



# TRANSFORMING AGRICULTURE WITH AUTONOMOUS ROBOTS

## HIGHLIGHTS

- ✓ Augean Robotics is a team of robotics veterans seeking to solve the pressing labor problem farmers are facing today with the help of artificially intelligent robots.
- ✓ Its Burro robot is a mobile, customizable, and autonomous robot capable of performing manual agricultural labor and improving labor efficiency thanks to its sophisticated software and the reliable connectivity of our own RUT240.
- ✓ RUT240 serves a critical role in facilitating unwavering LTE Cat 4 network communication between Burro's internal and peripheral hardware – and Augean Robotics' cloud platform.

## THE CHALLENGE – THE SHARP MARGINS OF LABOR

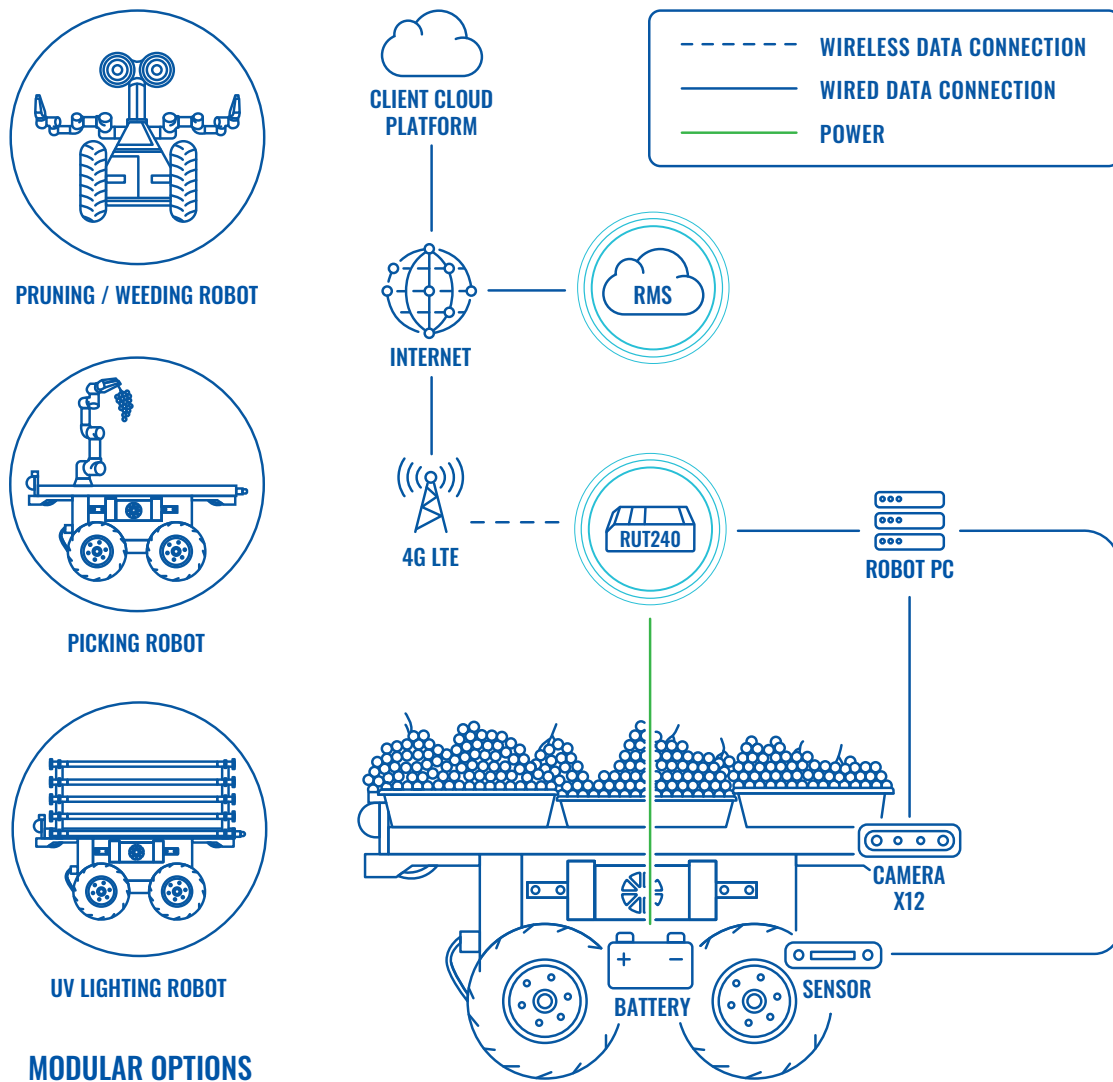
When a farmer sells a fresh grapevine, how much of the revenue do you think goes to labor costs? As it turns out, over 50% – and rising. And the same goes for berries, nursery crops, and more. The rising costs and falling availability of labor are the primary challenges farmers are dealing with today.

When the problem is an HR one in nature, the possibility of automation always comes up. After all, robots don't need a salary, so that 50% would drop significantly if labor can be automated. The problem is that the routine tasks carried out by farm workers are far from simple or straightforward. Harvesting, picking, spraying, patrolling, and being able to respond to and decide on abnormal situations (like an array of mischievous hedgehogs invading your crops) are only some of them. It isn't a job fitting for a simple robot.

How about an incredibly sophisticated one, then?

Augean Robotics had that very idea and design a robot capable of performing the myriad of complex farm work, known as Burro (Spanish for "donkey", and yes, that's also where "burrito" comes from). Burro's AI is nothing short of outstanding in its versatility and adaptation, but like any new addition to the workforce born in the past couple of decades, it can't quite work without having a constant internet connection. In Burro's case, for maintaining an uninterrupted connection with Augean Robotics' cloud platform. The challenge, then, is ensuring Burro has that connection while out on the farm doing its honest day's work.

## TOPOLOGY



## THE SOLUTION – AUTONOMOUS MOBILITY PLATFORM

Luckily for Burro, we happen to have the exact network connectivity device it needs – the RUT240 industrial cellular router. Connected to Burro’s PC via an Ethernet cable, RUT240 facilitates a Cat 4 connection of up to 150 Mbps between the cloud platform and Burro’s internal and peripheral hardware, no matter where in the farm it’s currently working. That includes twelve different cameras, an RTK GPS sensor, and a range of customizable upgrades Burro was designed to have, such as a mechanical arm for pruning, UV light equipment, and more.

In addition to the reliable and robust network connectivity this router provides, it also comes with a number of added features to enhance Burro’s remote capabilities. These include WAN failover – automatic switching to an available backup connection, and compatibility with our remote management system (RMS) for ease of controlling a large fleet of devices operating on farms far from one another. In addition, the wide range of I/Os RUT240 is compatible with, such as IEEE 802.3, IEEE 802.3u, and auto MDI/MDIX, helps Burro remain futureproof as new upgrades are made for new and emerging tasks.

Like a heart pumping connectivity through metallic veins, RUT240 brings Burro to life and allows it to reliably perform farm work all day, every day – without fail.

