

CONNECTIVITY FOR GREENBOX FARMS SUSTAINABLE FARMING ENVIRONMENTS

HIGHLIGHTS

- ✔ [Greenbox Farms](#) is a Dutch innovator dedicated to revolutionizing the way we grow our food, turning underutilized spaces into thriving, sustainable farming environments.
- ✔ Its container farms rely on advanced technology, such as climate control systems and cloud-based crop management software, to grow crops efficiently and precisely.
- ✔ Ensuring continuous, uninterrupted operation is the RUT241 industrial cellular router by Teltonika Networks, providing reliable LTE Cat 4 connectivity, WAN failover, MQTT support, I/O customizability, and remote management capabilities.

THE CHALLENGE – NEW LIFE TO OLD SPACES

The world's population is [expected to reach](#) 9.7 billion people in 2050. As this number rises, so does the importance of ensuring widespread food security and access to fresh, healthy food. This is especially important in urban areas, where [over half of the world's population](#) currently lives.

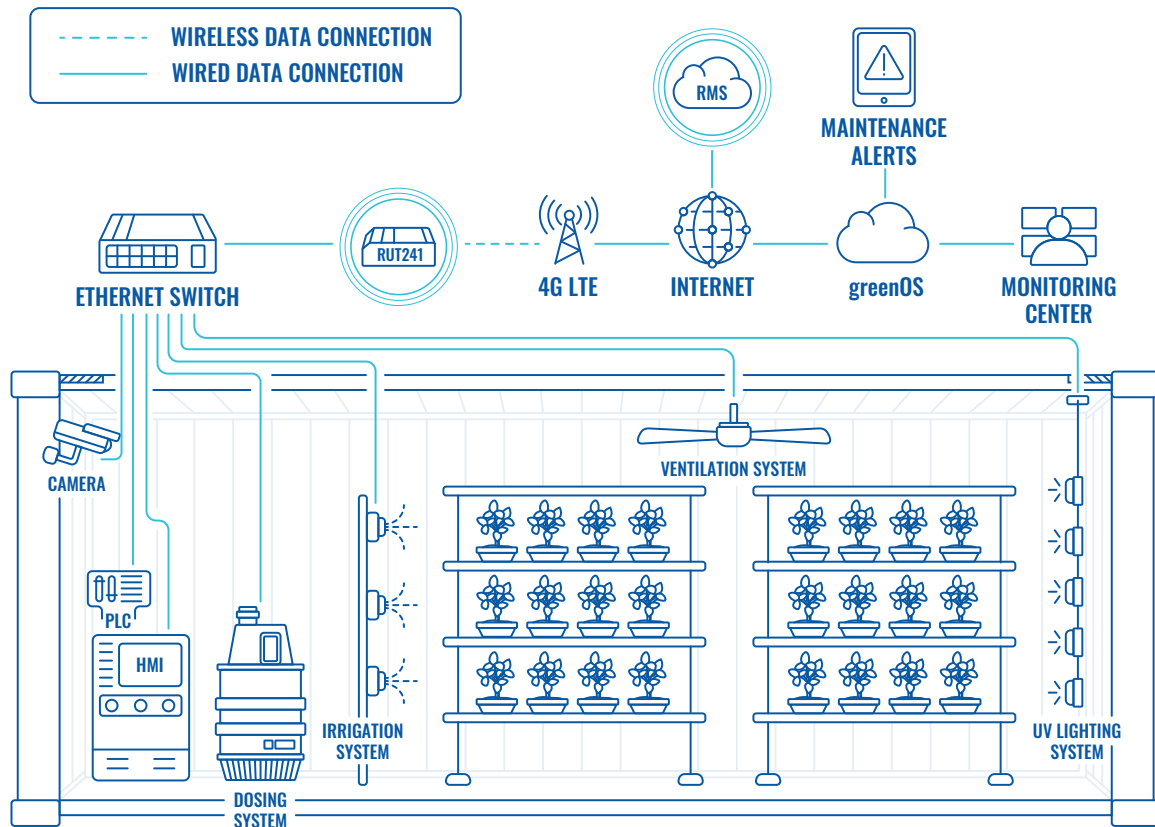
With those facts in mind, boundaries must be pushed in the agriculture industry.

This is precisely what Greenbox Farms is doing: transforming old shipping containers into farms that integrate a range of smart devices and systems to support efficient and sustainable agricultural practices. In essence, it turns underutilized spaces into thriving, sustainable farming environments.

These container farms can be stacked vertically, further reducing the need for new land development and helping to preserve existing green spaces. This helps to reduce food waste, promote healthy eating, and bolster food-secure communities.

However, these farms rely on advanced technology, such as climate control systems and cloud-based crop management software, to grow crops efficiently and precisely. Without reliable connectivity, these technologies become unreliable and food security turns to food insecurity.

TOPOLOGY



THE SOLUTION – THE FUTURE OF FARMING

Greenbox Farms chose the RUT241 industrial cellular router by Teltonika Networks to establish robust and reliable LTE Cat 4 connectivity in its container farms solution. The RUT241 is connected to a switch via an Ethernet cable. The switch is then connected via Ethernet to a number of key smart components, including a PLC, HMI, camera, dosing system, irrigation system, ventilation system, and climate control unit.

This integration allows Greenbox Farms to offer remote access and service capabilities using its custom software, greenOS, as well as predictive maintenance recommendations using the RUT241's MQTT support. By doing so, Greenbox Farms can ensure the continuous operation of container farms throughout the year while also proactively addressing any potential issues that may occur.

In addition to MQTT support, RUT241 has a number of additional features that make it excel in this solution. WAN failover ensures uninterrupted connectivity by automatically switching to an alternative backup connection in case of any connectivity issues. This adds an extra layer of reliability to the connection.

The RUT241 has a wide range of I/Os, making it score high on customizability and allowing for different applications, support, and integration of additional devices in the future. Lastly, compatibility with the Remote Management System (RMS) of Teltonika Networks offers remote access and control capabilities, aligning with the objectives of this integrated solution.

The continuous, uninterrupted operation of the container farms is crucial, and RUT241 ensures this solution achieves this goal. With the help of RUT241, Greenbox Farms pushes the boundaries of agriculture by thinking outside the box – and transforming the box itself.

