

Purdue University partners with HPE and Aruba in digital-agriculture initiative to fight world hunger

With the global population swelling to nine billion people by 2050, the world will have to double its agricultural output or face the risk of mass starvation. To tackle this critical problem, Purdue University's world-renowned College of Agriculture has partnered with HPE and Aruba to launch a new digital ag program that uses Internet of Things (IoT) technologies to gather, transmit, and analyze field data. The ultimate goal: more effective ways to sustainably grow nutritious, healthy, and abundant food for a hungry planet.

CHALLENGE

To prevent mass hunger, the world will have to double its food production by 2050

How much irrigation is enough? What seeds grow best in a particular soil? Do they need more fertilizer? Answers to such questions spell the difference between paltry and abundant crop yields in a world that must double its agricultural output sustainably over the coming decades to prevent global food shortages.

SOLUTION

Quick-response, data-driven farming decisions can revolutionize food production

Digital agriculture makes it possible to gather, transmit, analyze and respond to conditions in the field as never before. At Purdue's 1,408-acre Agronomy Center for Research and Education, sensor data is sent via the Aruba wireless network to HPE Edgeline IoT Systems and then to a high-performance computing data center for analysis and AI development.

RESULTS

Smart agriculture

Purdue, HPE, and Aruba have developed new AgTech innovations, such as solar-powered mobile Wi-Fi hotspots for recording field data and next-generation adaptive wireless equipment for farm-scale wireless connectivity. These technologies enable Purdue to gather, transmit, and analyze field data more efficiently and effectively. Researchers will in turn better understand how soil conditions, plant growth, and other factors can help farmers make better in-the-moment decisions—and also support informed public policy. Ultimately, the researcher promises effective new ways to sustainably grow more nutritious, healthy, and abundant food for a hungry planet.

BY THE NUMBERS

9B

World population by 2050

1,408

Acres equipped with Wi-Fi connectivity and sensors

Instant

Data to drive insights and decisions

TRENDS

With the global population approaching nine billion people, agricultural productivity must double sustainably to prevent world hunger. By transforming data into actionable intelligence, the Internet of Things drives efficiency breakthroughs on which humanity's future depends.

SOLUTION RECIPE

HPE Hardware

HPE Edgeline Converged Edge Systems

Aruba Access Points

“Digital agriculture creates exciting opportunities to increase the efficiency, quality, and sustainability of global food production. Data from sensor networks can be analyzed to inform farming decisions and even public policy. Purdue’s relationship with HPE and Aruba plays a critical role in reducing the time it takes to translate scientific research into technologies to enhance food security and improve lives around the world.”

Patrick Smoker, Department Head/Director, College of Agriculture Information Technology, Purdue University

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