

WORLD **FIRA**
FEB. 6 - 8 2024

FEBRUARY 6 - 8

TOULOUSE | FRANCE

AGROBIOPOLE, AUZEVILLE-TOLOSANE

DISCOVER

**THE GLOBAL EVENT FOR
AGRICULTURAL ROBOTS
IN ACTION**

#WFIRA24

BOOK YOUR TICKET ON **WORLD-FIRA.COM**



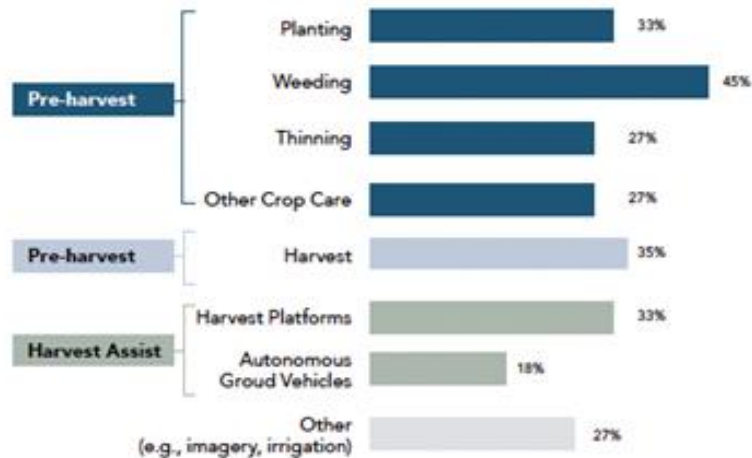
#1 AG ROBOTICS MARKET AND TRENDS



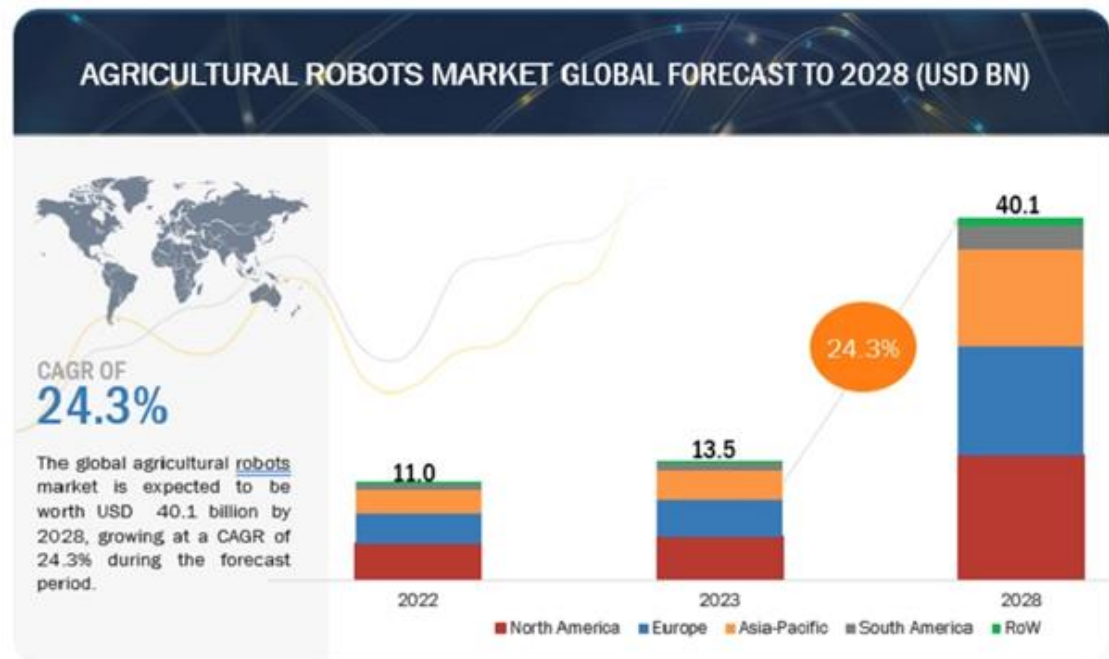
Agricultural robots around the world

WEEDING IS THE MOST AUTOMATED ACTIVITY ACROSS ALL CROP TYPE
MOST POPULAR INVESTMENT METHOD

Activities being automated [% share of respondents]



Source: Grower survey, Western Growers, Roland Berger



CAGR : “Compound annual growth rate”
Source: ResearchAndMarkets.com



Agricultural robots around the world

2022 CROP ROBOTICS LANDSCAPE



Market size for autonomous outdoor robots:

150 million dollars in 2022

Key growth factors:

- R&D investment
- product innovations
- increased consumer awareness of the benefits of robotics.

University of California
Agriculture and Natural Resources






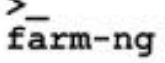















































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Michael Rose
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THE VINE



Number of units in service (2022-2023)	100-500	      
	50-100	       
	10-50	      
	0-10	                         
	Non Public	    

Manufacturers by the numbers of units in activities in the world.

Sources: FIRA USA 2022 & 2023 and World FIRA 2023, official directories and information sheets of ag robots and autonomous solutions for farming.





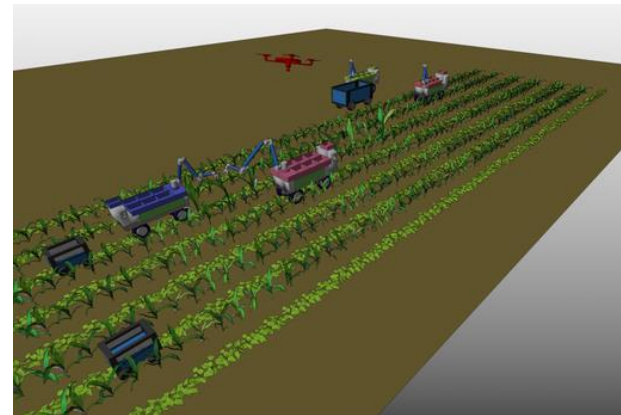
#2 LOCKS TO BE LIFTED

Roland LENAIN, Research Director, INRAe

INRAe

Questions still unanswered

Robots for the ecological transition



How can robotics be used to create new agro-ecological technical itineraries?

Ability to adapt in a changing environment

People tracking



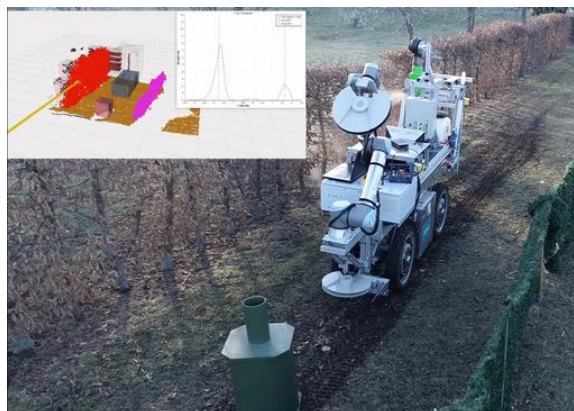
Association



Row following



Footprints tracking

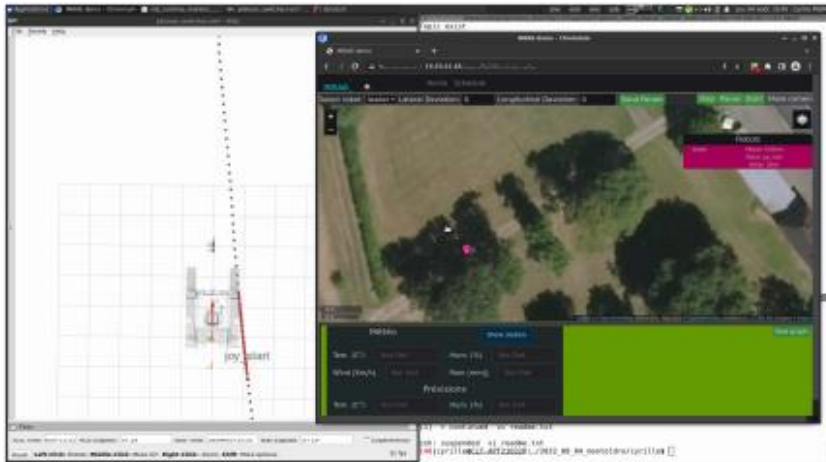


Questions still unanswered

Ensuring operational safety and security



Acceptability and conditions for human-robot appropriation



A forum to co-construct the sector

Progress and challenges to be overcome collectively

Agriculteurs

Instituts techniques

Constructeurs

Fournisseurs solutions

Chercheurs

Défis sociétaux

- ✓ Transition écologique
- ✓ Acceptabilité et utilisabilité
- ✓ Intégration exploitation
- ✓ Construction de nouvelles pratiques

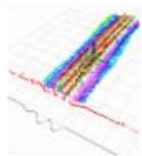
Défis technologiques

- ✓ Perception de l'environnement
- ✓ Sécurité de fonctionnement
- ✓ Coût et robustesse



Défis scientifiques

- ✓ Adaptabilité des comportements robotiques
- ✓ Interactions végétation
- ✓ Sécurité des systèmes autonomes



Des leviers de développement et des avancées à partager

Recherche

Sélection végétale avancée
PEPR – 30M€

Numérique et Agroécologie
PEPR – 65M€

Structuration et transfert

Bio-contrôle
Grand Défi – 42M€

Organic Robotic
PEPR

Evaluation

Challenges technologiques
- 42M€

Robotique Agricole
Grand Défi – 22M€

Innovation

AAP – BPI - 90M€

Tirrex Equipex+ ANR

Commercialisation

AMI équipement – BPI - 400M€

Présérie – 25M€



INRAE and robotics

Vision (Robotics)

- > Accelerate the large-scale agro-ecological transition, complementing plant selection, the use of biocontrol and agro-ecological infrastructures (agroforestry, hedges, etc.).
- > Research and experimentation to remove the technological and regulatory obstacles to the deployment of agricultural robotics.
- > Robotics = enabling practices and systems in profound rupture
 - Less pesticides while maintaining production and economic performance
 - Reduced on-call time for farmers.

Devices

- > Scientific support for the Grand Défi "Agricultural Robotics", led by RobAgri (85 R&D players in agricultural robotics - consolidating the future French sector) - €21M funding (France 2030).
- > Supervision of the AgroTechnopôle platform - robotics experimentation test bed (Montoldre- Allier)
- > Pilot of the PEPR Agroécologique et Numérique (Agroecological and Digital PEPR) with Inria (€65M)

Objectives

- > Implementation of new agro-ecological practices (localized treatment, precise monitoring, frequent maintenance, reduced soil impact, etc.);
- > Maturation of technologies (with hackathons, challenges, etc.);
- > Appropriation of the new technologies by farmers and their acceptance by society (exchanges with the farming community, public awareness campaigns).





#2 WORLD FIRA 2024

The global event for
agricultural robotics

A man with short grey hair, smiling broadly, is the central figure. He is wearing a black jacket over a dark shirt and has an orange lanyard around his neck. The background is a blurred exhibition space with various displays and people. In the bottom right corner, the text "70+ EXHIBITORS" is overlaid in a large, bold, white font. The overall image has a black border at the top and bottom.

**70+
EXHIBITORS**



Exhibitions - Field demos - Panel Discussions - Networking

#8th EDITION



The “CES” of agricultural robotics

From “POC” to marketed robots, the World FIRA brings together players in agricultural robotics at all levels of maturity.



AGRICULTURAL ROBOTS

A unique 3-day event to discover new players and the latest autonomous technologies for sustainable agriculture.



AGROBIOPOLE - Toulouse (France)

Home to the agricultural education complex (Cité des Sciences Vertes, ENSFEA) and the INP/ENSAT, Agrobiopole will be hosting the 8th World FIRA... with its feet in the fields!



The latest advances in agricultural robotics

#WFIRA24

WORLD FIRA
FEB. 6 - 8 2024



From R&D...

5th Scientific Workshop:
*In partnership with RobAgri
and INRAE*

Hackathon by Grand Défi Robotique Agricole:

- AMI before 27 November
- Starts on 8 December
- Teams before 15 December

INRAE

RobAgri

...via the exhibition...

Outdoor exhibition area
Exclusive content and new
formats
Qualified networking time with
industry leaders and users



...to the fields!

Field demos of robots and
autonomous agricultural
solutions.

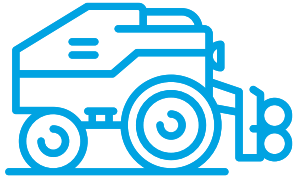
5 sectors represented

*In partnership with CUMA
Occitanie, the Cité des Sciences
Vertes and INRAE*



World FIRA 2024 at a glance

ALL THE PLAYERS OF THE AG-TECH SECTOR



+30

Autonomous
Solutions
2023

+35

Autonomous
Solutions
2024



2,000

Attendees
2023

2,500

Attendees
2024



+50

Countries
represented
2023

+60

Countries
represented
2024



500

Farmers/
Producers
2023

1,000

Farmers/
Producers
2024



60

Journalists
2023

From
12 countries

70

Journalists
2024



106

Partners
2023

120

Partners
of which
70+ exhibitors
2024



WORLD FIRA, AN EVENT FOR THE ENTIRE INDUSTRY



FARMERS

Autonomous solutions for farmers to help them deal with their daily needs and challenges.



DEALERS & DISTRIBUTORS

Set up new partnerships with manufacturers of agricultural robots.



ROBOT MANUFACTURERS & START-UPS

Presenting robots and autonomous solutions to farmers and the international community.



RESEARCH & STUDENTS

Presentation of research projects, meetings during demos and exhibitions, technology transfer...



INVESTORS

Bringing together investors and nuggets of agricultural robotics.



JOURNALISTS

Exclusive announcements, press tours and the latest advances in robotics.

ANNOUNCEMENT 2024

1ST INTERNATIONAL AGRICULTURAL AUTONOMY SYMPOSIUM

Collective intelligence to serve agricultural autonomy challenges

World FIRA is launching the first international Agricultural Autonomy symposium, as an international event bringing together the agricultural robotics community.

3 workshops will be held, with representatives and spokespersons from international organizations working on the topic, manufacturers of autonomous machinery and, above all, farmer-users coming to challenge manufacturers and legislators on the challenges ahead.

Workshop 1: Field use cases, farmers' and manufacturers' experience

With: Thomas Beach, General Manager, Mudwalls Farm - Chuck Baresich, General Manager, Haggerty Creek Ltd.

Workshop 2: Recommendations and application guidelines

With: Andrew Olliver, President, AEF - Christophe Tissier, Technical Adviser, CEMA - Yoshiyuki Kawase, National Agriculture and Food Research Organization Institute of Agricultural Machinery (JP)

Workshop 3: Collective intelligence to serve agricultural autonomy challenges

Participatory group workshops.

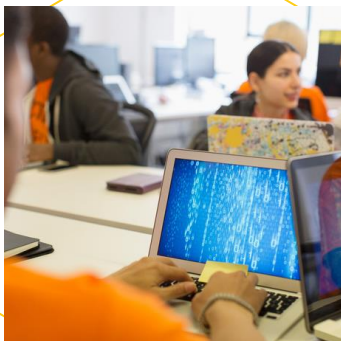
Thurs. 8 Feb 2024
9:00 am - 4:00 pm



Co organised by:



WHAT'S NEW AT FIRA?



HACKATHON BY GRAND DEFI

Creation of a team ahead of FIRA, who will work for several weeks to develop solutions to improve the safety of robotics.

Co-organized by:



IN-FIELD DEMOS AND USER FEEDBACK

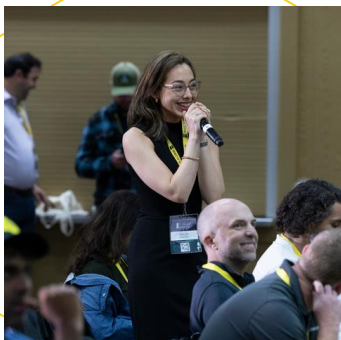
A lighter agenda for more demos.

New: before each demo, there will be a representation of the sector to give a more specific view of it.

Farmers will also have their say! In an informal format, in the field, come and talk to farmers who are using autonomous solutions. Ask questions, share your experiences, needs, and challenges.



Co-organized by:



AGRICULTURAL ROBOTICS: CONTROVERSIES

A time for controversy will invite World FIRA participants and experts in agricultural robotics to critically examine divergent ideas and positions, challenge established norms and seek more enlightened and equitable solutions.

Co-organized by:



WHAT'S NEW AT FIRA?



THE WORLD FIRA AWARDS 2024

- The “Ag Robot of the Year” - farmers' choice: prize for the best robot currently on the market, awarded by Future Farming
- The “Best Start-up” - investors' choice: prize for the most promising start-up in terms of investment
- The “Best World FIRA Robot” - chosen by participants at World FIRA 2024: the robot exhibiting at World FIRA that was the most popular with participants

B2B MEETINGS

A platform dedicated to setting up qualified appointments with World FIRA participants and exhibitors.

Co-organized by:



General Agenda

6-8 FEBRUARY 2024

TUESDAY 6 FEBRUARY

5th Scientific Symposium
Round Tables, Conferences & Posters Sessions

8:30 am - 5:30 pm

Opening of the Expo Zone

12:00 pm - 6:00 pm

Inauguration session

1:30 pm - 2:00 pm

Pitch session for the Start-up Awards

2:00 pm - 4:00 pm

In-field Demos

2:00 pm - 5:30 pm

VIP Night

6:30 pm - 9:30 pm

WEDNESDAY 7 FEBRUARY

Opening of the Expo Zone

8:30 am - 6:00 pm

In-field Demos

10:00 am - 6:00 pm

Workshops

9:00 am & 5:00 pm

Pitches

2:00 pm - 3:30 pm

Press Tour

10:00 am - 11:00 am

Soirée Guinguette

6:30 pm - 8:30 pm

THURSDAY 8 FEBRUARY

Opening of the Expo Zone

8:30 am - 4:00 pm

In-field Demos

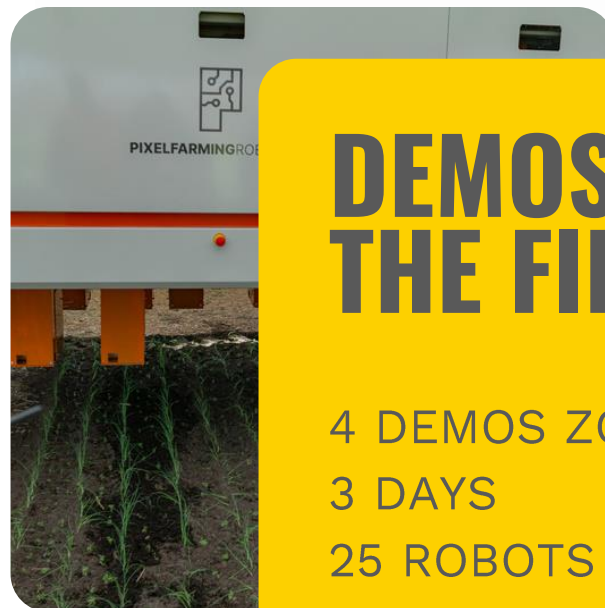
10:00 am - 4:00 pm

Agricultural Autonomy Symposium

9:00 am - 4:30 pm

[FULL AGENDA](#)





DEMOS IN THE FIELD

4 DEMOS ZONES
3 DAYS
25 ROBOTS
2 HA OF DEMOS



With

CUMA
OCCITANIE
LA PUISSANCE DU GROUPE

 **Cit 
Sciences
Vertes**

INRAE

100% IN THE FIELD

A NEW DIMENSION WITH MULTITUDE OF DEMOS IN THE FIELDS



Wide range of applications:

- mechanical weeding
- localised weeding
- scouting
- seeding
- fertilization
- shredding/mowing
- etc.

Demos in real conditions:

- field crops
- vegetables
- vineyards
- orchards
- market gardening



Robots in demo:

- Demos available on each stand throughout the day.
- The main demo for each manufacturer is listed in the agenda.

2 ha of
demos

4 OUTDOOR DEMO AREAS

USE OF ROBOTS FOR WEEDING, FERTILISATION, HARVESTING, PICKING, SOWING, ETC.

ALL SECTORS REPRESENTED



Double rows of vines



Market gardening &
vegetable crops:
Garlic and radish



3,000 m² of orchards
*Apple trees in wintering
period*



Field crops:
Rye, triticale and faba beans

Discover the World FIRA 2024 robots in demo and exhibition



Vegetables



Orio - Naïo Technologies



TREKTOR -
SITIA



K.U.L.T.iSelect - K.U.L.T



Weed Whacko - Odd.bot



Lero - Nature



Arrow Box -
Ullmann



Oz - Naïo Technologies



Robot One -
PixelFarming Robotics



AVL Compact S9000 - AVL Motion

Discover the World FIRA 2024 robots in demo and exhibition



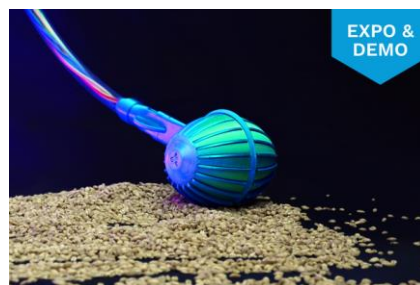
Field crops



Robotti - AgrolIntelli



SoftiRover "e-K18"- Softirob



Crover Grain Storage
Management -
Crover



Afara Cotton Picker Robot
- AFARA AGRITECH



AgBot 5.115T2 - AGXEED B.V.

Discover the World FIRA 2024 robots in demo and exhibition



TRAXX - Exxact Robotics



Ted - Naïo Technologies Agilehelper - Pek Automotive



Trektror - SITIA



Bluewhite Pathfinder -
Bluewhite



YV01 -
Yanmar Vineyard Solutions



Jo - Naïo Technologies



Scorpion - Inesc Tech,
Herculano & TEYME



Pulverizadores Fede -
PULVERIZADORES FEDE
S.L.U.

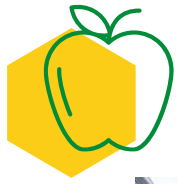


Robotic pruning arm
- Robotic Perception



Aigro Up - Aigro

Discover the World FIRA 2024 robots in demo and exhibition



Orchards



Slopehelper - Pek Automotive



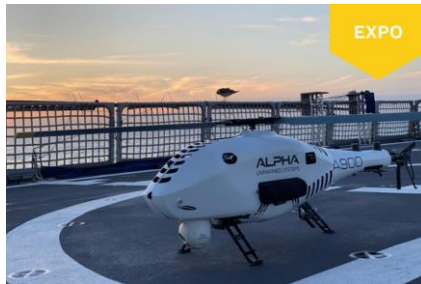
RoboCut - Léger SAS



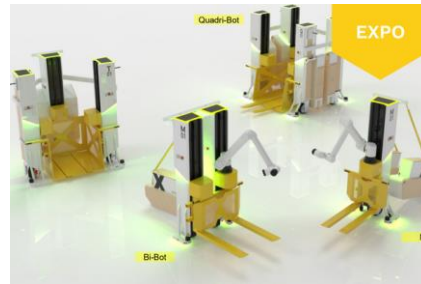
Bluewhite Pathfinder - Bluewhite



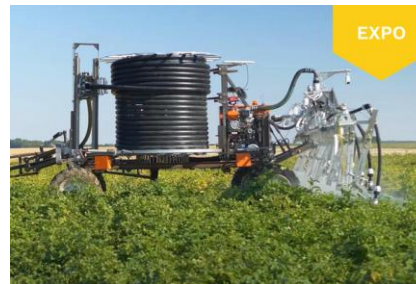
Various crops



Alpha - Alpha Unmanned Systems



M3-Cooper - Mecabotix



Oscar - OSIRIS Agriculture



PATs-X - PATs



Continental's greenhouse robotic solution

ROBOTS SHOWCASING

WORLD FIRA
FEB. 6 - 8 2024

GENERAL MAP OF THE WORLD FIRA



PARTNERS OF THE 2024 EDITION

CO-ORGANIZERS



ROBOTS, DRONES & MACHINERY MANUFACTURERS



TECHNOLOGY SUPPLIERS



DISTRIBUTORS & DEALERS



ASSOCIATIONS, SERVICES, TRADE UNIONS, INVESTORS & PUBLIC INSTITUTIONS



EDUCATION & RESEARCH



AGRO-INDUSTRIALS



MEDIA & EVENTS



PARTNERS LIST

REGISTRATIONS

	3 DAY PASS	1 DAY PASS
Industrial**	€180	€80
Students*	FREE	FREE
Farmers*	FREE	FREE
Journalists*	FREE	FREE

* Under pre-registration with proof of enrolment (student card, press card, enrolment certificate)

** Including technology suppliers, investors, agricultural machinery, agro-industrialists, public bodies and associations.

REGISTRATIONS ON: WWW.WORLD-FIRA.COM



Keep in touch!

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FIRA - International Forum of
Agricultural Robotics



#WFIRA24



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THANK YOU