

CASE STUDY

KORE eSIM Supporting Water Conservation and Soil Monitoring Innovation

The Background

GroundWorx is a technology company focused on wireless innovations and water conservation. It has created a powerful yet simplified approach to water management for agriculture and recreation use cases through its GX-1A Soil Sensor that pairs with its GX-1 Micro Weather Station and an analytics platform.

By monitoring soil conditions, the GroundWorx solution empowers the end user to make the best, data-backed decisions about watering in order to optimize use while keeping conditions within thresholds.

The GX-1A Soil Sensors measure soil moisture, temperature, salinity, and works with any irrigation system. Through its simple Dig and Drop™ method, the GroundWorx solution minimizes the need to dig trenches and disrupt operations. Its cellular connectivity eliminates the need to integrate routers and wireless solutions. The simplicity of it makes it easy to deploy and manage and significantly decreases upfront costs.

The Challenge

The challenge in orchestrating a soil monitoring solution for agriculture and recreation use cases is largely due to risk. Technology can become obsolete, return on investment is questionable, and the stakes are high – whether that's losing crops or the health of grass in sports and recreation.

GroundWorx Vice President of Business Development Tim Barrier said the GroundWorx team understood that to get the greatest buy-in from users is to make the technology as reliable and simple to install and use as possible.

A key driver in providing that capability is leveraging connectivity technology that is resilient and able to work no matter where devices are deployed – farmlands, congested sports arenas, or low to high lying areas in golf courses all needed to be covered.

Cellular connectivity also drastically reduces the upfront investment of integrating wireless connectivity and routers, which can be particularly difficult in outdoor settings.

A wide-angle photograph of a golf course at sunset. The sun is low on the horizon, casting a warm, golden glow over the scene. The golf course is lush green, with a sand trap in the foreground and a line of trees in the background. Several golf carts are visible on the course.

GroundWorx has seen success in delivering its solutions to end users across the globe.

The Solution

The connectivity difference in IoT and consumer solutions can be different, and certainly challenging, so the GroundWorx team turned to KORE for the right connectivity for their solution.

Because GroundWorx wanted to offer a solution that works anywhere in the world – and they have deployed in numerous global locations – they needed a connectivity technology that could work anywhere in the world. GroundWorx opted to leverage the KORE eUICC eSIM OmniSIM™, which is a carrier-independent approach to global connectivity. The eUICC is capable of switching network profiles over-the-air, and is also able to download local profiles, which makes it much more powerful and future-proof than a roaming or Multi-IMSI SIM.

“We want [the sensors] to work anywhere, any time – New Zealand, England, Dubai – they work anywhere. Fresh water and fresh water conservation is a problem across the world,” GroundWorx Chief Technology Officer Diego Borrego said.

And that’s where integrating technology like the GroundWorx solution can help.

“We’ve seen all of our customers decrease water usage by 30 percent with very little effort,” GroundWorx Co-Founder, Chairman and CEO Brad David said.

The Results

GroundWorx has seen success in delivering its solutions to end users across the globe.

John Haskett, owner of Lucky Charm Farms in San Diego, has implemented the GroundWorx solution at his avocado farm.

“California has a critical issue with water, and avocado trees are pretty voracious about their appetite for water,” Haskett said. “The traditional methods of watering avocado trees typically center largely on guesswork, and with the water bills very costly – in the tens of thousands of dollars range – we needed to find a better method of watering.”

In exploring options, the ease of use, installation, and comprehensive readings were key drivers in adopting the GroundWorx solution. The GroundWorx Dig and Drop installation and immediate pairing to smartphone devices allowed

Lucky Charm Farms to continue operations with no shutdown during implementation and quickly reap the benefits of the system.

"These sensors take 144 readings a day," Haskett said. "With greater data collection and enhanced analytics with thresholds built in our employees avoid watering too little or too much."

David Yanez, Director of Agronomy at the Fairmont Grand Del Mar in San Diego, is leveraging the GroundWorx system to optimize water use for golf course fairways.

"The price for potable water has probably increased 300% in 10 years," Yanez said. "And the challenge is providing the best quality course and playing conditions while using the right amount of water."

Prior to the GroundWorx system, Yanez – much like many other golf course superintendents – was

using a portable digital tool that takes individual soil samples at the surface. This solution was more labor intensive and not nearly as comprehensive as having multiple GroundWorx sensors embedded in the root zone that take numerous automatic readings per day.

Immediately, the data derived can be leveraged to make informed watering decisions. Yanez said, for example, he's been able to better determine when he can skip irrigation cycles, which has realistically saved millions of gallons of water per month.

Not only has GroundWorx built a revolutionary water management solution through its sensor, but it also has a powerful analytical platform and a solution that can continue to be built out and, ultimately, apply artificial intelligence to the platform to act independent of human intervention.

About KORE

KORE is a pioneer, leader, and trusted advisor delivering mission critical IoT solutions and services. We empower organizations of all sizes to improve operational and business results by simplifying the complexity of IoT. Our deep IoT knowledge and experience, global reach, purpose-built solutions, and deployment agility accelerate and materially impact our customers' business outcomes. For more information, [visit www.korewireless.com](http://www.korewireless.com).

About GroundWorx

GroundWorx is an IoT hardware & software water conservation company with sales and service offices in San Diego, Seattle, Austin, Dallas, South Carolina, and Wellington (NZ) that has developed the combination of a patent-pending, stand-alone, mobile wireless soil and turf sensor, a microweather station, cloud software, and mobile app replacing the current antiquated handheld manual sampling processes, cumbersome line-of-site sensor solutions and single-read spot-check devices being used today, in turn enabling Turf Managers and Growers to make more informed decisions about their facilities/courses and operational expenses. To learn more information, [visit www.getgroundworx.com](http://www.getgroundworx.com).

