

CASE STUDY

Global IoT Connectivity Powering Smart Agriculture Solutions

The Background

Smart agriculture, also known as smart farming, is an area of IoT that relies on wireless connectivity to help farmers maximize crop yields, lower costs, and reduce environmental impacts. Smart agriculture solutions enable farmers to remotely monitor weather patterns, water usage, soil conditions, crop health, and even track livestock – all of which is crucial in leading the fight against the ongoing climate crisis that threatens our world’s food supply. To ensure food security for the 9.6 billion people that are predicted to inhabit earth by 2050, the FAO estimates food production must increase by at least 60 percent.

Syngenta is a leading, science-based agricultural technology (agtech) company working to improve global food security by digitally connecting

farmlands across the globe and equip farmers with comprehensive data analytics to help restore biodiversity, create sustainable farming practices, and generate resilient crop yields that can prevent food shortage before they start.

Syngenta embeds their sensors in IoT devices such as drones, thermometers, smart cameras, and other technologies to collect and transmit data back to farmers, who can then wirelessly monitor the health and efficiency of their farms in real-time for data-driven, “precision” agriculture. With the use of sensors and RFID tags, farmers can monitor the health and location of livestock, manage irrigation, monitor climate conditions, and deploy agricultural drones to assess crop health and even aid in the irrigation and planting process. Overall, connected sensors can boost crop yield by 13% and decrease production costs by around 15%.



The KORE OmniSIM makes it simple to achieve infallible connectivity to support data-driven agriculture and IoT smart farming solutions.



Precision agriculture also includes predictive analytics, wherein data is used in conjunction with Artificial Intelligence (AI) for predicative monitoring that can help farmers identify changes in weather and soil conditions before they occur. AI is also used to sense and classify objects to gauge the biodiversity of a farm, which is vital to its fertility and success in producing food – creating a data-driven agroecosystem that works to ensure food security in the face of draughts and other hazardous weather events exacerbated by climate change.

The Challenge

The challenge in orchestrating data-driven agriculture and IoT smart farming solutions is reliable connectivity. Syngenta’s sensor technology collects on-farm data that is used by farmers to modify their practices and improve yield, conserve energy, and ultimately reduce costs; however, without reliable connectivity to transmit it, that data goes to waste.

Additionally, farms are typically located in remote communities where access to traditional broadband is severely limited, and sometimes non-existent. To make their solution viable for farmers, Syngenta needed connectivity that was not only reliable, but also scalable due to fluctuating demand and unpredictable weather patterns.

The Solution

KORE supports the application of IoT smart farming solutions via its OmniSIM technology that provides global, resilient, future-proofed connectivity.

By partnering with KORE, Syngenta uses KORE’s global IoT connectivity to reliably connect their solutions in a lasting, scalable manner.

The KORE OmniSIM makes it simple to achieve infallible connectivity to support data-driven agriculture and IoT smart farming solutions.



The Result

KORE has played a vital role in helping Syngenta achieve its goal of reaching one billion acres in under three years by providing global SIM cards through multiple connectivity carriers. KORE also helped by building a complete strategy through a unified, affordable approach to a complex global IoT connectivity solution. KORE's reliable connectivity helps ensure Syngenta and other agtech companies can help farmers meet the challenges of today's changing world, mitigate the effects of climate change, and ultimately save human lives.

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**.

About Syngenta Group

Syngenta Group is one of the world's biggest agricultural technology companies, with roots going back more than 250 years. With more than 59,000 employees, operating in more than 100 countries, the company strives to transform food production through Regenerative Agriculture - a science-driven, technology-enabled approach to improve soil, deliver high productivity and high-quality food, help fight climate change and restore lost biodiversity. Syngenta Group, which is registered in Shanghai, China, and has its management headquarters in Switzerland, draws strength from its four business units: Syngenta Crop Protection, headquartered in Switzerland; Syngenta Seeds, headquartered in the United States; ADAMA®, headquartered in Israel; and Syngenta Group China. Together, these businesses provide industry-leading ways to serve customers around the world. To learn more, **visit Syngentagroup.com**

