

DuxAlpha celebrates its world premiere at AGRITECHNICA 2025

With 3D track planning, real-time networking, and automated data flows, DuxAlpha is setting new standards for connected agriculture.

Pfronstetten-Aichelau, October 30, 2025 –A tractor follows its course precisely as it moves diagonally across the slope. There is no offset or double processing; each track follows the terrain profile exactly. The system runs in the background on the terminal and is synchronized with the machine fleet. It automatically documents all work steps. What seemed like a glimpse into the future is now a reality. With the new DuxAlpha 3D guidance system, Arnold NextG is showing at AGRITECHNICA 2025 in Hanover how high-precision automation works today. Brand-independent and retrofittable, DuxAlpha is ready to power the next leap in agricultural automation.



DuxAlpha is the 3D guidance system for digital agriculture. This modular, retrofittable, intuitive system consists of a display, computing unit (ECU), and antenna. It enables topography-based route planning, real-time networking, and automatic documentation within a continuous system. Graphic: DuxAlpha

DuxAlpha will premiere its first fully 3D-based track planning system for digitalized agriculture at AGRITECHNICA 2025 from November 9 to 15 in Hall 21 at Booth H05. The system was developed to simplify operational processes, connect machine fleets, and increase efficiency.

"With DuxAlpha, we are bringing the future to the field," says Kevin Arnold, DuxAlpha's CEO. "Our solution is proven technology – modular in design, intuitive to use, and accessible to businesses of all sizes. Automation is thus the new standard, not the exception."

DuxAlpha – The new standard in smart farming

The system relies on consistent, topography-based, 3D path planning. Unlike conventional systems, which only make adjustments after driver intervention, DuxAlpha calculates the correct route from the beginning. Digital elevation models, machine-specific parameters, and operational data are used to generate a seamless, centimeter-accurate route plan – even on complex terrain and slopes. This saves resources and time while avoiding overlaps and empty runs.

PRESS RELEASE

Pfronstetten-Aichelau, October 30, 2025



But DuxAlpha takes it a step further. All of a farm's machines are connected via the cloud, so position data, work status, and device settings are automatically synchronized. Mixed fleets can also be controlled synchronously and efficiently without the need for USB sticks or manual data transfer.

The integrated FarmReport automatically documents all relevant operating data, from area coverage to fuel consumption. Each work step is recorded in real time and processed in the cloud for precise billing, either directly from the field or later in the office.

The FarmLink expansion module allows you to integrate analog signals and ISOBUS components into the system, including those from older tractors and modern attachments. This makes DUXALPHA a comprehensive data platform covering everything from the first processing step to farm logistics.

"At the heart of DuxAlpha is true 3D path planning," emphasizes Christoph Heiß, DuxAlpha's CTO. "We don't just calculate how the machine should drive; we optimize how it can work. Every route and setting is dynamically adjusted. This reduces the workload for drivers, lowers operating costs, and paves the way for fully automated work processes."

A track-by-track guide to achieving autonomous agriculture

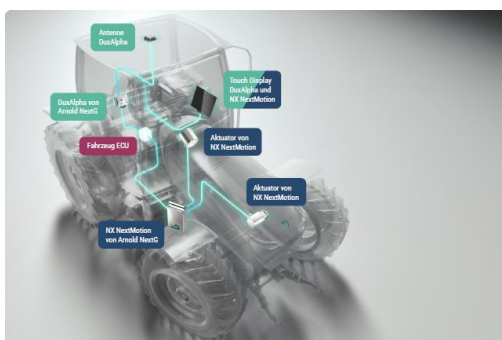
In conjunction with the NX NextMotion drive-by-wire system from Arnold NextG, a new chapter in agricultural technology is being written. Machines can now be legally operated autonomously from the farm to the field and back without the need for accompanying drivers or restrictions.

DuxAlpha is more than just a steering system; it is the digital infrastructure for autonomous agriculture – scalable, safe, and ready to use.

The system was recognized as groundbreaking for the industry even before its market launch when it was awarded the DLG Silver Medal at the AGRITECHNICA 2025 Innovation Award. At the trade fair, DuxAlpha is demonstrating what is currently possible in practice and what's coming next.



Simulated reality meets real precision. At AGRITECHNICA, visitors can test the functions of 3D track planning and machine networking directly in the Krone forage harvester cab with integrated DuxAlpha system driving simulator. Photo: DuxAlpha



DUXALPHA System Overview: The DuxAlpha system consists of three components: a display, an electronic control unit (ECU), and a GNSS antenna. Together with the NX NextMotion drive-by-wire unit from Arnold NextG, these components form the technical basis for autonomous driving functions. This includes the actuators and safety architecture for driverless control from the farmyard to the field. Graphic: DuxAlpha

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Central control unit: The DuxAlpha terminal allows you to manage tasks, real-time data, and machine parameters directly from the cab—in an intuitive, networked, and automatic way. Photo: DuxAlpha



DuxAlpha is a Navigation System 4.0. The machine is guided via real-time, cloud-based 3D track planning — position, working status, and device settings are automatically synchronized. Even complex workflows involving multiple machines run efficiently and without delay. Photo: DuxAlpha

About DUXALPHA

DuxAlpha is the first guidance system with true 3D path planning capabilities for agricultural applications. It combines topography-based path calculation, real-time networking, and automatic documentation in a modular, retrofittable, brand-independent system that is intuitive to use. Developed by Arnold NextG, DUXALPHA lays the technological groundwork for networked, autonomous work processes from the farm to the field. Further information is available at: www.DuxAlpha.com

About Arnold NextG:

Arnold NextG is bringing tomorrow's Safety-by-Wire® technology to life. The multi-redundant central control unit, NX NextMotion, enables fail-safe and customized implementation, regardless of the vehicle platform, and is unique worldwide. This technology allows for the safe implementation of autonomous vehicle concepts in accordance with the latest hardware, software, and safety standards, as well as remote, teleoperation, and platooning solutions. As an independent advanced developer, incubator, and system supplier, Arnold NextG oversees planning and implementation, from vision to road approval. With the road approval of NX NextMotion, we are setting the global drive-by-wire standard. www.arnoldnextg.com

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