefficient to connect just one solution. Furthermore, these setups also require an alternate energy source to operate.

PARTNER - BH Solution

Bartech was founded back in 2014, Tel-Aviv, Israel. Since then, they have successfully deployed state-of-the-art solutions in developing countries, for example: remotely managed off-grid solar power systems, billing systems, remote site management, various perimeter protection solutions, water flow control and detection. Most of them use solar power to provide electricity for all other components, including the router, allowing for 4G/3G cellular connectivity and enabling the entire solution to run off-grid.

SOLUTION

Bartech has created a solution to provide connectivity in remote locations. For this project they used one of the Teltonika Networks products – the RUT956 industrial cellular router. RUT956 uses 4G cellular connectivity to broadcast a Wi-Fi signal and connect to an IoT controller. This enables connectivity for the whole solution and provides internet access to users nearby with the Hotspot functionality.

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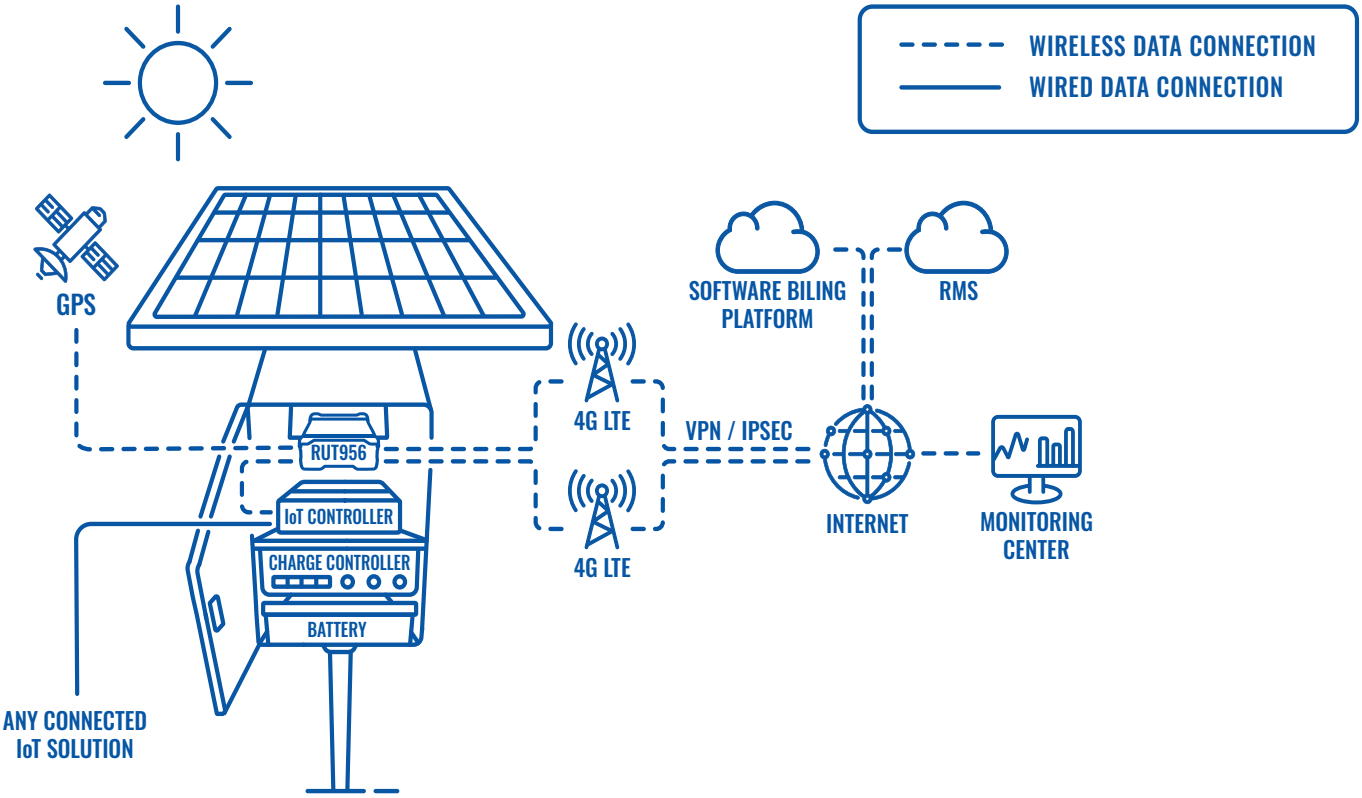
Solar panels provide power to all devices and any excess power is stored in a battery regulated by a charge controller. The IoT controller collects information on battery and solar panel power efficiency. The staff in the monitoring center then receives all of this intel, together with the hotspot location on the map, thanks to RUT956 GNSS (Global Navigation Satellite System) functionality, to see all devices. Due to the self-sustaining nature of this solution and cellular connectivity, the end-user gets superior internet connection in places without access to the grid power for an affordable price.

TOPOLOGY



BENEFITS

- RUT956, powered by RutOS, provides functionality to create custom alerts that you will receive via email or SMS if the device encounters a problem.
- RUT956 boasts its small size, allowing it to fit in tight spaces, essential in this IoT solution.
- Teltonika Networks industrial cellular router offers connectivity redundancy via Dual SIM failover.
- Teltonika Networks RMS Connect allows you to remotely access any connected smart devices via HTTP/HTTPS or SSH and configure them as if you were standing right in front of them.
- RUT956 industrial cellular router is easy to set up and connect to various other devices due to its multiple interfaces.

WHY TELTONIKA NETWORKS?

Bartech has chosen to work with Teltonika Networks because of the RUT956 cellular router's reliability, security and ease of use. Moreover, the router size was an essential factor, as the client needed a small box controller. Bartech also highlighted how excellent and fast Teltonika Networks technical support was in helping them to implement the solution as fast as possible.

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