



THE FIRST FLEET
OF ELECTRIC
ROBOTS,
100% AUTONOMOUS,
COMMITTED
TO SUSTAINABLE
AND EFFICIENT
AGRICULTURE



2024
PRODUCT
CATALOG



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FARMERS ARE THE HEART OF THE NAÏO STORY



For over ten years, Naïo Technologies has been developing, designing and marketing 100% electric, autonomous robots designed to assist farmers in their daily tasks. These robots help reduce workloads, optimize farm profitability and limit the use of chemicals. At Naïo Technologies, we attach the utmost importance to cultivating close relationships with our customers, distributors and technical partners. We are actively contributing to the agricultural sector's transition towards more sustainable models, by offering innovative products that respect people and the environment.

LONG-STANDING TECHNICAL PARTNERSHIPS

Since the creation of our first OZ robot, our entire range has been co-developed in close collaboration with renowned producers and technical institutes. Among those who have been with us for many seasons are the CIVC (Interprofessionnal Champagne Wine Institute), the IFV (French Wine Institute), the Brittany Agricultural Chamber, UC Davis in California and other partners.



«The arrival of RTK guidance on OZ enabled working on a complete route: sowing, hoeing, ridging, transporting loads. We let it work by itself, without fear, which reduces the mental workload.»

Christophe GIRARD, technician
Brittany Chamber of Agriculture

«As part of a 3-year research project, we are successfully using ORIO to automate various tasks, from sowing to weeding, depending on the different stages of the crop, right through to harvesting. Satisfied with its performance, we are now aiming for optimisation and even greater versatility thanks to the analysis of the data collected.»

Kevin VANDER KOOI
University of Guelph, CANADA

NAÏO, A PIONEER IN SUSTAINABLE AGRICULTURE

Naïo is a B Corp-certified company with a mission to make sustainable agriculture a global reality. At the forefront of virtuous agricultural practices, Naïo played a key role in the launch of the Dividendes Climat in France, an extra-financial standard evaluating the greenhouse gas emissions avoided. Thanks to our four robots, nearly 2,000 tonnes of CO2 have been saved since we were founded.

A REAL SUPPORT FOR THE AGRICULTURAL ROBOTICS SECTOR

Naïo Technologies originated the International Forum on Agricultural Robotics (FIRA). This global event is dedicated to agricultural robots and autonomous field solutions. Naïo is also involved with the Robagri association and CEMA. These organisations are helping to drive progress in agricultural machinery.

RECOGNISED INTERNATIONAL STANDARDS AND POLICIES

At Naïo Technologies, environmental awareness goes hand in hand with particular rigour in terms of technical regulations, safety and user training. Powered by electronic boards manufactured in France, where the robots are built, our range is CE and FCC (US telecommunications standard) certified. What's more, Naïo's range of training courses for dealers and users has been awarded Qualiopi certification.



40
committed
DEALERS
worldwide



100 000
hours of
autonomous work



450
ROBOTS SOLD
all made in France
present on
5 CONTINENTS



62
TONS OF CO2 SAVED
thanks to the use of
a TED over 5 years



100%
ELECTRICAL

OVER 40 AUTHORIZED DEALERS TO SERVE YOU

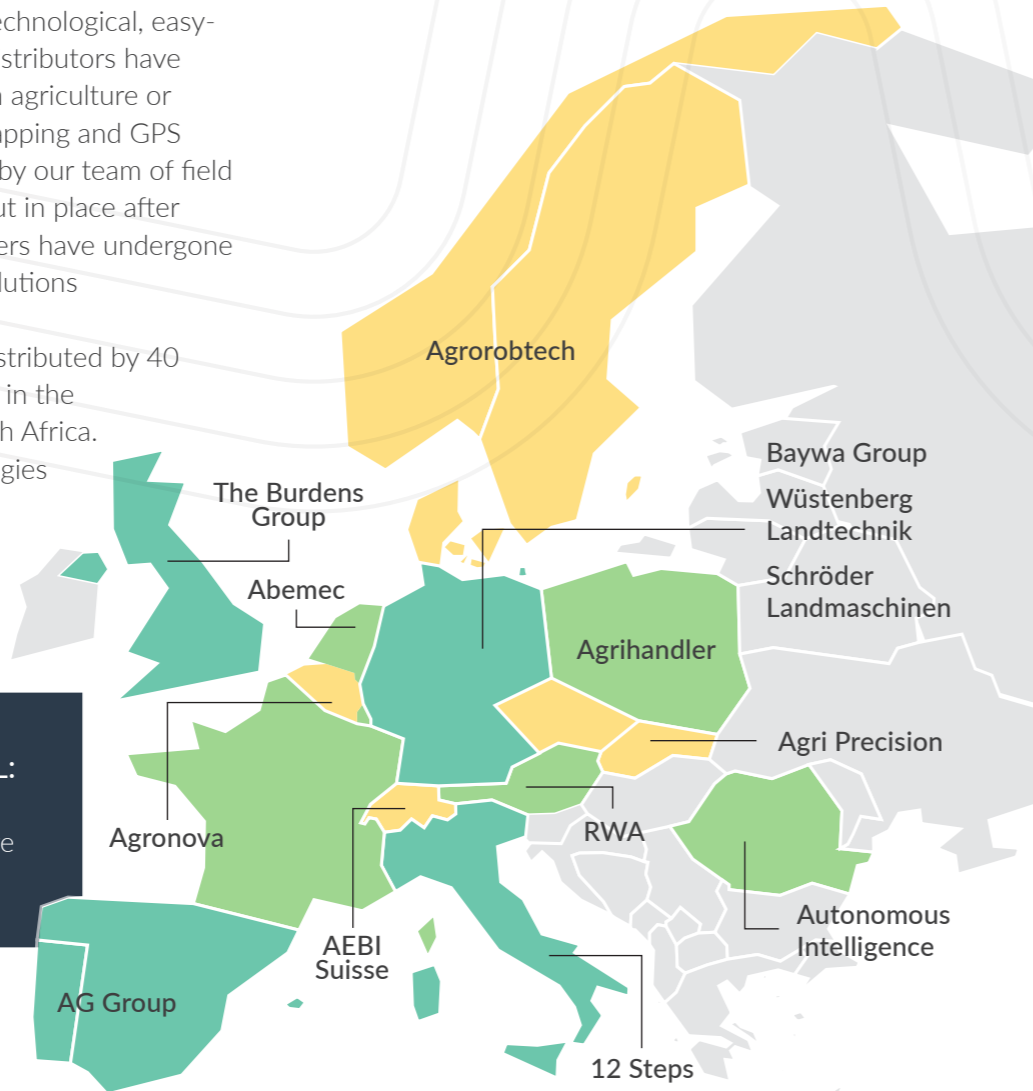
We build partnerships with the most reliable dealers around the world who share our taste for technological, easy-to-use machines. Most of our distributors have a division dedicated to precision agriculture or viticulture. Their expertise in mapping and GPS self-guidance is complemented by our team of field technicians. This joint work is put in place after the teams of our approved dealers have undergone thorough training on all Naïo solutions (hardware, software).

Naïo Technologies robots are distributed by 40 distributors in Europe as well as in the United States, Canada and South Africa.

Everywhere else, Naïo Technologies is at the service of producers, advising them on how to choose their robot and the right tools.

WE SHARE A CLEAR GOAL:

to provide you with the best support and to be most attentive to your needs.



INNOVATING TO MAKE PRODUCERS' DAILY LIVES EASIER

Innovation is our driving force. We work every day to simplify the daily lives of our producers by providing them with increasingly efficient and versatile robots, as well as an ecosystem of tools offering greater autonomy and secure robot management.

- 1. Free up time and reduce labor intensity** with 100% autonomous machines
- 2. Optimize** yield efficiency and performance
- 3. Offer ever greater versatility** thanks to a large choice of implements



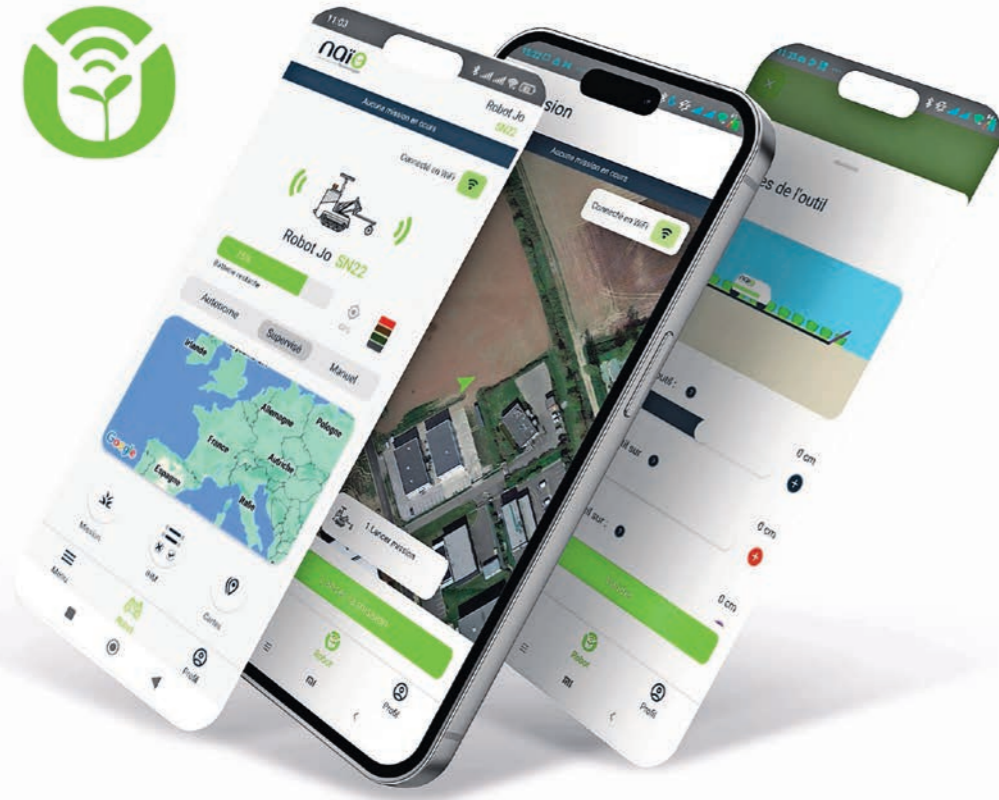
4 ROBOTS FOR MAXIMUM SOLUTIONS

In addition to providing tailor-made support for its customers, Naïo offers the largest fleet of autonomous, multi-purpose electric robots in the world. All of our robots come with a 5-year warranty - a premiere in the sector - and are designed to fit with a wide range of plot

configurations in a variety of terroirs. The assistant OZ, the crawler JO, the straddler TED tool-carrier ORIO all have one thing in common: they are multitaskers. Standard attachments make our robots compatible with many farm implements, so that our customers' common sense and know-how do the rest.

NAÏO COMPANION: THE APP THAT MANAGES YOUR ROBOT

The Naïo Companion mobile application offers a simple, intuitive interface with a host of functions for moving and configuring the robot and its implements. Remote supervision of missions means you can dedicate yourself to other tasks while keeping an eye on the robot from afar, if necessary.

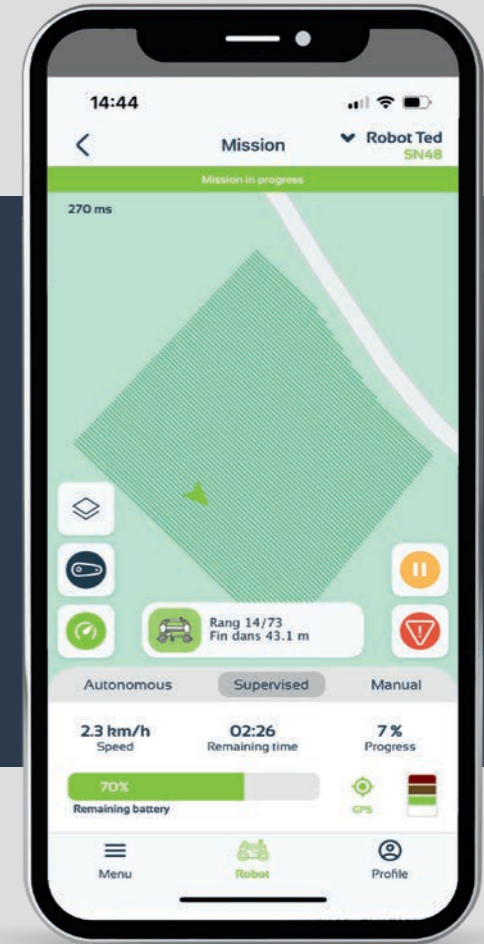


DOWNLOAD
THE APP



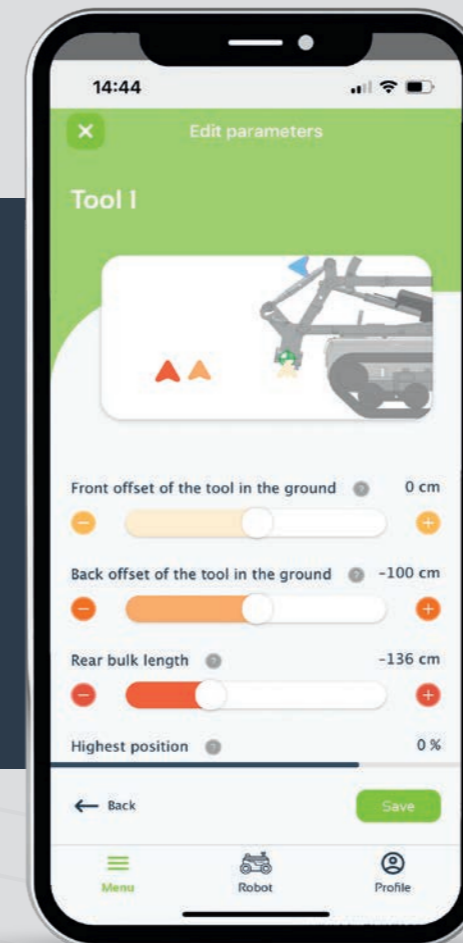
WATCH YOUR ROBOT WORK ON YOUR PLOT IN REAL TIME

While the robot is working, you can consult crucial information in real time from a distance, such as speed, estimated remaining working time, progress, energy gauge and GPS signal. The lift height and speed settings remain accessible, with a mission stop button if necessary.



CREATE ROUTINES AND MANAGE IMPLEMENTS

For optimum efficiency, create your work routines and save your implements with their specific features. The dimensions and working depth are memorised, ensuring precise placement after each half-turn. Naïo Companion lets you save as many implements as you need for future use.



AUGMENTED AUTONOMY: WHEN ROBOTS WORK ALONE

Augmented Autonomy ensures that the robot fleet operates completely autonomously - without a field supervisor - while complying with all regulatory and safety requirements.

WHAT DOES AUGMENTED AUTONOMY CHANGE?

a. Valuable time saved: more time available for high added-value tasks such as diversification, sales, maintenance, etc. By eliminating the need for an on-site supervisor, Augmented Autonomy also meets the challenge of labor shortages.

b. Greater precision and efficiency: weeding tasks are carried out with precision by a robot that does not require on-site supervision. Early passes, including blind passes, avoid energy-intensive interventions later on.

c. Soil protection and environmental efficiency: reducing soil compaction requires lighter machinery. With Augmented Autonomy, you can work in difficult conditions and reduce fuel consumption per hectare.

THE 3 BENEFITS OF AUGMENTED AUTONOMY

1. CE-certified safety in autonomous mode :

Naïo Augmented Autonomy is the only CE-certified safety system, guaranteeing technology and operation that comply with European standards.

2. Manufacturer responsibility assumed:

Naïo is the only manufacturer to assume responsibility for unsupervised operation in the field. All you have to do is comply with the conditions of use. The machine's 5-year warranty also applies under these same conditions.

3. Integrated training and mapping :

Naïo undertakes to train users, carry out plot visits, draw up geofencing maps and provide technical support to users.



Naïo Technologies is the only manufacturer legally authorized to let its robots work autonomously and unsupervised.

THE REQUIREMENTS FOR REAL PEACE OF MIND

Plot optimisation: experts at your service

Augmented Autonomy requires specific expertise on your farm or vineyard. Naïo's experts or your approved distributor will carry out an **in-depth inspection of each plot** to identify the areas where your robot can operate alone and without constraints. If risks are identified, and only if they cannot be totally removed, the area concerned will be registered for operation with on-site robot supervision.

Geofencing for maximum safety

To accomplish its mission, a Naïo Technologies robot needs a self-guidance map. This consists of several lines that locate crops or rows of vines. When working **unsupervised in the field**, our specialists apply a virtual barrier (geofencing) after surveying the GPS points in situ. This boundary, shown in the map-editing software as a line around the plot, prevents the robot from straying from its authorised working area. This ensures safety by preventing any movement

towards the public domain or dangerous areas. The slightest crossing of the line triggers a safety stop.

Practical training and personalised support

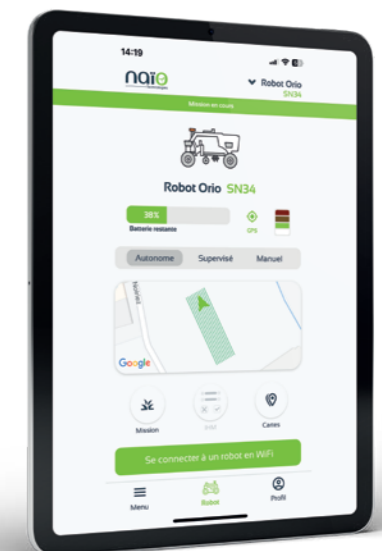
This training, available to all, details the steps to be followed to operate the robot in Augmented Autonomy. A dedicated hotline answers any questions or concerns.



The geofencing prevents the robot from leaving the work area.



Do you have any questions about autonomous machines? Axema explains the legal framework in video. Scan this QR CODE and turn on automatic translation.



OZ

FOR DAILY WORK IN MARKET GARDENING AND SPECIALTY CROPS



In response to labor shortages and to reduce labor intensity, the OZ robot provides fast solutions for numerous tasks. The first electric field robot was launched over 10 years ago. It is used in market gardening, seed production and nurseries, as well as for medicinal plants and horticulture. OZ works tirelessly in the fields and greenhouses.

SAVE TIME AND IMPROVE PRECISION

OZ opens furrows, sows and weeds with centimeter accuracy thanks to its RTK GPS auto-guidance system. The robot places the tool where it needs to be and goes back and forth between the rows of crops. This avoids the need to use weedkillers, while saving users time. You can dedicate several hours a day to higher value-added tasks to manage the other key activities on your farm.

A WIDE RANGE OF TOOLS

Start with a vegetable seeder, then depending on the stage of the crop, several tools will make the difference. Work on the row with the currycomb harrow and spring hoes. Shape the row with Lelièvre brushes, ridging discs, discs and blades. Fight weeds between the rows with HAK parallelograms fitted with an integrated control wheel, coulters and vibrotiller... OZ can also help you transport your harvest.



RTK GPS ensures centimeter accuracy. The work maps produced during sowing or furrow tracing are used for the entire technical itinerary.



The OZ robot weeds relentlessly to give you more time for tasks that are difficult to mechanize.



Several weed control tools are available to remove weeds at all stages of the crop.



"There's no soil compaction, no noise, it's really a traction robot. For hoeing, you get closer to the crop than a tractor. I'm never going back!"

PHILIPPE SIRE, MARKET GARDENER
Pornic (FRANCE)



"We grow organic vegetables and have a lot of rainfall. Weeding with OZ saves us a lot of time and makes our lives easier"

PIERRE SAINT-JEAN, MARKET GARDENER
Landaldea Farm (FRANCE)

OZ IN ACTION



COMBINING CARROT AND RADISH SOWING

With the same working map and a change of seed drill, OZ sows two different crops. First carrots, then radishes. They emerged quickly and competed with the weeds. Three weeks later, the radishes were harvested and OZ maintained the carrot row by straddling it and weeding between the rows.

REDUCING MANUAL LABOUR IN PERFUME PLANTS

OZ works on perennial crops (roses) or annuals (tuberose). It starts by marking out the plots and opening the planting furrows. Equipped with a vibrotiller, the robot eliminates weeds from tuberous plants in the inter-row. It uses harrows to weed the rows. Brushes are used to resurface the ridge. For roses, the robot loosens the soil with a trident and fights weeds with hoeing shares.



ALL-SEASON USE IN SEED PRODUCTION

Seed companies use OZ to reduce the labor intensity of tasks carried out by employees, particularly for mechanical weeding between rows. The robot saves time in weed control. During the winter, OZ is used to transport loads and assist with greenhouse work, as well as preparing for the following season.



USER ADVANTAGES

PROFITABLE

- Reduce your weeding times with Augmented Autonomy
- Improve your technical and economic results
- Reduce your energy costs (€1.3/ha)

LIGHT

- Avoid soil compaction
- Reduce ruts in your plots
- Maintain the fertility and life in your soil

SUSTAINABLE

- The first 100% electric farm robot
- Reduce your greenhouse gas emissions
- Reduce your chemical inputs

VERSATILE

- Sow your rows of crops
- Prepare your furrows for your plants
- More than 20 weeding tools available

ACCURATE

- Centimeter RTK GPS guidance
- Control weeds in the row
- Weed at the seedling stage

COMFORT

- Reduce arduousness and manual catch-up
- Works by your side without noise or fumes
- Optimise logistics with its adapted size

TECHNICAL SPECIFICATIONS

MOTORS & BATTERIES

Drive wheels	4
Battery capacity	2,6 kWh
Range on a single charge	up to 8 hours
Charging time	6h

DIMENSIONS & WEIGHT

Standard width / with duals	0,44 m / 0,62 m
Length	1,30 m
Height (without lighting column)	0,83 m
Weight without tools (including battery)	160 kg

PERFORMANCE & SAFETY

Working speed	0,1 <-> 1,8km / h
Lift capacity	60 kg
Augmented Autonomy (no supervision)	yes

IMPLEMENTS FOR OZ



To open the furrows for your future planting, OZ records these lines with centimeter accuracy.

HAK FURROWER SHARE



Distribution with selector rollers for all types of seed. Transparent hoppers.

TERRADONIS PRECISION SEEDER



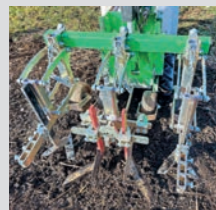
Easy, tool-free density adjustment using interchangeable gears. Wide variety of seeds.

EBRA PRECISION SEEDER



For pulling up weeds between the rows and effective hoeing.

VIBROTILLER



Combined weed control: 2 V-shares for inter-row weeding, and 2 Lelièvre blades to get as close to the row as possible.

IN-ROW WEEDING KIT



Combined weed control: 3V-shares for the inter-row and 2 high tine harrows to get as close as possible to the crop.

INTER-ROW WEEDING KIT



For effective weed control on the rows at advanced stages of the crop.

HIGH TINE HARROWS

SERVICES & TRAINING

TO OPTIMIZE YOUR OPERATIONS

- Ask your dealer to find out about the other implements available and put together your most effective configurations.

- **Naïo Companion mobile connectivity** for real-time monitoring of your robot
- **Annual updates** for optimum performance at all times
- **After-sales service** by authorized dealers and phone hotline
- **Training days** dedicated to the OZ robot
- **Distance learning** (MOOC) for optimum flexibility

MAP YOUR CROPS WITH OZ

An ACCURATE map means ACCURATE guidance! That's the essence of the services offered by Naïo Technologies.

With OZ, there are several solutions available to you:



1. MAP YOUR PLOT FOR SEVERAL YEARS

Before planting your crops, you can prepare a virtual map of your rows. Start with a rectangular plot, take your robot's antenna and define your A/B points. Then define your inter-row distance (e.g. 70 cm) and the number of rows you want. Our software will generate a map of your plot with this information. Then, during the season, all you have to do is run OZ on your predefined map.

2. ROBOT MAPPING

By using OZ for sowing or tracing your furrows, you can map your sowing lines directly with the robot. These will be recorded in OZ and will be useful throughout the technical itinerary.

3. EASY MAPPING

If you already have a seed drill or planter, you can simply record your planting work using the antenna on your OZ. All you have to do is attach the antenna to your planter and record your planting session. This map will then be checked by our teams to ensure that the robot's guidance is optimized.

5
YEAR
WARRANTY

From the moment you start up, you can work with peace of mind thanks to the warranty supplied as standard. Naïo is breaking new ground by being the only manufacturer to offer such a guarantee for its entire range. This guarantee applies to all new robots. It includes the mechatronic platform and the tool holder and covers a period of 5 years or up to 2,000 working hours, under normal conditions of use in accordance with the instructions in the user manual. In addition, you have access to annual maintenance at your authorized dealer.

ORIO

THE MOST VERSATILE TOOL-CARRIER



Available in two versions (Narrow & Large), this robot helps growers while reducing soil compaction. ORIO takes care of your crops from sowing to harvesting. Designed for large-scale vegetable and crop growers, it has already demonstrated its versatility to some ingenious and daring customers.

PERFECT SOWING AND WEEDING

Naïo Technologies has certified a range of premium tools to guarantee its customers high performance throughout the technical itinerary and yield improvements coupled with significant time savings. You can sow a wide variety of seeds with the Stanhay precision pneumatic seed drill. The Argus precision hoe from K.U.L.T. and the Treffler TS precision tine weeder give you great versatility in weed control, including false seed.

SURGICAL PRECISION

ORIO can be positioned within a centimeter thanks to its RTK autoguidance system. The robot can be fitted with a camera-guided sideshift to compensate for line errors in plots sown by another machine. This means that hoeing and mechanical weeding can be carried out as close as possible to your crops, even at very low speeds if conditions require.



In case of non-straight sowing or planting, the camera-guided sideshift replaces the implement for ultra-efficient weed control as close to the row as possible.



"We saw the ORIO robot as a way of reducing the painful work for our teams. It exceeded our expectations on the majority of the steps in the technical itinerary for sowing and weeding the country's future trees."
**NADLEŚNICTWA PODANIN,
MINISTRY OF FORESTRY
(POLAND)**



"One of the advantages of ORIO is that it reduces the risk of being overtaken by weeds. This will reduce the need for time-consuming and costly manual catch-up operations."
**ALEXANDRE FERRAND
FARMER (FRANCE)**



Stanhay's pneumatic seed drill can be configured to suit your needs, giving you greater precision right from the start.

ORIO IN ACTION



MECHANICAL SOWING AND WEEDING OF FRESH HERBS

Plots of basil, parsley, etc. are precisely sown by ORIO. Thanks to the created reference mapping, the weeding steps throughout the development of the crop are carried out with centimeter precision. ORIO saves time and makes significant savings on manual catch-up while avoiding the use of chemicals.

IN-ROW WEEDING IN LETTUCE

To maximize the growth of a plant like lettuce, it is crucial to eliminate competition as quickly as possible. The K.U.L.T. iSelect system, compatible with ORIO, has already proven its effectiveness in vegetable fields in California. Producers benefit from row weeding combined with conventional tools between rows. The iSelect elements are controlled by a camera that automatically triggers the opening and closing of the weeding blades.



SOWING AND WEEDING YOUNG TREES

From the soil working stage, ORIO loosens and packs the soil to facilitate the creation of a good seedbed. The working lines are recorded with RTK GPS for mapping in future stages. Once sowing is done by the robot or after manual transplanting, nursery workers continue with weed control methods using ORIO. Centimeter accuracy ensures quality work and avoids many hours of manual catch-up.

USER ADVANTAGES

PROFITABLE

- Reduce your weeding times with Augmented Autonomy
- Kill the weeds and increase yields
- Reduce your energy costs (€1/ha)

LIGHT

- Avoid soil compaction with less than 1.7 tons battery included
- Widen operating windows
- Maintain the fertility and life in your soil

SUSTAINABLE

- A 100% electric tool-carrier
- Reduce your greenhouse gas emissions
- Reduce your chemical inputs

VERSATILE

- Have time to do false-seeds
- Seed your specialty crops with accuracy
- Attach implements on the 3 point linkage

ACCURATE

- Centimeter RTK GPS guidance
- Camera-guided implement positioning to stay close to the row
- Operate on-row weeding with K.U.L.T. iSelect hoe

COMFORT

- Reduce labor intensity and manual catch-up
- Watch the work mission with your app
- Save time for other tasks

TECHNICAL SPECIFICATIONS

	NARROW	LARGE
MOTORS & BATTERIES		
Rated/maximum power	12 kW / 20 kW	12 kW / 20 kW
Battery capacity (standard / HD)	21 kWh / 32 kWh	21 kWh / 32 kWh
Maximum area worked per day	up to 7 ha	up to 9 ha
Fast charge 20 to 80% (standard / HD)	2h / 3h30	2h / 3h30
DIMENSIONS & WEIGHT		
Adjustable track width	150 <-> 175 cm	180 <-> 215 cm
Minimum / maximum width	173 cm / 198 cm	203 cm / 238 cm
Length	428 cm	428 cm
Height	210 cm	210 cm
Unladen weight (including batteries - standard / HD)	1450 kg / 1550 kg	1600 kg / 1700 kg
PERFORMANCE & SAFETY		
Working speed	0,5 <-> 5,6 km / h	0,5 <-> 5,6 km / h
Lift capacity	700 kg	700 kg
Augmented Autonomy (no supervision)	yes	yes

IMPLEMENTS FOR ORIO



For precise and consistent seeding of any seed size thanks to highly modular elements.

STANHAY AIR DRILL
with X30 elements



Maintain constant tine pressure (from 100 to 5000 grams) in all conditions for false seedings and weeding.

PRECISION TINE HARROW TREFFLER TS



The Argus is an ultra-versatile platform, adaptable to all weeding and hoeing needs.

K.U.L.T. ARGUS HOE



Add in-row weeding function to your robot. An optical sensor detects the crop and controls the opening and closing of the iSelect blades.

K.U.L.T. ISELECT HOE



To adjust the implement's position in real-time in case of non-linear seeding.

IMPLEMENT POSITIONING BY T&H CAMERA



Triple charge speed (20 to 80% in 2 hours on ORIO Standard. 3.5 hours on ORIO HD).

9KW FAST CHARGER OPTION

SERVICES & TRAINING

TO OPTIMIZE YOUR OPERATIONS

- **Naïo Companion mobile connectivity** for real-time monitoring of your robot
- **Annual updates** for optimum performance at all times
- **After-sales service** by authorized dealers and phone hotline
- **Training days** dedicated to the ORIO robot
- **Distance learning** (MOOC) for optimum flexibility

- Ask your dealer to find out about the other implements available and put together your most effective configurations.

MAP YOUR CROPS WITH ORIO

An ACCURATE map means ACCURATE guidance! That's the essence of the services offered by Naïo Technologies.

With ORIO, there are several solutions available to you:



1. USE YOUR TRACTOR'S RECORDING

When preparing your beds and if your tractor is equipped with an RTK antenna, retrieve the generated mapping so that our teams can adapt and optimize it for ORIO robot use.

2. ROBOT MAPPING

Attach your seeder to ORIO and during the work mission, ORIO will record its parallel lines. You define points A and B of your plot as well as your spacings. ORIO records them during the work mission, and this map will be used for all its tasks on the sown crop.

3. EASY MAPPING

When starting your planting, use ORIO's GPS antenna to record your planting. Once passed through the hands of our teams to optimize the mapping, you will only need to save it in your robot and use it daily.

5
YEAR
WARRANTY

From the moment you start up, you can work with peace of mind thanks to the warranty supplied as standard. Naïo is breaking new ground by being the only manufacturer to offer such a guarantee for its entire range. This guarantee applies to all new robots. It includes the mechatronic platform and the tool holder and covers a period of 5 years or up to 2,000 working hours, under normal conditions of use in accordance with the instructions in the user manual. In addition, you have access to annual maintenance at your authorized dealer.

TED

THE GAME CHANGER FOR VINEYARDS & TREE NURSERIES



Designed in collaboration with the IFV (French Wine Institute), TED expands the work windows for a wide variety of tasks in the vineyard. This robot has been designed to operate throughout a working day. It is lightweight - 2 tons including batteries - to avoid soil compaction. TED is available in two versions to fit your vineyard up to 2.35 m high. Equipped with Boisselet standard bars, it is compatible with a wide range of mechanical implements you already use. Combine implements according to your needs. TED powers the most versatile electric inter-vine cultivators on the market, developed with Boisselet. The EVOLT® works for row ploughing, inter-vine weeding with blades, ridging / opening with discs, and soil loosening (with ploughshares or serrated discs).

LEAVE THE VINEYARD WITH PEACE OF MIND

Autonomous, agile, and accurate in its maneuvers, it does not require supervision in the parcel. You can monitor the progress of the operation via the Naïo Companion app and the sequence of parcels. Several months of development and testing were required to develop Augmented Autonomy: a patented safety system compliant with CE standards. Naïo Technologies assumes its responsibility to ensure the safe operation in case of intrusion into the vineyards. TED is the only vineyard robot on the market that can operate within a clear and protective legal framework for the user.



TED adapts to vineyards thanks to two arch heights (2.00 m or 2.35 m). It features the widest arch on the market (1.05 m).

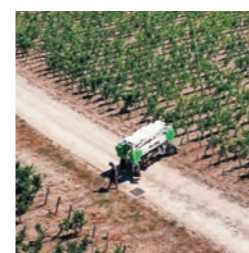


The EVOLT® electric inter-vine developed with Boisselet offers even more accurate adjustment possibilities than your traditional hydraulic inter-vine cultivators.



"At first, I was impressed by the quality of the autoguidance. Now, with Augmented Autonomy, there is no need to have someone behind to monitor a repetitive task and a validated route."

RENAUD FRIEDERICH, MANAGER
Domaine du Gibeau (Cognac area)



"We wanted to limit certain herbicides in a proven context of labor shortage. This electric robot seemed ideal to address economic, ecological, and social challenges."

FABIEN RAYMOND, TECHNICAL DIRECTOR
Château Labégorce (Bordeaux area)

TED IN ACTION



HERBICIDE-FREE WEED CONTROL IN ROWS

Answering regulatory constraints and consumer demands, TED offers virtuous solutions. Numerous implements for working in rows can be attached to standard Boisselet poles. Ploughshares, mechanical or electric inter-vine, lumpbreaker or serrated discs, hoeing fingers: the choice is wide for winegrowers who can combine passes and implements, depending on the conditions.

WEEDING YOUNG VINES WHILE RESPECTING THEM

Maintaining the rows of young vines requires low-speed work to eliminate weeds in the rows. Driving the tractor for this task is hard and tiring. TED keeps the hours ticking by, even at low speed, and respects the young vines. It allows the soil to be worked according to conditions, thanks to a multitude of implements. As an added bonus, Boisselet's EVOLT® electric intercep increases precision and respect for young vines.



ANTICIPATE TO BETTER RESPECT THE LIFE OF THE SOIL

Being very lightweight, TED allows users to launch work missions at the early stages of grass development on the row. This is a major advantage at the end of winter. The first passes, made well before the tractors are able to come back, avoid future passes with a surge of power, costly in fuel and mechanization costs, and with a high risk of compaction.



USER ADVANTAGES

PROFITABLE

- Reduce your weeding times with Augmented Autonomy
- Improve your yields by controlling weed growth under the row
- Reduce your energy costs (€1/ha)

LIGHT

- Avoid soil compaction
- Widen your windows of intervention
- Maintain the fertility and life in your soil

SUSTAINABLE

- The first 100% electric straddle robot
- Reduce your greenhouse gas emissions
- Reduce your chemical inputs

VERSATILE

- Adapt the mechanical implements on the market
- An EVOLT® electric inter-vine from Boisselet
- Electric sockets for animated implements

ACCURATE

- Centimeter RTK GPS guidance
- Control weeds in the row
- Manage complex U-turn zones

COMFORT

- No more hand catch-up in the vines
- Monitor the site from your application
- Make time for other tasks

TECHNICAL SPECIFICATIONS

	L	XL
MOTORS & BATTERIES		
Rated/maximum power	10kW / 18kW	10kW / 18kW
Battery capacity (standard / HD)	26 kWh / 39 kWh	26 kWh / 39 kWh
Maximum area worked per day	up to 6,5 ha	up to 6,5 ha
Fast charge 20 to 80% (standard / HD)	2h40 / 5h	2h40 / 5h

DIMENSIONS & WEIGHT

Track Width	1,59 m	1,59 m
Width	1,90 m	1,90 m
Length	4 m	4 m
Height (under arch / overall)	2 m / 2,40 m	2,35 m / 2,75 m
Unladen weight without implements (including battery and standard bars)	2 100 kg / 2 200 kg	2 130 kg / 2 230 kg

PERFORMANCE & SAFETY

Working speed	0,1 <-> 4,5 km / h	0,1 <-> 4,5 km / h
Lift capacity	600 kg	600 kg
Augmented Autonomy (no supervision)	yes (up to 2,2 km / h)	yes (up to 2,2 km / h)

IMPLEMENTS FOR TED



The wide range of probe settings and the modularity of the available components ensure that your work is accurate and efficient. Gain in versatility and fine-tuning every day.

EVOLT® ELECTRIC INTERVINE

Boisselet



To get as close to the vines as possible, thanks to a special mouldboard and a vine stock cleaner, while avoiding impacts on grapes.

PLOUGHSHARES

Décalex / Souslikoff



Easily adjustable, the lumpbreaker discs prevent the formation of furrows and gullies when weeding.

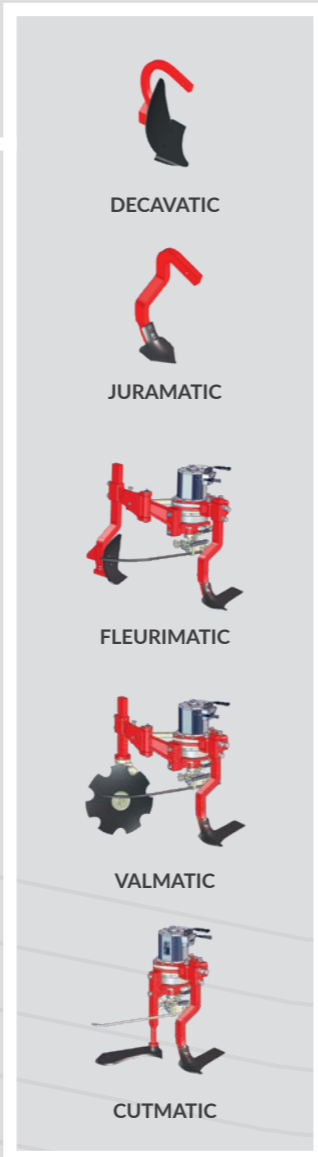
LUMBREAKER DISCS

Clemens



Triple the recharging speed (20 to 80% in 2h40 on TED Standard and 5h00 on TED HD)

9 KW FAST CHARGER OPTION



DECAVATIC

JURAMATIC



FLEURIMATIC



VALMATIC



CUTMATIC

SERVICES & TRAINING

TO OPTIMIZE YOUR OPERATIONS

- **Naïo Companion mobile connectivity** for real-time monitoring of your robot
- **Annual updates** for optimum performance at all times
- **After-sales service** by authorized dealers and phone hotline
- **Training days** dedicated to TED
- **Distance learning** (MOOC) for optimum flexibility

• Ask your dealer to find out about the other implements available and put together your most effective configurations.

MAP YOUR VINES WITH TED

An ACCURATE map means ACCURATE guidance! That's the essence of the services offered by Naïo Technologies.

With TED, there are several solutions available to you:



1. WHEN PLANTING

If your planting contractor is equipped with RTK GPS, you can either retrieve its mapping or, for even greater accuracy, use the GPS antenna delivered with your TED to record the planting site. You'll have peace of mind for years to come!

2. MANUAL MAPPING ON VINES IN PRODUCTION

Take your robot's antenna and use a surveyor's pole. You can then map your vines manually. To optimize this map, we advise you to take points at the foot of your vines, in winter conditions, to limit the impact of vegetation on the accuracy of the recording. You can take as many points as you like per row of vines.

On older vines, we recommend that you increase the number of points per row. On recently planted vines with GPS systems, one point A and one point B at the beginning and end of the row may be enough.

3. DRONE MAPPING

Some service providers are now able to carry out accurate drone mapping of your vines. To ensure compatibility with the TED robot and good accuracy, send this map to our teams.

5
YEAR
WARRANTY

From the moment you start up, you can work with peace of mind thanks to the warranty supplied as standard. Naïo is breaking new ground by being the only manufacturer to offer such a guarantee for its entire range. This guarantee applies to all new robots. It includes the mechatronic platform and the tool holder and covers a period of 5 years or up to 2,000 working hours, under normal conditions of use in accordance with the instructions in the user manual. In addition, you have access to annual maintenance at your authorized dealer.

JO

THE AUTONOMOUS CRAWLER FOR NARROW VINES, NURSERIES & BERRIES



JO is the ideal companion for effective mechanical weeding of vines. The robot is extremely versatile, thanks to features designed to give it agility, grip and easy implement changes. This autonomous crawler is the result of work on specifications carried out with the Comité interprofessionnel du vin de Champagne. Discussions between this recognized institution and Naïo Technologies Research & Development resulted in a powerful crawler capable of working simultaneously on the row and in the inter-vine. Precise guidance and centimeter-accurate positioning ensure highly efficient work. Combined with EVOLT® electric inter-vine cultivators and many other wine-growing implements, JO provides essential versatility for soil-working tasks. Its features make it ideal for narrow vineyards, but also for nurseries and berry production.

AN ULTRA-COMPACT DESIGN FOR PARCELLED VINEYARDS

Designed to work easily in 1 meter planted vines, the autonomous crawler JO is 70 cm wide. The autoguidance system developed by Naïo Technologies runs U-turns in narrow areas : perfect for highly constrained headlands! Its size and folding antennal make it easy to transport in a van. Getting to a remote plot is quick and easy. Able to work under tunnel greenhouses, the JO autonomous robot is also a powerful ally for all types of nursery. It can help teams as soon as the furrow is opened.



Transport in a van is faster and less expensive than using a specialized tractor.



The Boisselet saddle can hold a standard pole or a 3-point lift.



"JO uses a number of implements to weed the graft vineyards. In particular, the mechanical inter-vine that we already had on a thermal crawler."
PHILIPPE ET ANTOINE MATRAT (FRANCE)



"When we have a lot of work to do to protect the vines from diseases, JO takes care of the mechanical weeding and relieves us. It also reduces the risks for tractor operators in steep plots."
CUMA DE LA FAYE (FRANCE)

JO IN ACTION



PLANT THE VINE AND THEN WEED IT

On a plot of land defined by the user, the Naïo Technologies mapping service draws the positioning lines of the planter according to the chosen orientation. The row spacing and headlands are positioned with centimeter accuracy.

The day before planting, a furrowing ploughshare and a vine wire unwinder are attached to JO. The robot follows the map back and forth, making the work less tiring. The map lines are used as a reference to carry out the weeding over the years.

HELPING NURSERIES MAKE THE ECOLOGICAL TRANSITION

Restrictions on the use of chemicals to control weeds are increasing. In this new context, outdoor production is very labour-intensive. But the tasks of hoeing and digging do not attract farm workers. So the best alternative is robotisation. The JO crawler, equipped with EVOLT® electric intervene or mechanical intervene, ensures high-quality soil cultivation while preserving the shrubs and young trees.



MAINTAINING SCATTERED VINEYARDS

When vines are far apart and tractor travel times are lengthy, JO is the best solution for weed control. Transport by van saves time, and users get back to the winery more quickly. It also saves fuel and tractor tyres. The winegrower can work in pairs on his plot and carry out manual tasks while JO does the soil maintenance.



USER ADVANTAGES

PROFITABLE

- Reduce your weeding times with Augmented Autonomy
- Kill the weeds and increase yields
- Cut down your input expenses

LIGHT

- Avoid soil compaction with less than 1 ton
- Widen operating windows
- Maintain the fertility and life in your soil

SUSTAINABLE

- The first 100% electric crawler robot
- Reduce your greenhouse gas emissions
- Reduce your chemical inputs

VERSATILE

- Draw your planting lines for the following years
- An EVOLT® electric intervene from Boisselet
- Attach implements on a bar or 3-point hitch

ACCURATE

- Centimeter RTK GPS guidance
- Control weeds in the row
- Manage complex parcels

COMFORT

- No more hand catch-up in the vines
- Work in robot mode
- Optimize logistics thanks to its compact design

TECHNICAL SPECIFICATIONS

MOTORS & BATTERIES

Rated/maximum power	6 Wk / 10kW
Battery capacity (standard / HD)	16 kWh / 21kWh
Autonomy on a charge	up to 8h / up to 10h
Fast charge 20 to 80% (standard / HD)	1h05 / 2h00

DIMENSIONS & WEIGHT

Width	0,70 m
Standard track width	0,18 m
Length (excluding tow bar)	2,10 m
Height (work/transport)	2,07 m / 1,60 m
Unladen weight including batteries (standard / HD)	850 kg / 900 kg

PERFORMANCE & SAFETY

Working speed	0,5 <> 2,2 km / h
Lift capacity	250 kg
Augmented Autonomy (no supervision)	yes

IMPLEMENTS FOR JO



The wide range of probe settings and the modularity of the available components ensure that your work is accurate and efficient. Gain in versatility and fine-tuning every day.

EVOLT® ELECTRIC INTERVINE

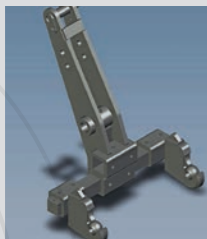
Boisselet



Add weeding function between the rows with the canadian and control the weeds in your vines with the number of tines that suits you.

CANADIAN

Boisselet



Increase the versatility of the JO robot by adding this lift in addition to the bar supplied as standard.

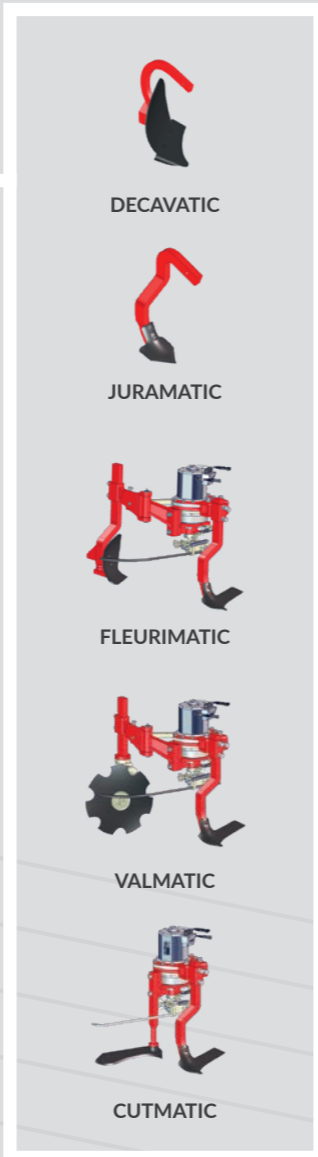
OPTIONAL 3-POINT HITCH



Take advantage of a simple solution for row maintenance operations. Get as close to the feet as possible without causing injury.

PIVOTING INTERVINE WITHOUT PROBE

Boisselet



DECAVATIC

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FLEURIMATIC

VALMATIC

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- **Training days** dedicated to JO
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● Ask your dealer to find out about the other implements available and put together your most effective configurations.

MAP YOUR VINES WITH JO

An ACCURATE map means ACCURATE guidance! That's the essence of the services offered by Naïo Technologies.

With JO, there are several solutions available to you:



1. MAPPING YOUNG VINES WITH JO

You can use JO to draw your furrows before planting. This way you'll have an accurate map of your vine rows that JO can use for annual tasks.

2. MANUAL MAPPING ON VINES IN PRODUCTION

Take your robot's antenna and use a surveyor's pole. You can then map your vines manually. To optimize this map, we advise you to take points at the foot of your vines, in winter conditions, to limit the impact of vegetation on the accuracy of the recording. You can take as many points as you like per row of vines. On older vines, we recommend that you increase the number of points per row. On recently planted vines with GPS systems, one point A and one point B at the beginning and end of the row may be enough.

3. DRONE MAPPING

Some service providers are now able to carry out accurate drone mapping of your vines. To ensure compatibility with the JO robot and good accuracy, send this map to our teams.

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