

USAGE REPORT

Vehicle: SRBC TEST

Date: 09/03/2026

Location: SABI AGRI

Missions: 4

Mission 1

Trial date 2026-03-09

Location SABI AGRI, Auvergne, France

Operator Nicolas

Start time 09:20

End time 10:09

Weather

Precipitation type None

Temperature 15 °C

Sun position Absent

Terrain

Slope 0 %

Cross slope 0 %

Soil

Texture Clay loam

Dominant particle size Gravel 2-20 mm

Moisture condition Friable (optimal)

Crop

Growth stage Soil preparation

Weed pressure 20 %

Planned operation Soil preparation

Adjacent environment

Tall vegetation No

Tall buildings No

Metallic structures Yes

Ditch or embankment Yes

High voltage lines No

Roads No

No network zone	No
Robot configuration	
Robot weight	280 kg
Robot width	0.64 m
<i>Tool</i>	
Tool name	Herse etrille
Tool type	Mounted
Tool weight	15 kg
Tool length	0.8 m
Tool width	0.1 m
Tool height	0.3 m
Tool total length	1.1 m
Working depth	0.18 m



Figure 1.1: Mission presentation photo

Mission presentation

Mission parameters

Task to perform	Préparation finale du sol
Trajectory	rectiligne, square turn
Working speed	2.88 km/h
Mission file	mission_carotte_2.json

Organization

<i>Workforce</i>	
Total number of employees	1
Employees on robot task	0
<i>Surface</i>	
	0.04 ha

Theoretical surface of the plot

Worked plot surface 0.0492 ha

Plot fragmentation Consolidated (<0.5 km)

Trajectory

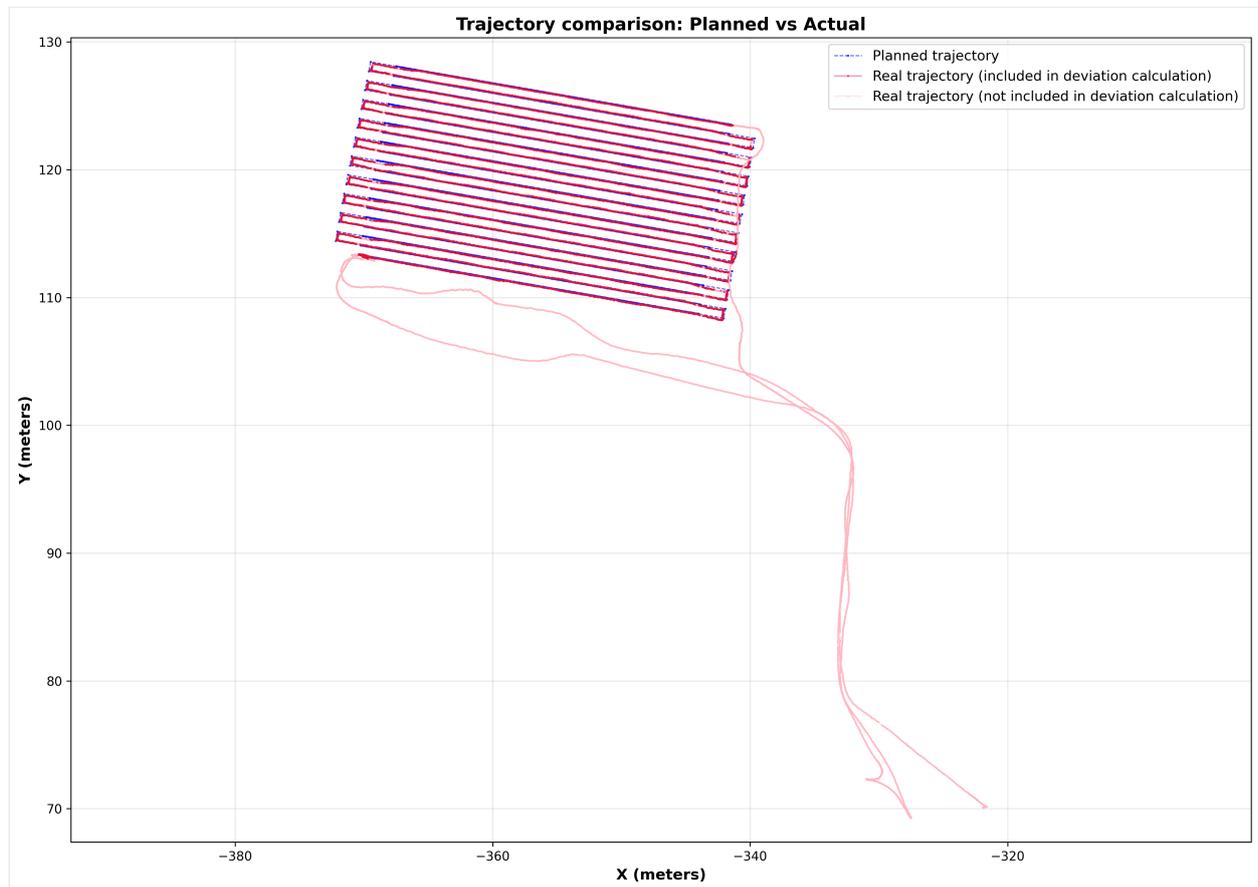


Figure 1.1: Planned vs actual trajectory comparison

Agronomic Summary

Energy per hectare 5.02 kWh/ha

Work rate 0.08 ha/h

Autonomy per battery 0.51 ha/batterie

Time tracking

Tool setup 5 min

GPS connection wait 10 min

Wi-Fi connection wait 0 min

Supervision time 2 min

Travel time 5 min

Restart count 0

Stop count 0

Work assessment

Quality assessment Generally satisfied

Crop damage None

Performance Indicators

Agronomic ^[1]

Indicateur	Valeur	Unité
Crop species	N/A	
Growth stage	Soil preparation	
Soil texture	Clay loam	
Soil moisture	Friable (optimal)	
Weed pressure	20	%
Planned operation	Soil preparation	
Work quality assessment	Generally satisfied	
Crop damage	None	

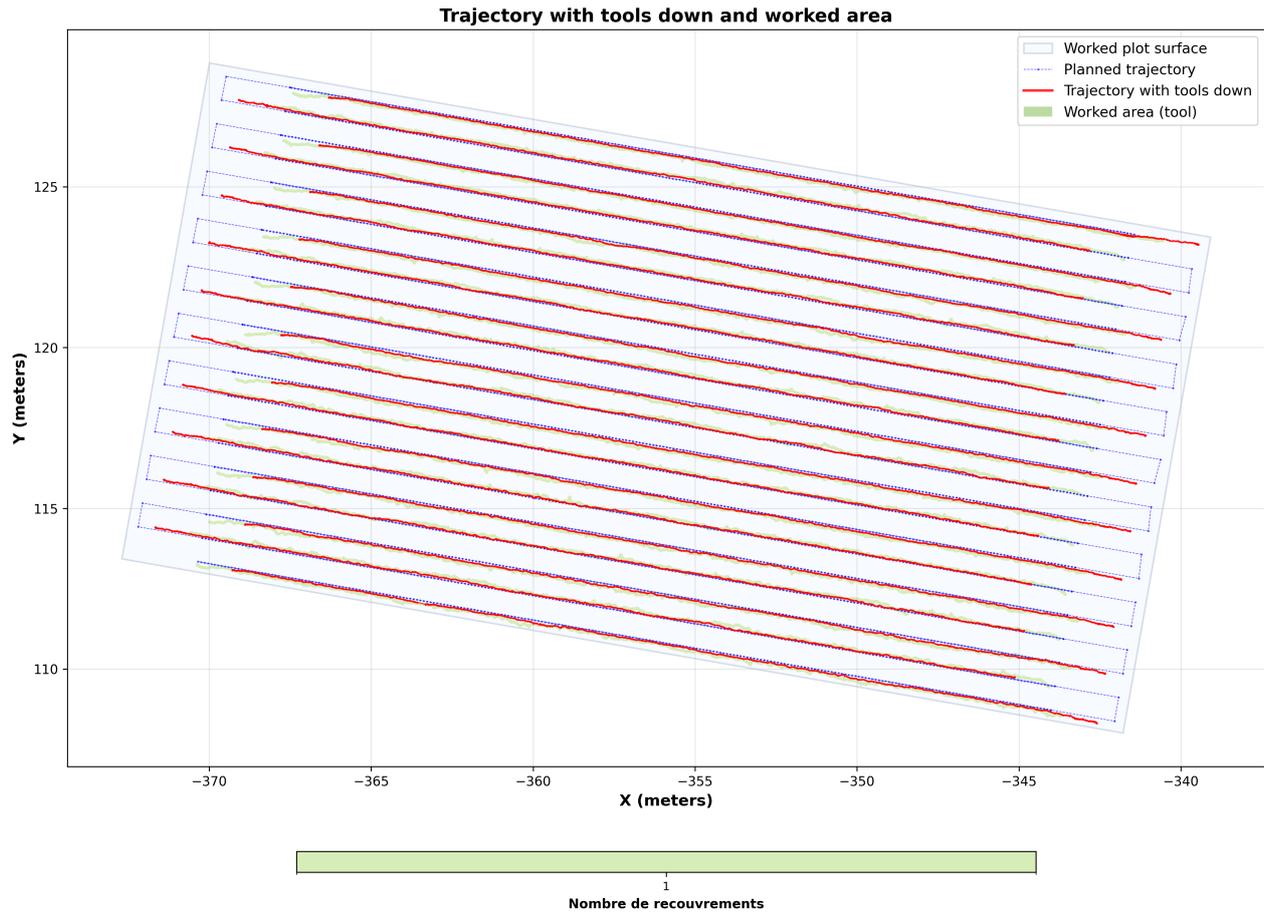
Energy ^[2]

Indicateur	Valeur	Unité
SOC at start	61.40	%
SOC at end	49.00	%
Total discharge ^[3] <i>For a battery pack capacity of: 2.54 kWh</i>	13.22	%
Total energy consumed	0.34	kWh
Average power	0.40	kW
Energy per hectare	5.02	kWh/ha
Autonomy per battery <i>Reference battery: 2.54 kWh</i>	0.51	ha/batterie

Work Rate ^[4]

Indicateur	Valeur	Unité
Work rate ^[5]	0.08	ha/h
Area covered ^[6]	0.07	ha
Worked plot surface ^[7]	0.05	ha

Indicateur	Valeur	Unité
Worked area ^[8]	0.01	ha
Effective area ^[9]	0.01	ha
Coverage rate ^[10]	0.00	%
Average speed (km/h)	1.20	km/h
Max speed (km/h)	3.50	km/h



Economic ^[11]

Indicateur	Valeur	Unité
Electricity price	0.19	€/kWh
Labor cost per hour	18.00	€/h
Employees assigned	0	
Labor cost per hectare	0.00	€/ha
Energy cost	0.06	€
Energy cost per hectare	0.95	€/ha
Total cost	0.06	€
Total cost per hectare	0.95	€/ha

Environmental ^[12]

Indicateur	Valeur	Unité
Temperature	15	°C
Precipitation type	None	
CO ₂ emissions ^[13] <i>Emission factor applied: 317 g CO₂ per kWh.</i>	0.11	kg
Plot fragmentation	Consolidated (<0.5 km)	

Mission ^[14]

Indicateur	Valeur	Unité
Planned distance ^[15]	653.86	m
Performed distance ^[16]	1045.89	m
Distance deviation	392.02	m
Performed distance (%)	159.95	%
Mean lateral deviation <i>Without half-turn</i>	6.13	cm
Max lateral deviation <i>Without half-turn</i>	19.99	cm
Mean lateral deviation (tool) <i>Without half-turn, tool distance: 110 cm</i>	9.70	cm
Max lateral deviation (tool) <i>Without half-turn, tool distance: 110 cm</i>	20.00	cm
Worked rows ^[17]	21	

Operational ^[18]

Indicateur	Valeur	Unité
Robot weight	280.00	kg
Tool weight	<i>N/A</i>	kg
Total weight	280.00	kg
Energy per kg per hectare	0.02	kWh/kg/ha
Mean torque at work (% of nominal) ^[19] <i>Reference nominal torque: 2.39 N·m — Number of motors: 2.</i>	54.53	%

Safety ^[20]

Indicateur	Valeur	Unité
Geofencing exits	2	

Indicateur	Valeur	Unité
Time outside geofencing (seconds)	784.06	s
Time outside geofencing (hours)	0.22	h
Local emergency stops	0	
Remote emergency stops	0	
Bumper activations	0	

Reliability ^[21]

Indicateur	Valeur	Unité
Output errors	0	
Input errors	0	
Battery errors	0	
Motor errors	0	
Cylinder errors	0	
Total errors	0	
Output error time (seconds)	0.00	s
Input error time (seconds)	0.00	s
Battery error time (seconds)	0.00	s
Motor error time (seconds)	0.00	s
Cylinder error time (seconds)	0.00	s
Total error time (seconds)	0.00	s
Error rate per hour	0.00	/h
System availability	100.00	%

Localization ^[22]

Indicateur	Valeur	Unité
Localization errors	0	
Error time (seconds)	0.00	s
Error time (hours)	0.00	h

Time ^[23]

Indicateur	Valeur	Unité
Total duration	2995.60	s
Total duration (hours)	0.83	h
Active time	1905.27	s

Indicateur	Valeur	Unité
Active time (hours)	0.53	h
Inactive time	1090.33	s
Inactive time (hours)	0.30	h
Active time (%)	63.60	%
Inactive time (%)	36.40	%

Mission 2

Trial date	2026-03-09
Location	SABI AGRI, Auvergne, France
Operator	Nicolas
Start time	10:10
End time	11:09

Weather

Precipitation type	None
Temperature	15 °C
Sun position	Absent

Terrain

Slope	0 %
Cross slope	0 %

Soil

Texture	Clay loam
Dominant particle size	Gravel 2-20 mm
Moisture condition	Friable (optimal)

Crop

Species	Radis
Growth stage	Germination
Weed pressure	10 %
Planned operation	Sowing

Adjacent environment

Tall vegetation	No
Tall buildings	No
Metallic structures	Yes
Ditch or embankment	Yes
High voltage lines	No
Roads	No
No network zone	No

Robot configuration

Robot weight	280 kg
Robot width	0.64 m

Tool

Tool name	Semoir
Tool type	Mounted
Tool length	0.8 m
Tool width	0.1 m
Tool height	0.3 m
Tool total length	1.1 m
Working depth	0.18 m



Figure 2.1: Mission presentation photo

Mission presentation

Mission parameters

Task to perform	Semis
Trajectory	rectiligne, square turn
Working speed	0.72 km/h
Mission file	mission_semis_radis_parcelle_2.json

Organization

Workforce

Total number of employees	1
Employees on robot task	0

Surface

Theoretical surface of the plot	0.02 ha
Worked plot surface	0.0247 ha
Plot fragmentation	Consolidated (<0.5 km)

Trajectory

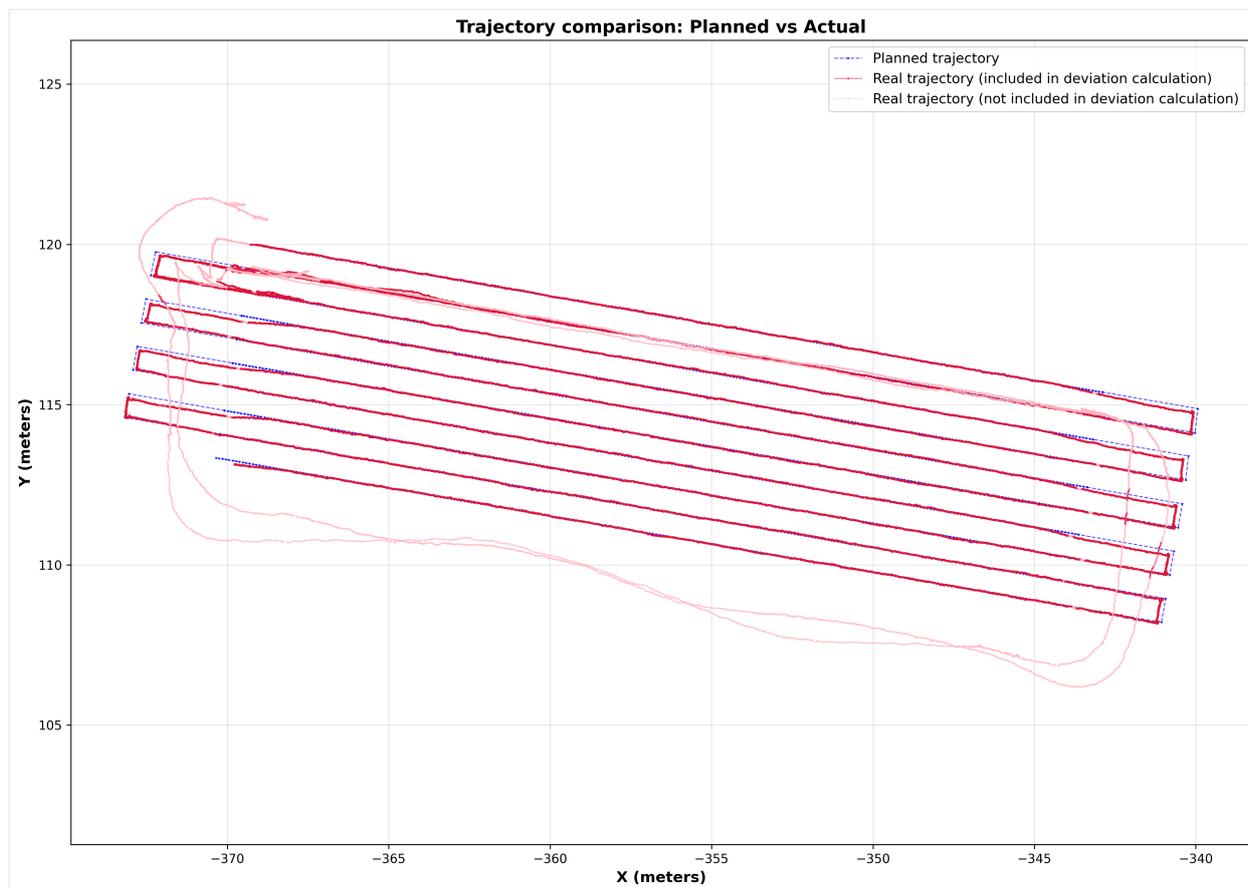


Figure 2.1: Planned vs actual trajectory comparison

Agronomic Summary

Energy per hectare	3.87 kWh/ha
Work rate	0.05 ha/h
Autonomy per battery	0.66 ha/batterie

Time tracking

Tool setup	10 min
GPS connection wait	0 min
Wi-Fi connection wait	0 min
Supervision time	30 min
Travel time	5 min
Restart count	3
Stop count	3
Stop causes	rangée 9, outils ne se baissent pas

Work assessment

Quality assessment	Generally satisfied
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Crop damage

None

Performance Indicators

Agronomic ^[1]

Indicateur	Valeur	Unité
Crop species	Radis	
Growth stage	Germination	
Soil texture	Clay loam	
Soil moisture	Friable (optimal)	
Weed pressure	10	%
Planned operation	Sowing	
Work quality assessment	Generally satisfied	
Crop damage	None	

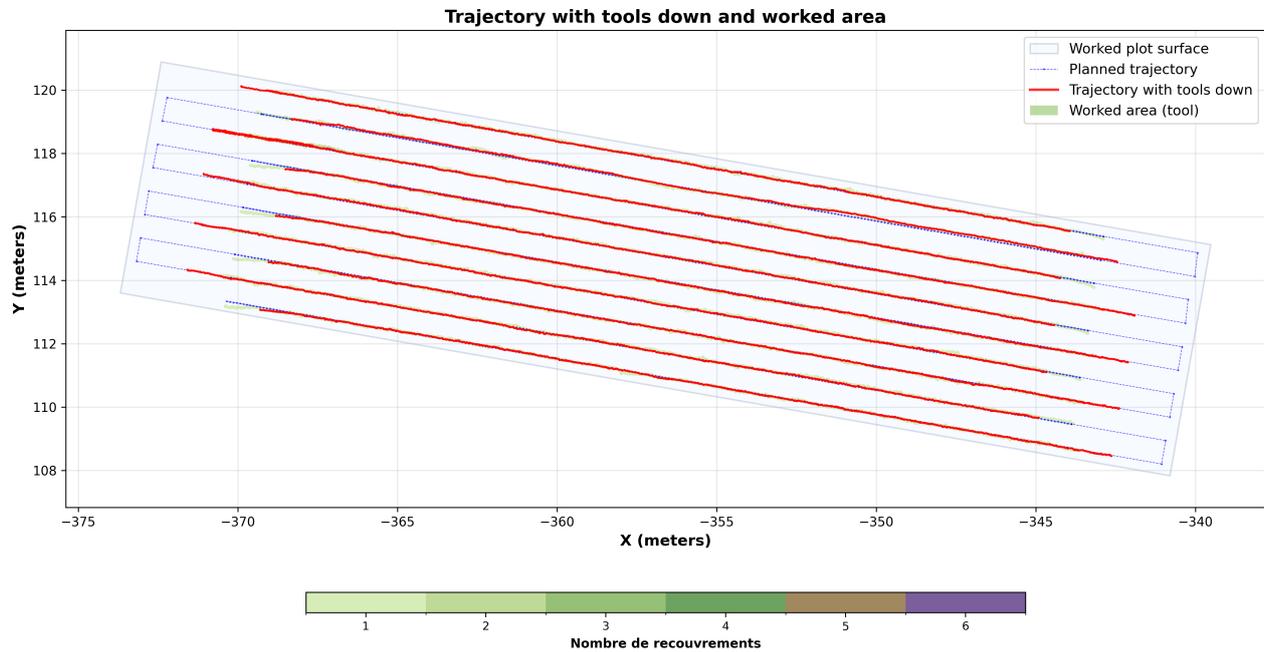
Energy ^[2]

Indicateur	Valeur	Unité
SOC at start	49.00	%
SOC at end	42.00	%
Total discharge ^[3] <i>For a battery pack capacity of: 2.54 kWh</i>	7.57	%
Total energy consumed	0.19	kWh
Average power	0.19	kW
Energy per hectare	3.87	kWh/ha
Autonomy per battery <i>Reference battery: 2.54 kWh</i>	0.66	ha/batterie

Work Rate ^[4]

Indicateur	Valeur	Unité
Work rate ^[5]	0.05	ha/h
Area covered ^[6]	0.05	ha
Worked plot surface ^[7]	0.02	ha
Worked area ^[8]	0.00	ha
Effective area ^[9]	0.00	ha
Coverage rate ^[10]	0.85	%

Indicateur	Valeur	Unité
Average speed (km/h)	0.66	km/h
Max speed (km/h)	3.60	km/h



Economic ^[11]

Indicateur	Valeur	Unité
Electricity price	0.19	€/kWh
Labor cost per hour	18.00	€/h
Employees assigned	0	
Labor cost per hectare	0.00	€/ha
Energy cost	0.04	€
Energy cost per hectare	0.74	€/ha
Total cost	0.04	€
Total cost per hectare	0.74	€/ha

Environmental ^[12]

Indicateur	Valeur	Unité
Temperature	15	°C
Precipitation type	None	
CO ₂ emissions ^[13] <i>Emission factor applied: 317 g CO₂ per kWh.</i>	0.06	kg
Plot fragmentation	Consolidated (<0.5 km)	

Mission ^[14]

Indicateur	Valeur	Unité
Planned distance ^[15]	327.83	m
Performed distance ^[16]	777.46	m
Distance deviation	449.63	m
Performed distance (%)	237.16	%
Mean lateral deviation <i>Without half-turn</i>	2.24	cm
Max lateral deviation <i>Without half-turn</i>	19.74	cm
Mean lateral deviation (tool) <i>Without half-turn, tool distance: 110 cm</i>	2.91	cm
Max lateral deviation (tool) <i>Without half-turn, tool distance: 110 cm</i>	19.99	cm
Worked rows ^[17]	10	

Operational ^[18]

Indicateur	Valeur	Unité
Robot weight	280.00	kg
Tool weight	<i>N/A</i>	kg
Total weight	280.00	kg
Energy per kg per hectare	0.01	kWh/kg/ha
Mean torque at work (% of nominal) ^[19] <i>Reference nominal torque: 2.39 N·m — Number of motors: 2.</i>	41.75	%

Safety ^[20]

Indicateur	Valeur	Unité
Geofencing exits	0	
Time outside geofencing (seconds)	0.00	s
Time outside geofencing (hours)	0.00	h
Local emergency stops	1	
Remote emergency stops	0	
Bumper activations	0	

Reliability ^[21]

Indicateur	Valeur	Unité
Output errors	0	
Input errors	0	
Battery errors	0	
Motor errors	0	
Cylinder errors	0	
Total errors	0	
Output error time (seconds)	0.00	s
Input error time (seconds)	0.00	s
Battery error time (seconds)	0.00	s
Motor error time (seconds)	0.00	s
Cylinder error time (seconds)	0.00	s
Total error time (seconds)	0.00	s
Error rate per hour	0.00	/h
System availability	100.00	%

Localization ^[22]

Indicateur	Valeur	Unité
Localization errors	0	
Error time (seconds)	0.00	s
Error time (hours)	0.00	h

Time ^[23]

Indicateur	Valeur	Unité
Total duration	3599.93	s
Total duration (hours)	1.00	h
Active time	2292.07	s
Active time (hours)	0.64	h
Inactive time	1307.86	s
Inactive time (hours)	0.36	h
Active time (%)	63.67	%
Inactive time (%)	36.33	%

Mission 3

Trial date	2026-03-09
Location	SABI AGRI, Auvergne, France
Operator	Nicolas
Start time	11:10
End time	12:09

Weather

Precipitation type	None
Temperature	15 °C
Sun position	Absent

Terrain

Slope	0 %
Cross slope	0 %

Soil

Texture	Clay loam
Dominant particle size	Gravel 2-20 mm
Moisture condition	Friable (optimal)

Crop

Species	Carotte
Growth stage	Germination
Weed pressure	10 %
Planned operation	Sowing

Adjacent environment

Tall vegetation	No
Tall buildings	No
Metallic structures	Yes
Ditch or embankment	Yes
High voltage lines	No
Roads	No
No network zone	No

Robot configuration

Robot weight	280 kg
Robot width	0.64 m

Tool

Tool name	Semoir
Tool type	Mounted
Tool length	0.8 m
Tool width	0.1 m
Tool height	0.3 m
Tool total length	1.1 m
Working depth	0.18 m



Figure 3.1: Mission presentation photo

Mission presentation

Mission parameters

Task to perform	Semis
Trajectory	rectiligne, square turn
Working speed	0.72 km/h
Mission file	mission_semis_carotte_parcelle_2.json

Organization

Workforce

Total number of employees	1
Employees on robot task	0

Surface

Theoretical surface of the plot	0.02 ha
Worked plot surface	0.0271 ha
Plot fragmentation	Consolidated (<0.5 km)

Trajectory

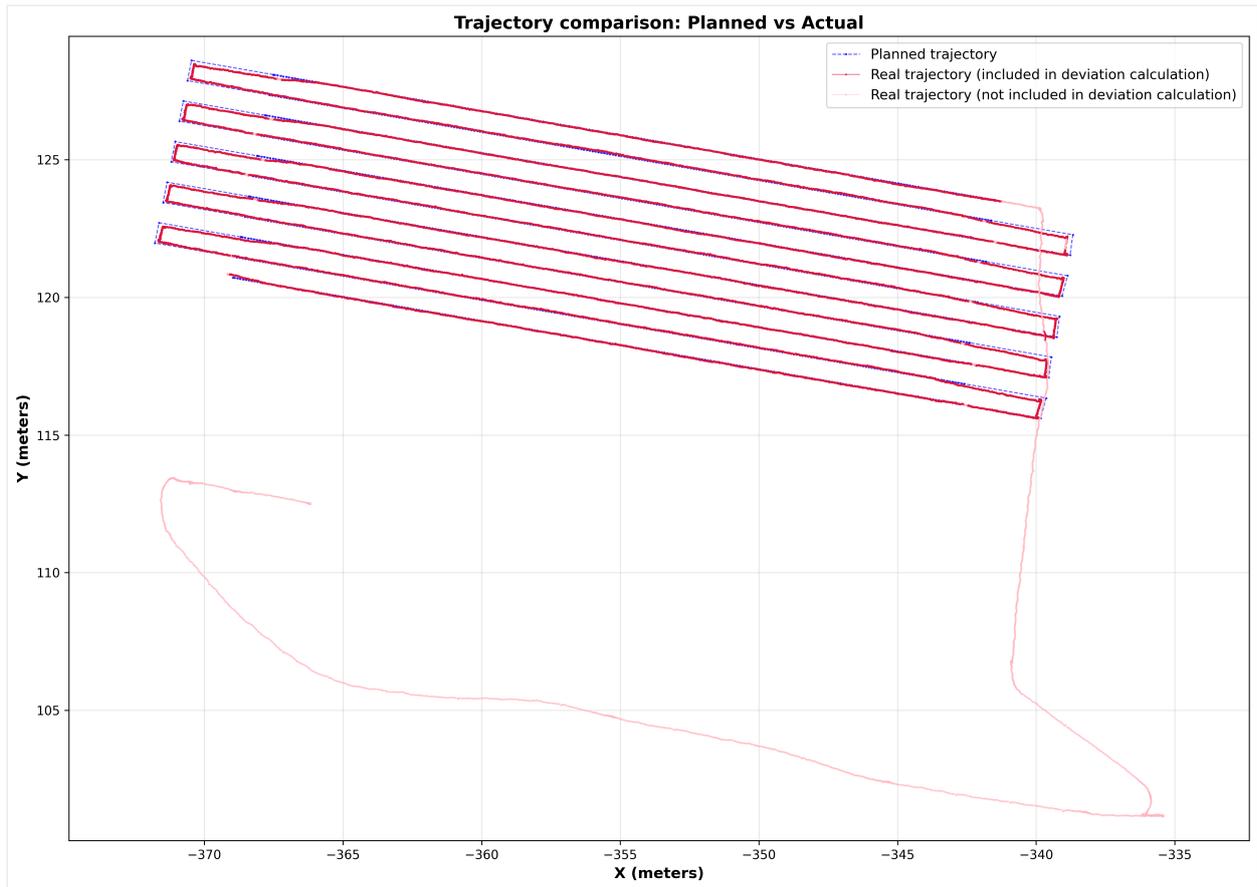


Figure 3.1: Planned vs actual trajectory comparison

Agronomic Summary

Energy per hectare	3.84 kWh/ha
Work rate	0.04 ha/h
Autonomy per battery	0.66 ha/batterie

Time tracking

Tool setup	10 min
GPS connection wait	0 min
Wi-Fi connection wait	0 min
Supervision time	10 min
Travel time	0 min
Restart count	0
Stop count	0

Work assessment

Quality assessment	Very satisfied
Crop damage	None

Performance Indicators

Agronomic ^[1]

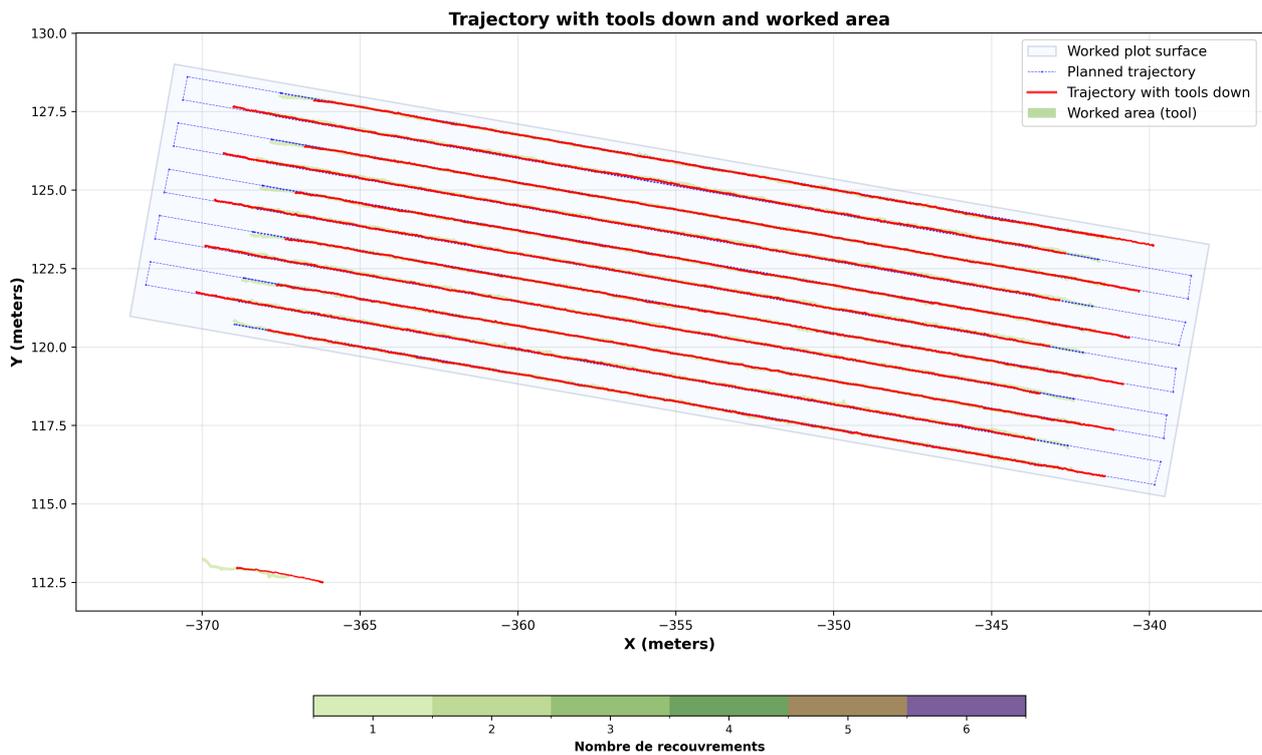
Indicateur	Valeur	Unité
Crop species	Carotte	
Growth stage	Germination	
Soil texture	Clay loam	
Soil moisture	Friable (optimal)	
Weed pressure	10	%
Planned operation	Sowing	
Work quality assessment	Very satisfied	
Crop damage	None	

Energy ^[2]

Indicateur	Valeur	Unité
SOC at start	42.00	%
SOC at end	36.20	%
Total discharge ^[3] <i>For a battery pack capacity of: 2.54 kWh</i>	6.25	%
Total energy consumed	0.16	kWh
Average power	0.16	kW
Energy per hectare	3.84	kWh/ha
Autonomy per battery <i>Reference battery: 2.54 kWh</i>	0.66	ha/batterie

Work Rate ^[4]

Indicateur	Valeur	Unité
Work rate ^[5]	0.04	ha/h
Area covered ^[6]	0.04	ha
Worked plot surface ^[7]	0.03	ha
Worked area ^[8]	0.00	ha
Effective area ^[9]	0.00	ha
Coverage rate ^[10]	0.01	%
Average speed (km/h)	0.58	km/h
Max speed (km/h)	3.60	km/h



Economic ^[11]

Indicateur	Valeur	Unité
Electricity price	0.19	€/kWh
Labor cost per hour	18.00	€/h
Employees assigned	0	
Labor cost per hectare	0.00	€/ha
Energy cost	0.03	€
Energy cost per hectare	0.73	€/ha
Total cost	0.03	€
Total cost per hectare	0.73	€/ha

Environmental ^[12]

Indicateur	Valeur	Unité
Temperature	15	°C
Precipitation type	None	
CO ₂ emissions ^[13] <i>Emission factor applied: 317 g CO₂ per kWh.</i>	0.05	kg
Plot fragmentation	Consolidated (<0.5 km)	

Mission ^[14]

Indicateur	Valeur	Unité
Planned distance ^[15]	359.29	m
Performed distance ^[16]	648.04	m
Distance deviation	288.75	m
Performed distance (%)	180.37	%
Mean lateral deviation <i>Without half-turn</i>	1.74	cm
Max lateral deviation <i>Without half-turn</i>	19.92	cm
Mean lateral deviation (tool) <i>Without half-turn, tool distance: 110 cm</i>	2.69	cm
Max lateral deviation (tool) <i>Without half-turn, tool distance: 110 cm</i>	19.95	cm
Worked rows ^[17]	11	

Operational ^[18]

Indicateur	Valeur	Unité
Robot weight	280.00	kg
Tool weight	<i>N/A</i>	kg
Total weight	280.00	kg
Energy per kg per hectare	0.01	kWh/kg/ha
Mean torque at work (% of nominal) ^[19] <i>Reference nominal torque: 2.39 N·m — Number of motors: 2.</i>	34.41	%

Safety ^[20]

Indicateur	Valeur	Unité
Geofencing exits	0	
Time outside geofencing (seconds)	0.00	s
Time outside geofencing (hours)	0.00	h
Local emergency stops	2	
Remote emergency stops	0	
Bumper activations	0	

Reliability ^[21]

Indicateur	Valeur	Unité
Output errors	0	
Input errors	0	
Battery errors	0	
Motor errors	2	
Cylinder errors	2	
Total errors	4	
Output error time (seconds)	0.00	s
Input error time (seconds)	0.00	s
Battery error time (seconds)	0.00	s
Motor error time (seconds)	4.79	s
Cylinder error time (seconds)	4.14	s
Total error time (seconds)	4.82	s
Error rate per hour	4.00	/h
System availability	99.87	%

Localization ^[22]

Indicateur	Valeur	Unité
Localization errors	0	
Error time (seconds)	0.00	s
Error time (hours)	0.00	h

Time ^[23]

Indicateur	Valeur	Unité
Total duration	3599.87	s
Total duration (hours)	1.00	h
Active time	2290.30	s
Active time (hours)	0.64	h
Inactive time	1309.57	s
Inactive time (hours)	0.36	h
Active time (%)	63.62	%
Inactive time (%)	36.38	%

Mission 4

Trial date	2026-03-09
Location	SABI AGRI, Auvergne, France
Operator	Nicolas
Start time	12:10
End time	14:33

Weather

Precipitation type	None
Temperature	15 °C
Sun position	Absent

Terrain

Slope	0 %
Cross slope	0 %

Soil

Texture	Clay loam
Dominant particle size	Gravel 2-20 mm
Moisture condition	Friable (optimal)

Crop

Species	Carotte
Growth stage	Germination
Weed pressure	10 %
Planned operation	Hoeing

Adjacent environment

Tall vegetation	No
Tall buildings	No
Metallic structures	Yes
Ditch or embankment	Yes
High voltage lines	No
Roads	No
No network zone	No

Robot configuration

Robot weight	280 kg
Robot width	0.64 m

Tool

Tool name	Bineuse
Tool type	Mounted
Tool length	0.8 m
Tool width	0.1 m
Tool height	0.3 m
Tool total length	1.1 m
Working depth	0.18 m



Figure 4.1: Mission presentation photo

Mission presentation

Mission parameters

Task to perform	Binage
Trajectory	rectiligne, square turn
Working speed	0.72 km/h
Mission file	mission_binage_parcelle_complete.json

Organization

Workforce

Total number of employees	1
Employees on robot task	0

Surface

Theoretical surface of the plot	0.084 ha
Worked plot surface	0.1047 ha
Plot fragmentation	Consolidated (<0.5 km)

Trajectory

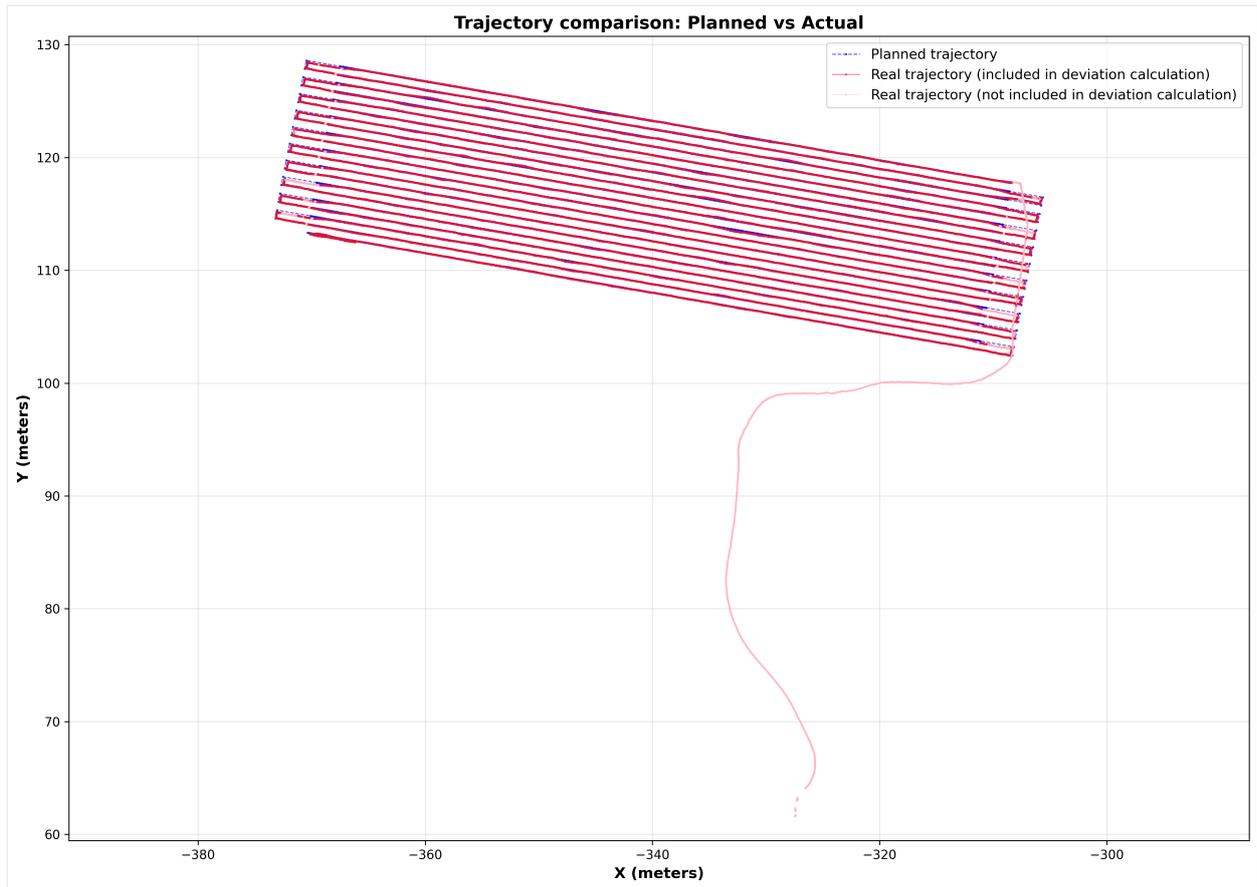


Figure 4.1: Planned vs actual trajectory comparison

Agronomic Summary

Energy per hectare	5.76 kWh/ha
Work rate	0.05 ha/h
Autonomy per battery	0.44 ha/batterie

Time tracking

Tool setup	2 min
GPS connection wait	0 min
Wi-Fi connection wait	0 min
Supervision time	20 min
Travel time	0 min
Restart count	0
Stop count	0

Work assessment

Quality assessment	Generally satisfied
Crop damage	None

Performance Indicators

Agronomic ^[1]

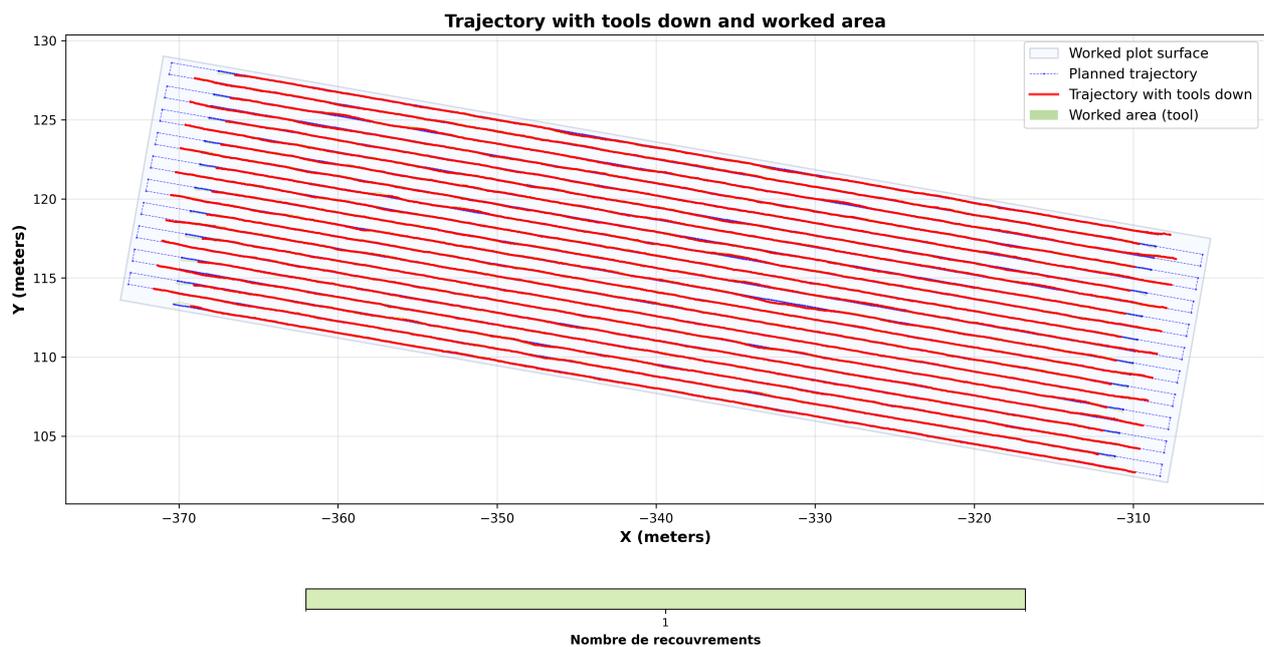
Indicateur	Valeur	Unité
Crop species	Carotte	
Growth stage	Germination	
Soil texture	Clay loam	
Soil moisture	Friable (optimal)	
Weed pressure	10	%
Planned operation	Hoeing	
Work quality assessment	Generally satisfied	
Crop damage	None	

Energy ^[2]

Indicateur	Valeur	Unité
SOC at start	36.20	%
SOC at end	7.70	%
Total discharge ^[3] <i>For a battery pack capacity of: 2.54 kWh</i>	29.24	%
Total energy consumed	0.74	kWh
Average power	0.31	kW
Energy per hectare	5.76	kWh/ha
Autonomy per battery <i>Reference battery: 2.54 kWh</i>	0.44	ha/batterie

Work Rate ^[4]

Indicateur	Valeur	Unité
Work rate ^[5]	0.05	ha/h
Area covered ^[6]	0.13	ha
Worked plot surface ^[7]	0.10	ha
Worked area ^[8]	0.01	ha
Effective area ^[9]	0.01	ha
Coverage rate ^[10]	0.00	%
Average speed (km/h)	0.63	km/h
Max speed (km/h)	3.57	km/h



Economic ^[11]

Indicateur	Valeur	Unité
Electricity price	0.19	€/kWh
Labor cost per hour	18.00	€/h
Employees assigned	0	
Labor cost per hectare	0.00	€/ha
Energy cost	0.14	€
Energy cost per hectare	1.09	€/ha
Total cost	0.14	€
Total cost per hectare	1.09	€/ha

Environmental ^[12]

Indicateur	Valeur	Unité
Temperature	15	°C
Precipitation type	None	
CO ₂ emissions ^[13] <i>Emission factor applied: 317 g CO₂ per kWh.</i>	0.24	kg
Plot fragmentation	Consolidated (<0.5 km)	

Mission ^[14]

Indicateur	Valeur	Unité
Planned distance ^[15]	1394.53	m

Indicateur	Valeur	Unité
Performed distance ^[16]	2017.21	m
Distance deviation	622.68	m
Performed distance (%)	144.65	%
Mean lateral deviation <i>Without half-turn</i>	2.57	cm
Max lateral deviation <i>Without half-turn</i>	19.98	cm
Mean lateral deviation (tool) <i>Without half-turn, tool distance: 110 cm</i>	3.53	cm
Max lateral deviation (tool) <i>Without half-turn, tool distance: 110 cm</i>	19.95	cm
Worked rows ^[17]	21	

Operational ^[18]

Indicateur	Valeur	Unité
Robot weight	280.00	kg
Tool weight	<i>N/A</i>	kg
Total weight	280.00	kg
Energy per kg per hectare	0.02	kWh/kg/ha
Mean torque at work (% of nominal) ^[19] <i>Reference nominal torque: 2.39 N·m — Number of motors: 2.</i>	66.02	%

Safety ^[20]

Indicateur	Valeur	Unité
Geofencing exits	0	
Time outside geofencing (seconds)	0.00	s
Time outside geofencing (hours)	0.00	h
Local emergency stops	1	
Remote emergency stops	0	
Bumper activations	0	

Reliability ^[21]

Indicateur	Valeur	Unité
Output errors	0	
Input errors	0	
Battery errors	0	

Indicateur	Valeur	Unité
Motor errors	3	
Cylinder errors	2	
Total errors	5	
Output error time (seconds)	0.00	s
Input error time (seconds)	0.00	s
Battery error time (seconds)	0.00	s
Motor error time (seconds)	4.41	s
Cylinder error time (seconds)	3.49	s
Total error time (seconds)	4.43	s
Error rate per hour	2.09	/h
System availability	99.95	%

Localization ^[22]

Indicateur	Valeur	Unité
Localization errors	3	
Error time (seconds)	93.00	s
Error time (hours)	0.03	h

Time ^[23]

Indicateur	Valeur	Unité
Total duration	8614.00	s
Total duration (hours)	2.39	h
Active time	7411.69	s
Active time (hours)	2.06	h
Inactive time	1202.31	s
Inactive time (hours)	0.33	h
Active time (%)	86.04	%
Inactive time (%)	13.96	%

Descriptions of indicators

Bracketed numbers refer to definitions, assumptions and sources listed below.

- [1] Agronomic indicator: value from the recorded crop trial context.
- [2] Energy indicator: derived from electrical measurements, consumption and SOC logged during the mission.
- [3] Total discharge (%): energy consumed during the mission (change in cumulative energy, in kWh) divided by nominal battery pack capacity (kWh), multiplied by 100. This indicator does not use start or end SOC; reference pack capacity is stated in the note when known.
- [4] Work-rate indicator: derived from worked areas, speeds and time on field.
- [5] Work rate: amount of work completed per unit of time, in ha/h. Hourly rate = area covered (ha) ÷ total mission duration (h).
- [6] Area covered: this is the area swept by the robot = cumulative odometric distance × robot width.
- [7] Worked plot surface: area of the plot worked by the robot. It is modeled as an oriented bounding box (OBB) with a margin equal to half the robot width around the planned trajectory that was worked.
- [8] Worked area: area processed by the implement (tool width × path length with implement lowered). Each pass counts; overlaps add up.
- [9] Effective area: area worked by the implement excluding overlaps.
- [10] Coverage rate: ratio of worked area to effective area. $(\text{worked area} - \text{effective area}) / \text{effective area} \times 100$. A high value indicates many passes over the same zones.
- [11] Economic indicator: computed from cost settings and mission energy/time aggregates.
- [12] Environmental indicator: derived from weather context or consumption using the documented method.
- [13] CO₂ emissions from grid electricity consumed during the mission (kWh × 0.317 kg/kWh). Source: French Ministry for Ecological Transition — Key Climate Figures (digital edition), chapter on GHG emissions from industry / electricity production (statistiques.developpement-durable.gouv.fr).
- [14] Mission indicator: derived from actual path, plan and computed geometric deviations.
- [15] Theoretical mission distance: cumulative length of the planned trajectory from the mission JSON file. Does not match the robot's actual path.
- [16] Distance actually traveled by the robot. May include movement before the mission effectively starts and after it ends, depending on the recorded data.
- [17] Number of distinct rows worked (tool lowered).
- [18] Operational indicator: derived from kinematics, implement data or documented masses.
- [19] Mean absolute motor torque only when the tool is lowered, as a percentage of the motors' nominal torque.
- [20] Safety indicator: derived from safety-related events and durations.
- [21] Reliability indicator: derived from fault codes and error time per subsystem.
- [22] Localization indicator: derived from localization faults or downtime during the mission.
- [23] Time indicator: derived from timestamps and activity states during the mission.