

Changing the landscape of farming with rugged AI technology

Farmwave and Dell Technologies bring real-time insights to agriculture in any weather and environment.



Business needs

Farmwave set out to help farmers reduce crop loss and operate more efficiently by delivering real-time, AI-driven insights directly during harvest when decisions matter most. Making that possible in the field required a rugged, touchscreen-enabled computing platform capable of running AI models locally at the edge, without reliance on cloud connectivity. To meet this need, the company partnered with Dell OEM Solutions to develop its AI-powered Harvest Vision system. The system leverages Dell Pro Rugged tablets with Intel Core processors to endure harsh environments while delivering real-time insights directly in the field. By transforming advanced technology into practical, measurable outcomes, Farmwave enables agricultural businesses to improve efficiency, protect margins and drive sustainable growth.

Business results

-  Reduces harvest loss by an average of 3–8 bushels per acre.
-  Enables real-time crop-loss analysis with Dell rugged tablets.
-  Improves field operations and productivity through AI-powered edge computing.
-  Dell OEM collaboration propels Farmwave’s growth by powering field-ready AI at the edge.

Solutions at a glance

- [Dell Pro Rugged Laptops & Tablets](#)



Farmers save \$40k per bushel by reducing crop losses with real-time adjustments.

Revolutionizing farming with rugged technology and AI

Farming is one of the world's oldest and most demanding industries. Labor shortages, crop loss and inefficiencies have long plagued farmers, creating a need for technology solutions that can support modern agriculture. Farmwave, a veteran-owned agricultural technology company, is doing just that and rewriting the rules of farming with its AI-powered Harvest Vision system.

At the heart of Farmwave's solution is the Dell Pro Rugged tablet, a device purpose-built to thrive in the harshest farming environments. Dell Pro Rugged tablets serve as the command center for Farmwave's AI system, processing data from strategically placed cameras in real-time, right in the cab of the combine. "We developed an AI camera system that processes, analyzes and interprets data without ever having to stop," explains Craig Ganssle, founder and CEO of Farmwave. The Dell Pro Rugged tablet's edge computing capabilities run right on the device, eliminating the need for cloud connectivity and ensuring farmers can access actionable insights even in remote fields. By identifying how and where grain is being lost, farmers can make immediate adjustments that save time, money and resources. The results speak for themselves. Farmers using Farmwave's system have reduced grain loss by 3–8 bushels per acre on average, resulting in up to \$80,000 in savings. For someone harvesting thousands of acres, that's tens of thousands of dollars saved in a single season. As one farmer put it, "I've got a thousand acres of soybeans to combine and

if I'm losing four bushels an acre, that's \$40,000 I could have left behind. But Farmwave pulled in and got money back into my pocket."

Real-time insights make a real-world impact

For seven generations, Adam Henkel's family has witnessed the evolution of farming, from manual labor to cutting-edge technology. Now, Adam is leading the charge into the future. Traditional methods of measuring grain loss are outdated, requiring farmers to stop their machines and manually count losses. Farmwave's innovative system uses cameras on the combine to capture images every three seconds, analyzed by AI to pinpoint the source and amount of grain loss.

The data displayed on the Dell Pro Rugged tablet empowers farmers to make real-time adjustments without stopping. "Farmwave gives us real-time, accurate insights into what's happening," says Henkel. "Nobody monitors grain loss at the header, but Farmwave does, and it's made me a more efficient operator." This system doesn't just save money; it reduces waste and supports global food sustainability. "When we talk about losses in harvesting, it really comes down to one word: money," adds Farmwave CEO Craig Ganssle. "But it's also about reducing waste in global food production and creating a more efficient environment for farmers." For Adam, it's about more than efficiency—it's about legacy. "My grandfather always said to leave the land better than you found it," Henkel reflects. "That's what drives me every day: improving the farm for the next generation and building a future they can be proud of."

A game-changing partnership

Farmwave's technology wouldn't be possible without the right hardware to support it. That's where Dell Technologies OEM Solutions comes in. The Dell Pro Rugged tablet is the backbone of Farmwave's system providing the processing power RAM and storage needed to run AI at the edge. "Dell Technologies was the only partner that could provide the necessary hardware to

When we started using Farmwave's system, we saw immediate savings—\$40,000 in a single season. It's a game-changer.

Adam Henkel
7th Generation Farmer, Henkel Farms

“*Farmwave paired with Dell Pro Rugged technology has redefined farming. This system allows real-time adjustments and measurable profitability.*”

Craig Ganssle
Founder and CEO, Farmwave



make this work,” says Ganssle. “They stepped right in and literally just asked how they could help.” The rugged tablet is uniquely engineered for AI enablement, combining robust durability with edge computing power. It stands up to harsh conditions, whether in the dusty fields of the Midwest or the humid farms of Brazil, while running advanced AI models directly on the device. The partnership has been transformative for Farmwave. “Working with Dell has been absolutely pivotal to our success,” Ganssle adds. “They’ve really begun to believe in our mission and vision, and they’ve helped us scale globally.” Henkel agrees, noting, “That tablet has never failed us. Its seamless technology is helping us adapt and improve.”

The future of farming is here

Farmwave is paving the way for the future of agriculture. The company is exploring ways to expand its AI technology beyond combines with plans to integrate it into sprayers, planters and other equipment. The goal is to create a seamless year-round system that provides actionable insights across every stage of farming.

“We want the Dell Pro Rugged tablet to follow farmers from machine to machine all over the farm,” Ganssle explains. “Our vision is to compile data, keep it organized, and give farmers actionable insights throughout the year.”

By making farming more efficient and sustainable, the company is helping to preserve family farms for future generations. “Agriculture is rooted in family,” Ganssle says. “If we can show the next generation that technology is here right where their family’s roots are, we can help keep those relationships together.”

“*We’ve developed a system that’s more than technology—it’s about securing the future of sustainable farming.*”

Craig Ganssle
Founder and CEO, Farmwave

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