

DuxAlpha

Farming Intelligence

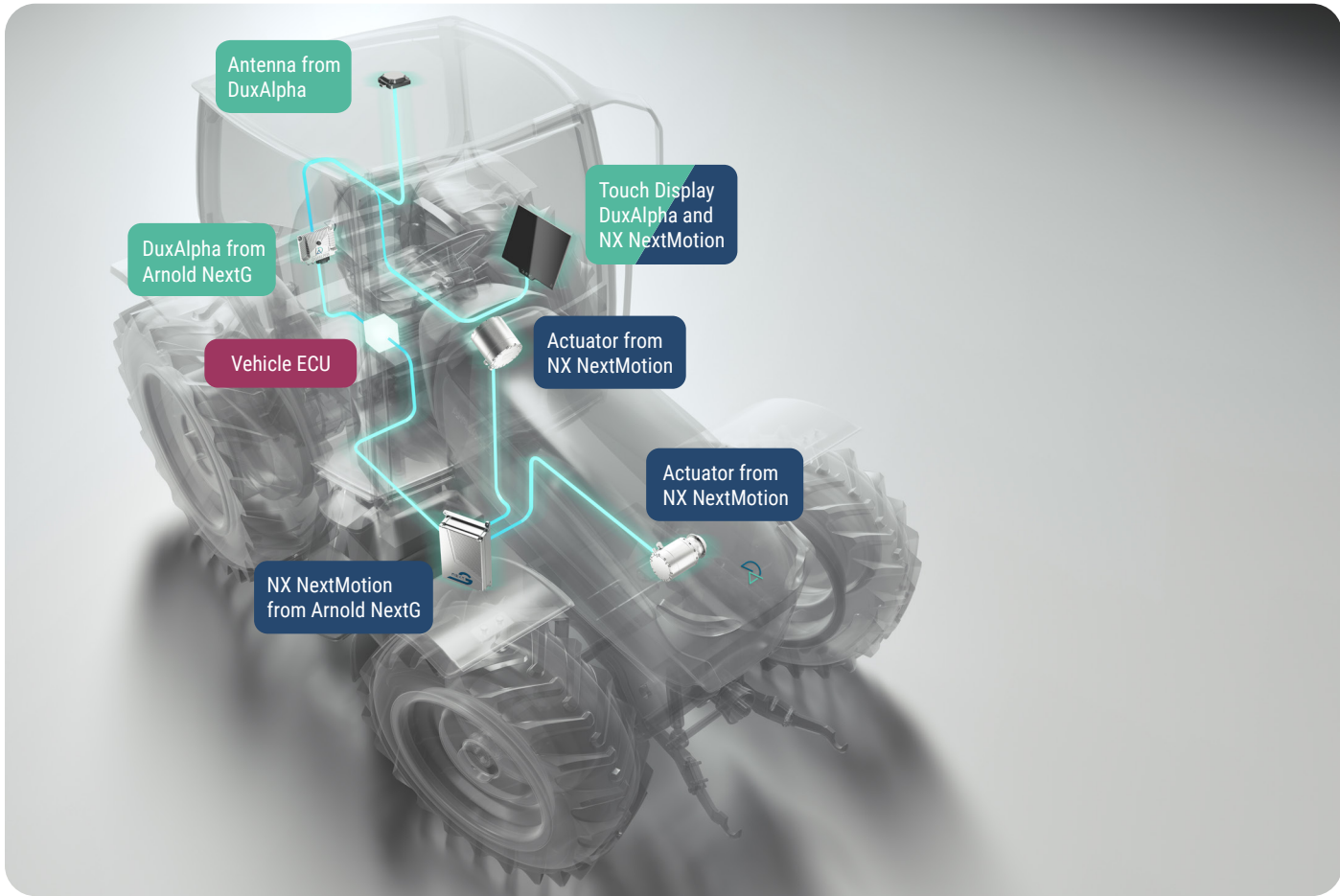


DUXALPHA

DuxAlpha

The New Standard in Smart Farming

DuxAlpha is more than just a steering system – it's the first 3D path planning system that intelligently connects your machines, field data, and workflows. It creates a fully digital work environment where all data from crop production, machine operation, and farm management flows together in one central hub.



Shown are the DuxAlpha components (display, ECU, antenna) and the Drive-by-Wire unit from Arnold NextG, consisting of ECU and actuators, which enable autonomous driving.

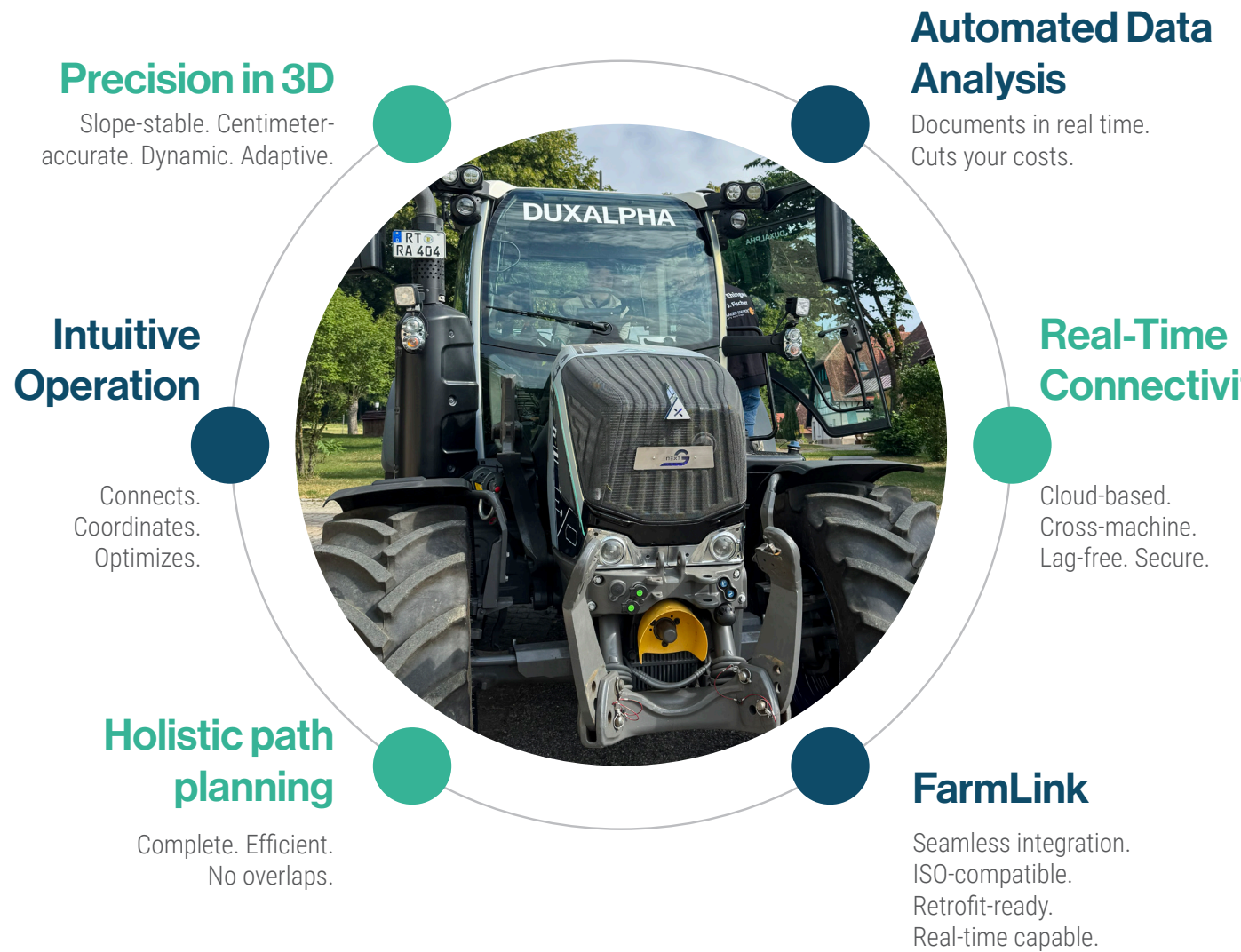
Thanks to cloud-based connectivity, work processes are automated, resources are used efficiently, and decisions are made based on real data. This creates a new level of efficiency across the entire farm – future-proof, precise, and sustainable.

All machines. All data. One system.

DuxAlpha brings together all machines and data sources in one central system. This gives farms full visibility into productivity, efficiency, and costs at all times. Decisions are based on real-time data, workflows are automated, and resources are used with precision. The result: less effort, lower costs, and more time for what really matters.

Highlights

DuxAlpha is more than a guidance system. As the first solution with true 3D path planning, it lays the foundation for a fully connected digital farm. It combines precise terrain mapping, smart machine coordination, and automated documentation – all in one system. The result: maximum efficiency in the field and across the entire operation.



DuxAlpha becomes the digital twin of your entire farm.

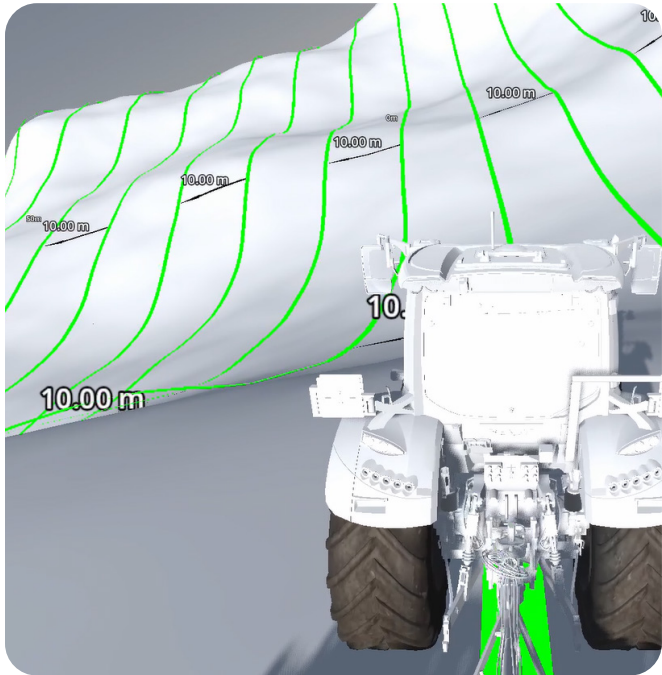
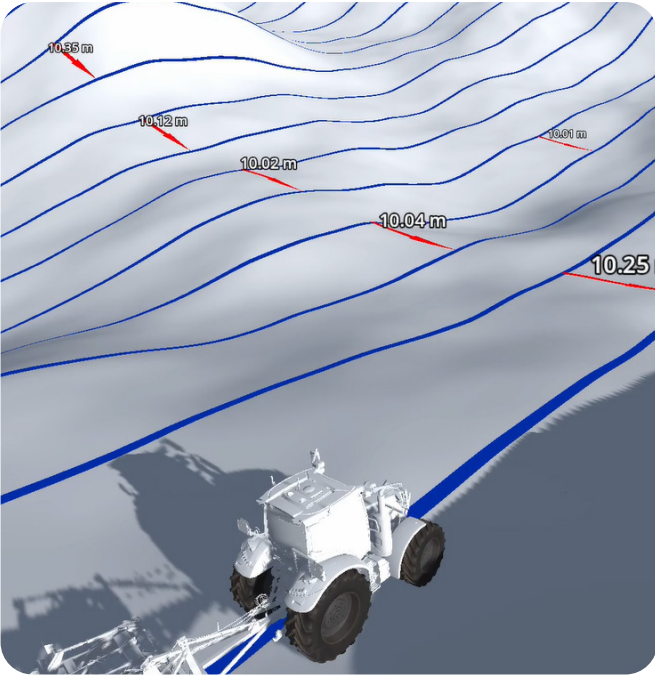
3D vs. 2D

The crucial difference.

2D

Limitations of conventional systems:

Traditional 2D guidance systems are based on a flat, two-dimensional view of the field. Slopes and elevation changes are not factored into the calculation. Especially on hilly terrain, this leads to inconsistent track spacing – resulting in uncovered areas or unwanted overlaps. Even with modern features like Section Control or Variable Rate, a key optimization potential remains untapped: precise, terrain-adaptive guidance.



3D

DuxAlpha:

DuxAlpha relies on true 3D path planning: each field is captured with high topographic accuracy and converted into a digital elevation model. Waylines are generated based on this data – accurate to the centimeter, even on slopes.

The system is retrofit-compatible across brands – even without factory-installed steering systems. An optional second GNSS receiver will soon enable precise guidance for trailed implements.

DUXALPHA is operated via its dedicated tablet or the integrated 12-inch terminal.

Connectivity

All machines. Fully connected.

All vehicles equipped with DuxAlpha are connected in one seamless system. Position data, work status, and machine parameters are exchanged in real time – across vehicles and via the cloud. This enables synchronized waylines, precise coordination of field operations, and efficient fleet management – without manual data transfer, without delay.



DuxAlpha as Navigation 4.0 – more than just routing. From the farmyard to the field and across any terrain – even new drivers can navigate safely and efficiently.

Data that matters – complete, secure, and always available. DuxAlpha records all relevant and available parameters during operation: from seeding rate and driving speed to wheel slip and fuel consumption. Every task is automatically documented and stored in the cloud – accessible directly in the vehicle or later on your computer.

Data transmission is robust and lossless thanks to the system's offline-first architecture. All data is stored locally and automatically synchronized as soon as an internet connection is available. For online access, users can choose between the included gateway, their own router, or an optional satellite connection – ensuring flexibility and independence from location.

3D Guidance
For every terrain.

Cloud connectivity
for all machines

3D: The foundation
for autonomous
driving

FarmReport

Live data. Real costs.

All operational data flows centrally into the DuxAlpha FarmReport – from all machines, across all tasks. Field performance, operating parameters, and resource usage are automatically analyzed. This creates a solid data foundation for informed decisions on follow-up work, crop rotations, or farm cost planning – live, transparent, and data-driven.



From job creation to billing – fully automated documentation. Work orders can be created centrally in DuxAlpha and are accessible and editable by all machines involved. The system automatically detects the start of work as soon as the field boundary is crossed – no manual input required.

All operational data is continuously recorded, analyzed, and processed immediately after job completion. A detailed cost overview is generated automatically in the background. All data is available in the cloud – whether on PC, tablet, or smartphone. Transparent, up to date, and accessible anytime.

Add-ons

FarmLink, ISOBUS socket

DuxAlpha FarmLink – The gateway between analog signals and digital connectivity

FarmLink reads analog signals and either converts them into CAN bus signals (ISOBUS) or processes them directly for transmission via WiFi. This makes the module a universal interface between conventional equipment and modern automation.



Use in tractors without ISOBUS

By connecting to the signal socket in the cab, FarmLink captures existing analog signals such as hitch position or PTO speed and converts them into ISOBUS-compatible signals. This makes even older tractors system-capable – and able to communicate with ISOBUS implements.



Use with existing ISOBUS

In tractors equipped with an ISOBUS system – including those retrofitted with DuxAlpha – FarmLink acts as an interface for external sensors on the implement or tractor. Devices such as a worked area switch, position sensors, or basic implements without their own electronics can be integrated into the ISOBUS system. All inputs can be conveniently configured via the ISOBUS VT interface.

Stationary use on the farm

When installed on-site, FarmLink also digitalizes stationary equipment: fuel tank sensors automatically transmit their data to the cloud and assign it to the corresponding vehicles. The same applies to scales or other analog data sources – easily expandable as needed.

Planned availability: Q3 2026



DUXALPHA
Farming Intelligence

Digitally connected farming

DuxAlpha – Farming Intelligence.

DuxAlpha connects machines, data, and people into one powerful system. Work progress is synchronized in real time, fleets are intelligently coordinated, and all operational data is securely stored in the cloud. This gives you full control at all times – from the tractor, the office, or your smartphone.

DuxAlpha makes your farm future-ready: more efficient, more transparent, and ready for the next generation of smart farming.

Want to know more?

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