

Presented By:

Gaëtan SEVERAC
President



**Vision & perspective of the agricultural
robotics industry**

CLIMMAR Oct. 12



NEEDS FOR A FARMING (ROBOTICS) (R)EVOLUTION



Farmers need to remain competitive while feeding people and protecting the environment

The number of farmers is decreasing and the agricultural surface per farm is increasing

A global context

Challenges to overcome:

- Produce more
- With less!



Key figures

Source: Robagri report -
"Grand défi Robotique
agricole"

10 billion people by 2050

Produce **56%** more food
than in 2010

2030, reduce pesticide consumption
by **50%** in Europe

Global labor shortage

Agronomic solutions exists, but how to unlock them? At scale!?



01

Skills and knowledge diffusion

02

Technology Adoption

03

Policy and Regulation

04

Dealing with more and more unpredictable variables & crisis



AGRICULTURAL ROBOTICS
IS PART OF THE SOLUTION



- Automation of Agricultural Tasks
- Optimizing Resource Use
- Reducing Environmental Impact
- Improving Crop Quality and Quantity
- New Service Opportunities
- Adapting to climate change
- Precision farming
- Crop diversification
- Growing market
- Investment and research

**Agricultural
Robotics, a
promising
solutions**



Agricultural Robotics, a tool for the industry

Agricultural robots, serving what purpose?

Main uses by sector

Vineyards

- mowing
- vineyard work (disbudding, pruning, leaf stripping etc.)
- spraying
- soil working (weeding etc.)
- load carrying

Livestock

- milking
- feeding
- forage pusher
- bedding
- scraping
- slurry suction
- bedding disinfection and airing
- load carrying
- animal welfare

Field crops

- fertilising
- spraying
- irrigation
- soil working (weeding)

Market gardening/ Orchards

- grass management
- harvesting

... as well as data collection (cameras, sensors etc.) common to all sectors.



AGRICULTURAL ROBOTICS: A REAL ECOSYSTEM



2022 CROP ROBOTICS LANDSCAPE



AUTONOMOUS MOVEMENT

CROP MANAGEMENT

HARVEST

Overview of the agRobotics Leaders

ROW CROP

SPECIALTY FIELD

ORCHARD-VINEYARD

INDOOR

Navigation/ Autonomy



Small Tractor/ Platform



Indoor Platform



Large Tractor



Scouting



Robotic solutions placed in other task/product categories on this landscape may have scouting capabilities in addition to their primary function.

Indoor Scouting



Preparation & Planting



Drone Application



Indoor Drone Protection



Companies appear only once, though some may offer multiple or multi-use robots; they are placed according to primary function. Some segments span multiple crop systems as solutions may be applicable across crops. Logo positions are not necessarily indicative of crop system applicability.

Application



Indoor Application



Weeding & Thinning



Orchard-Vineyard Weeding & Pruning



Indoor Deleafing



Specialty Field Harvesting



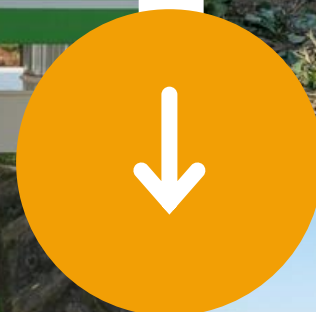
Orchard-Vineyard Harvesting



Indoor Harvesting



AgRobotics Leaders





AGRICULTURAL ROBOTICS: A REAL MARKET NOW!



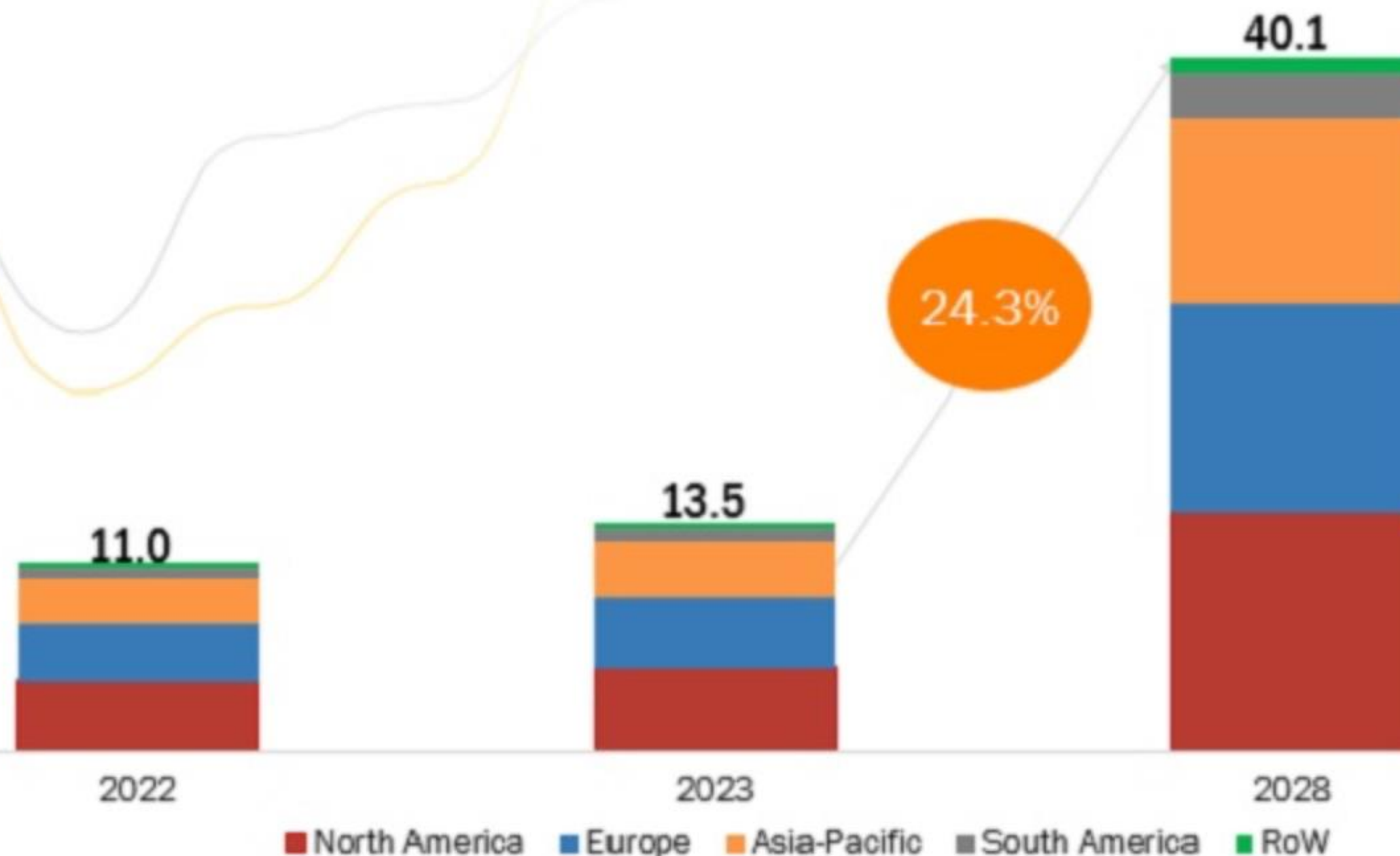
Agricultural Robots Market Trends

AGRICULTURAL ROBOTS MARKET GLOBAL FORECAST TO 2028 (USD BN)

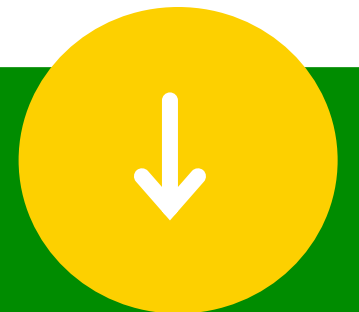


CAGR OF
24.3%

The global agricultural robots market is expected to be worth USD 40.1 billion by 2028, growing at a CAGR of 24.3% during the forecast period.



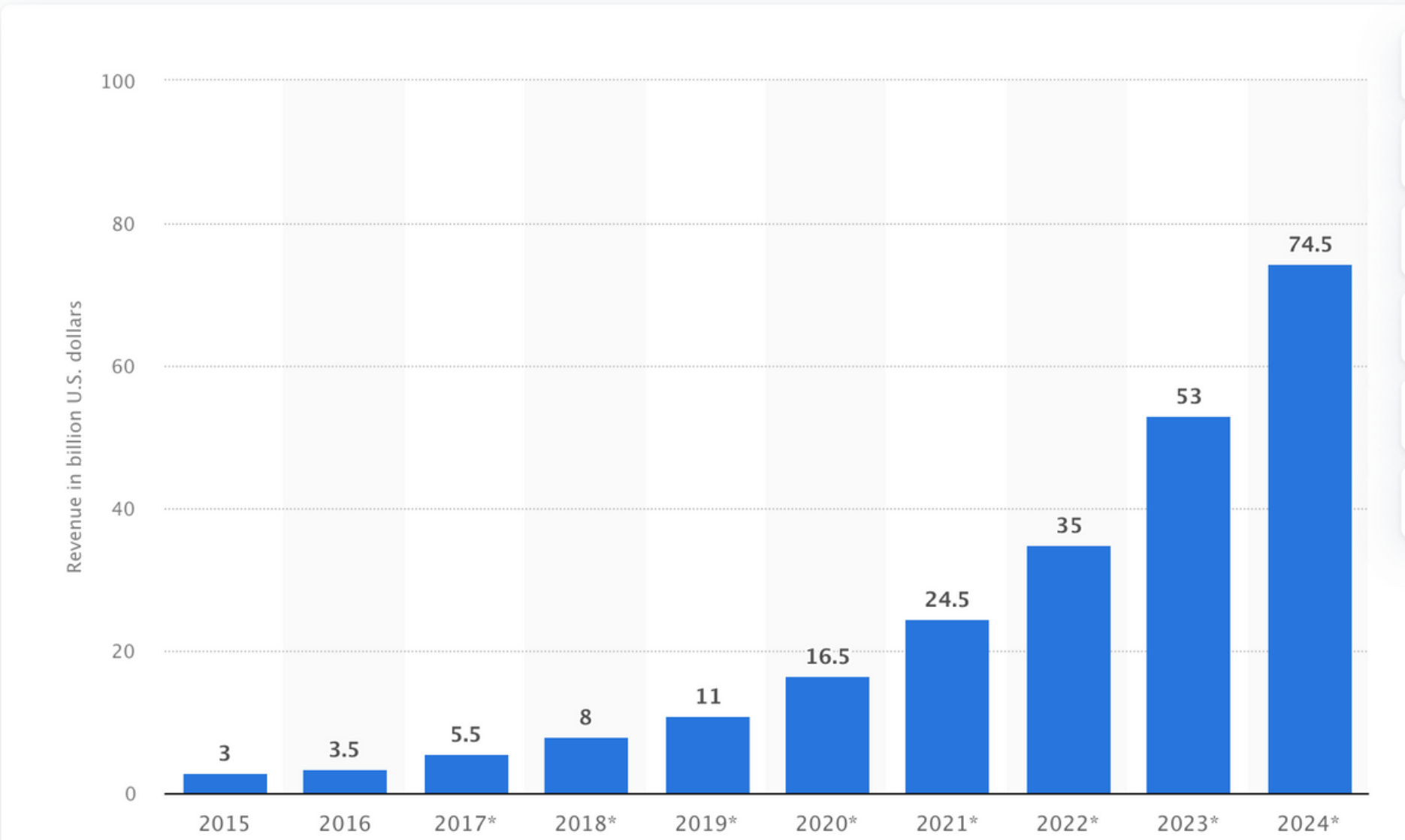
Includes:
UAV/drones,
mailing robots,
driveless
tractors,
Automated
harvesting
systems,
farming
environement
(indoor/outdoor)
, end-use
application



Source:
<https://www.marketsandmarkets.com>

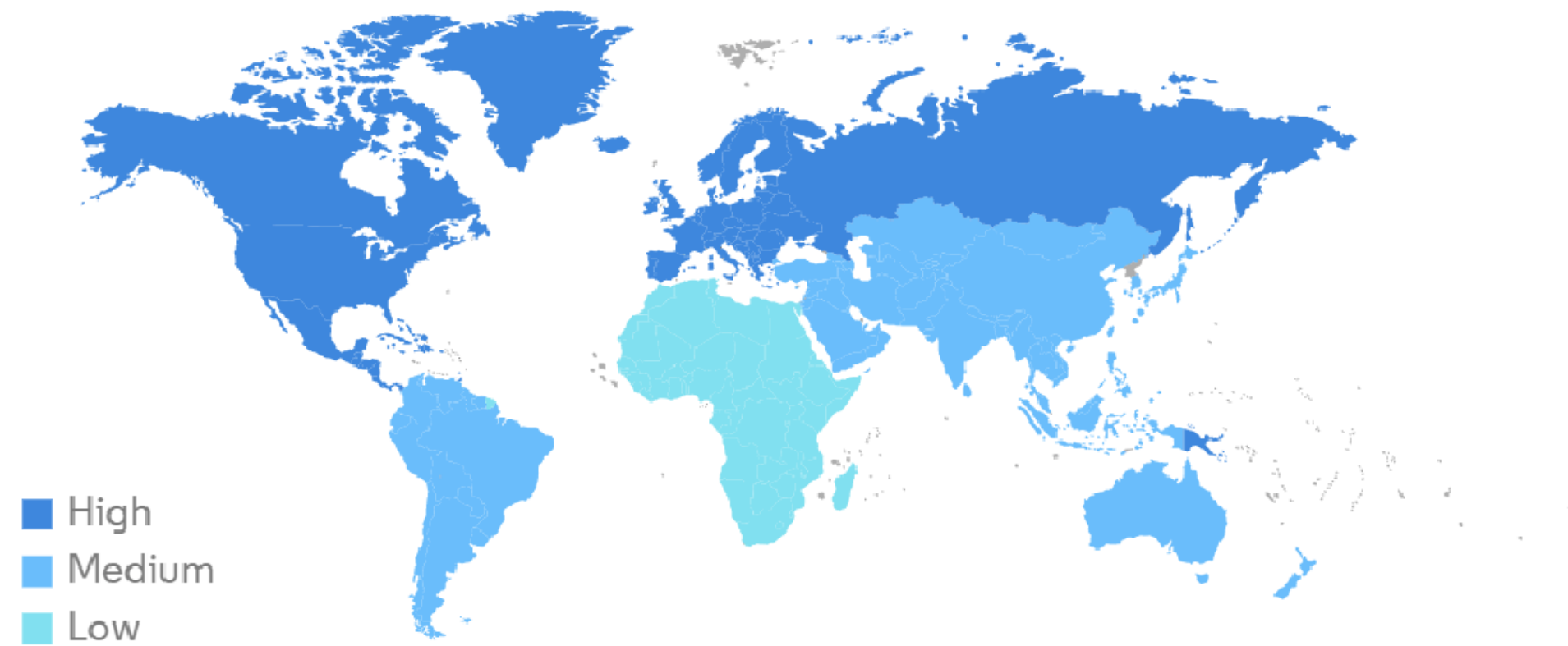
Agricultural Robots Market Trends

Agricultural robot revenue worldwide from 2015 to 2024
(in billion U.S. dollars)



Source: [© Statista 2023](#)






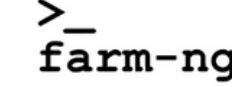
















































Agricultural Robots Market : Growth Rate, in %, Geography, 2021



Source: Mordor Intelligence

Overview of the ag robots leaders

Start-ups by number of robots in service worldwide.
(approximate)

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

SOURCES: FIRA USA 2022 & 2023 and World FIRA 2023 official directories and autonomous solutions information sheets.

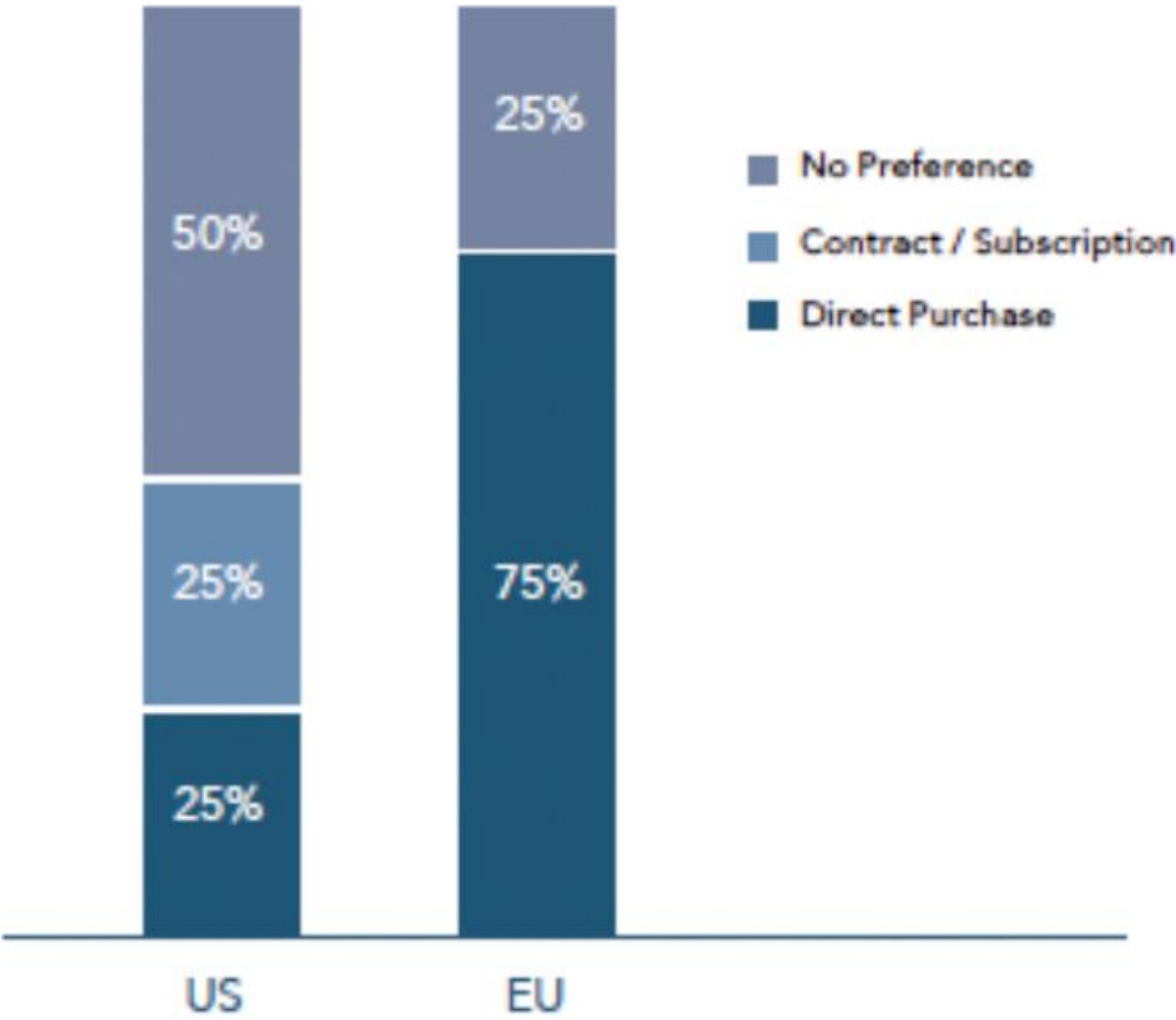
Business Models

LARGER FARMS MAKE THE BIGGEST INVESTMENTS, WHILE EU GROWERS HAVE A PREFERENCE FOR DIRECT PURCHASES

Investments in automation, by farm size
2022 [average]



Preferred method of automation, by region
[% share of respondents]



Source: Grower survey, Western Growers, Roland Berger



US vs UE

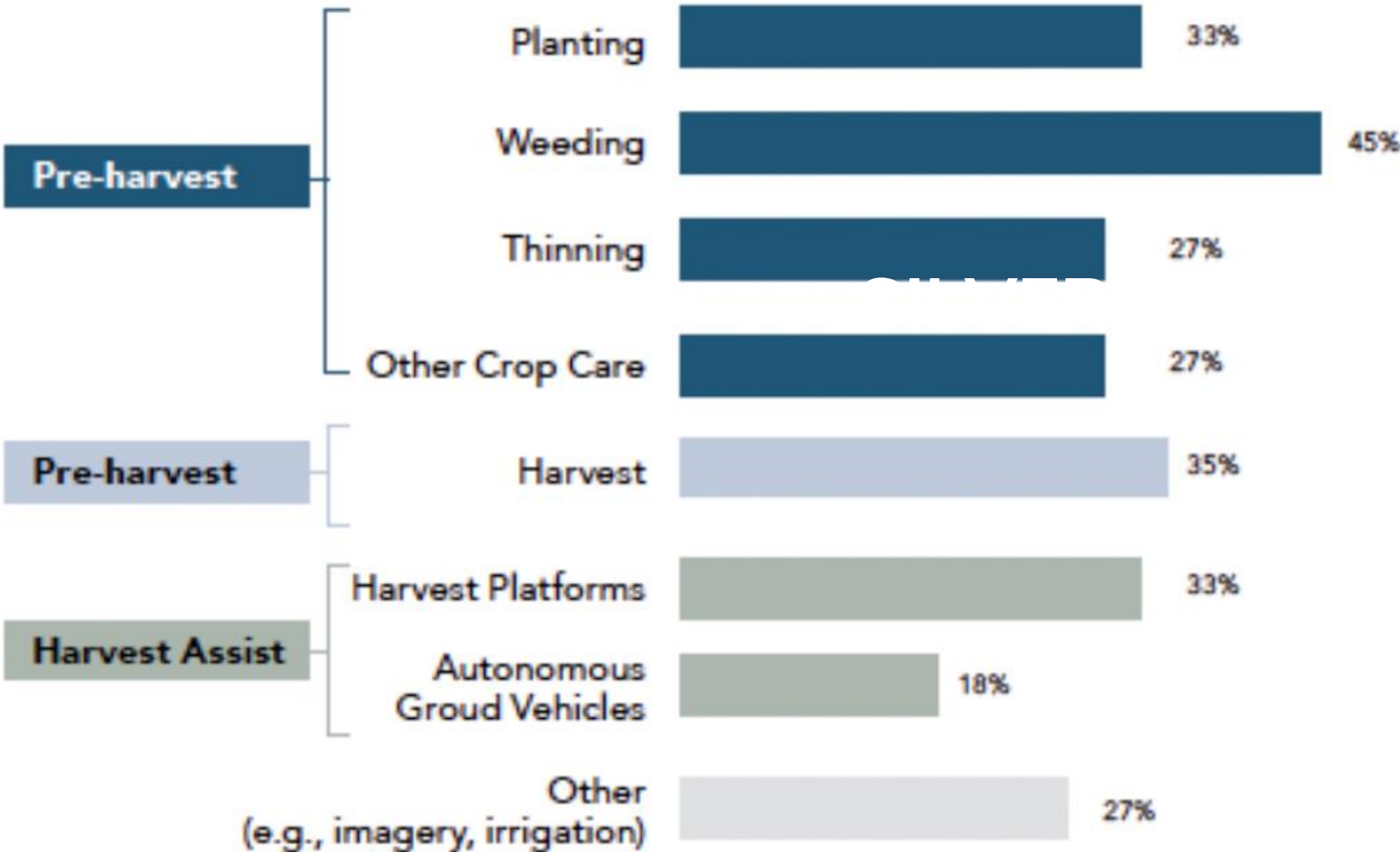
Investments

WEEDING IS THE MOST AUTOMATED ACTIVITY ACROSS ALL CROP TYPES, AND HARDWARE THE MOST POPULAR INVESTMENT METHOD

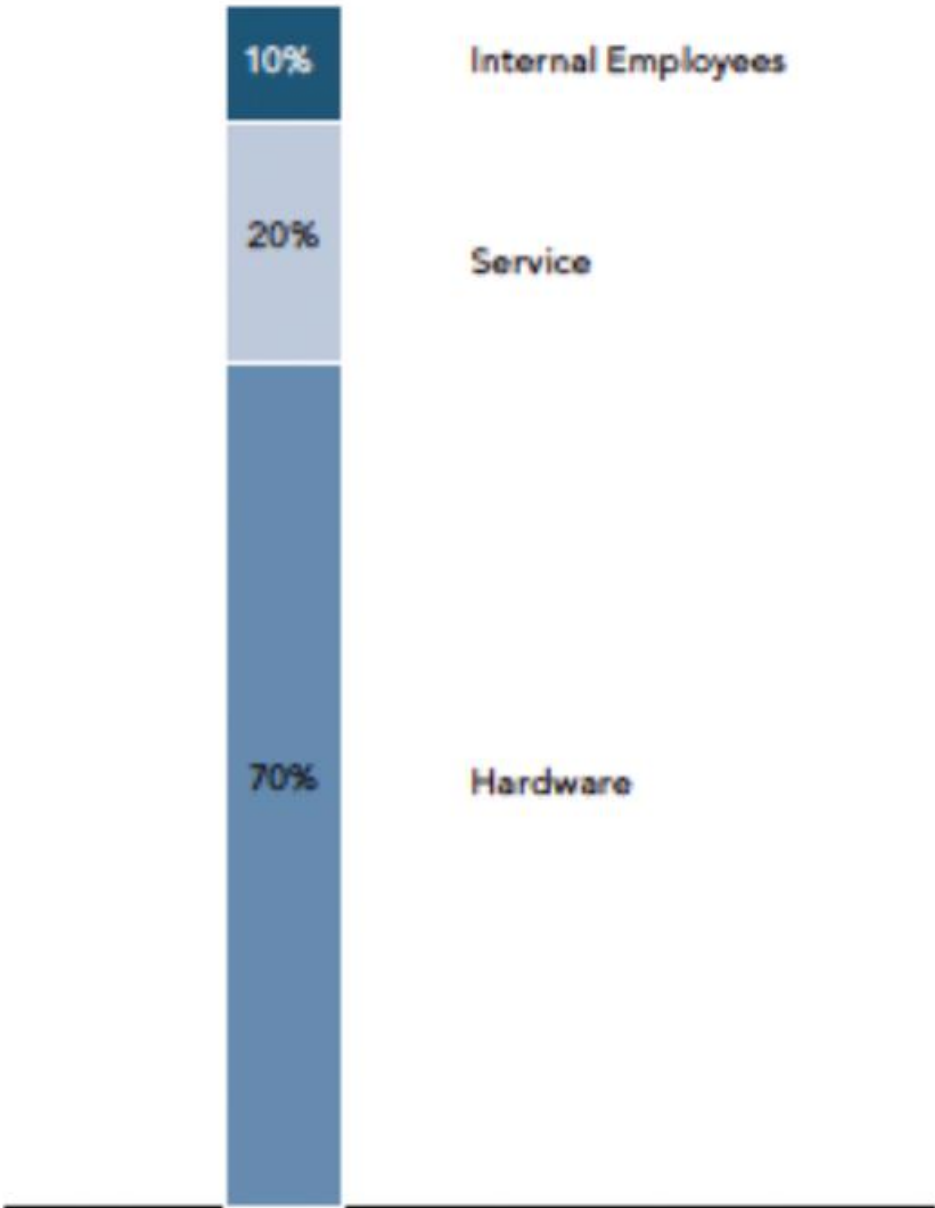


US vs UE

Activities being automated [% share of respondents]



Method of investing in automation [average]



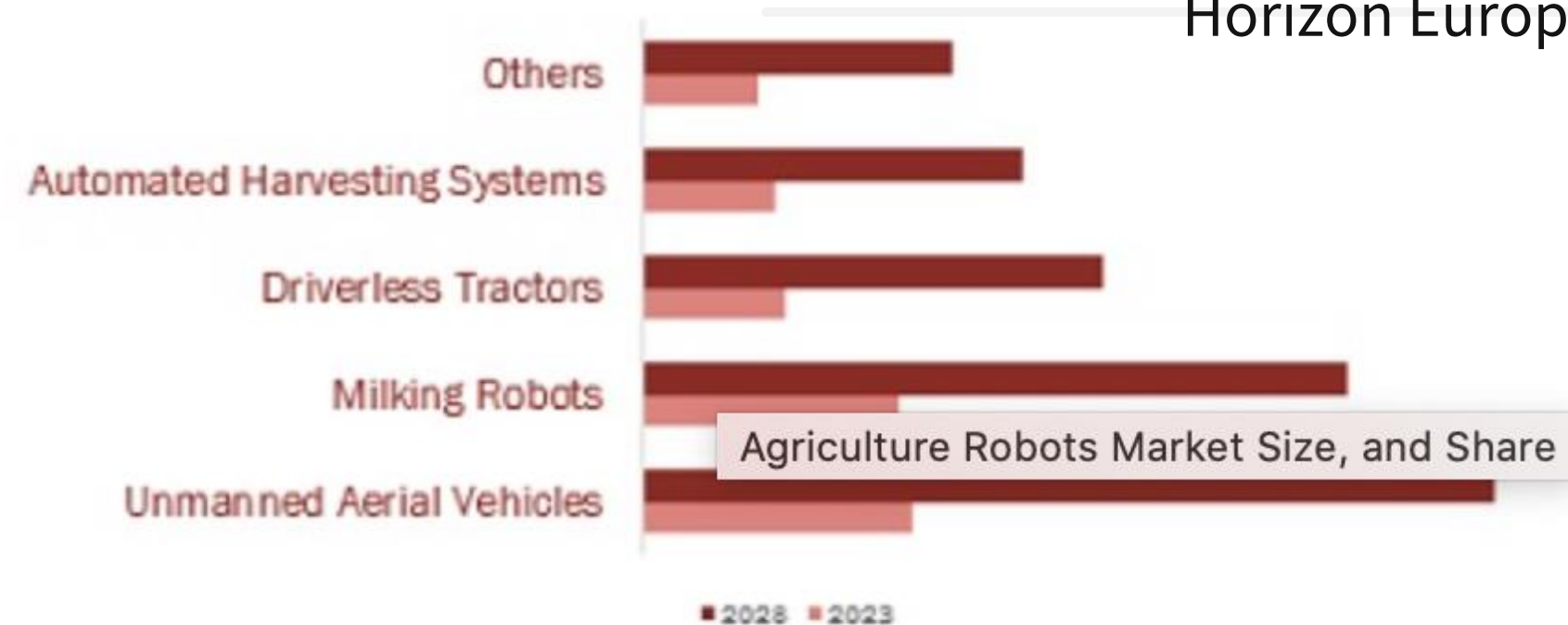
Source: Grower survey, Western Growers, Roland Berger

European market



Of the potential of agricultural robots in modernizing the farming sector and promoting sustainable practices by UE governments

 **BY TYPE**
2023 (USD BILLION)



 **A highly subsidized market**

40% of the European Union's budget
Horizon Europe program for 2021-2027

[AgriTech 2030](#)

EUROPE



**SECOND
LARGEST MARKET**
In 2022

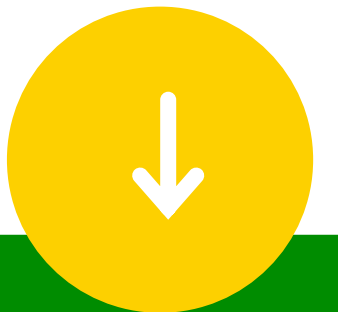


UK
FASTEST-GROWING
MARKET IN THE REGION



**DRIVING FACTORS
FOR GROWTH IN
EUROPE**

- The increasing adoption of agriculture robots in the region is driven by the availability of advanced hardware components. These components include milking robots, drones, sensors, cameras, and GPS systems, which enable farmers to effectively monitor and manage their crops.
- The demand for services such as drone rental, training, and maintenance is rising in the Europe region. Agriculture robots service providers offer specialized services to assist farmers in utilizing drone technology and livestock monitoring technology effectively and efficiently.



Sources:
www.marketsandmarkets.com

**What does
it mean?**

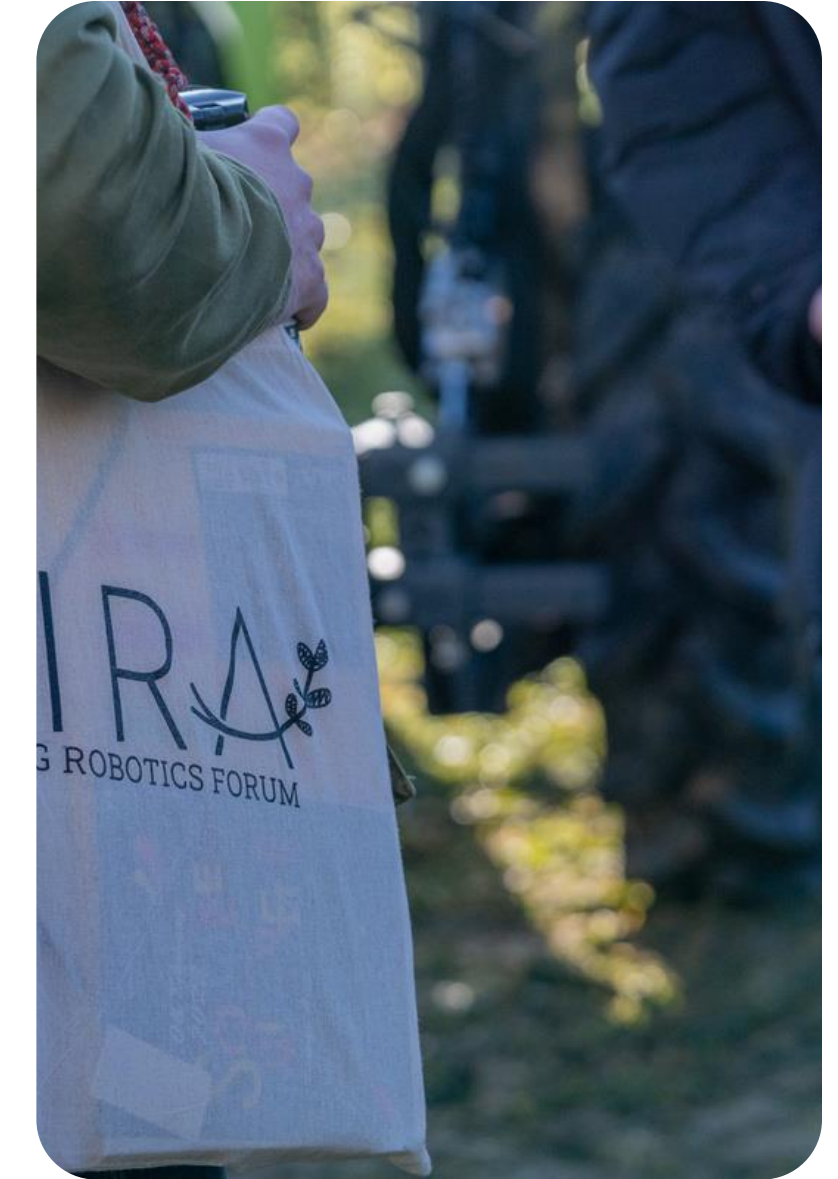


**Market is already
opening**

**Market is deep
enough**



**The bottleneck is:
how (fast) to
address the market?**





DEALERS NETWORK: A KEY PARTNER TO ADDRESS THE MARKET



Market consolidation is coming

Good luck to pick up the good one! But you do not want to be the last one



(Too) Many startups



**All the key players
working on it**

John Deere - CNH - Claas - Amazone -
Kuhn - Horsch - Kubota...



**Collaboration
/acquisition starting**

Vitibot / SDF
Guss / John Deere
Agxeed / Claas / Amazone

...



Dealer's role is evolving

- Consolidation of the market
 - Connected machine = direct link between the farmer & the manufacturer
 - Impact of digital marketing (& sales) increase
- => Dealer or retailer ?
- Your local presence is mandatory
- => you have the access to the market
- Complexity of the material increase
 - Farmers want (need ?) demo & support
 - What else?

Dealers risks?



High Initial Costs

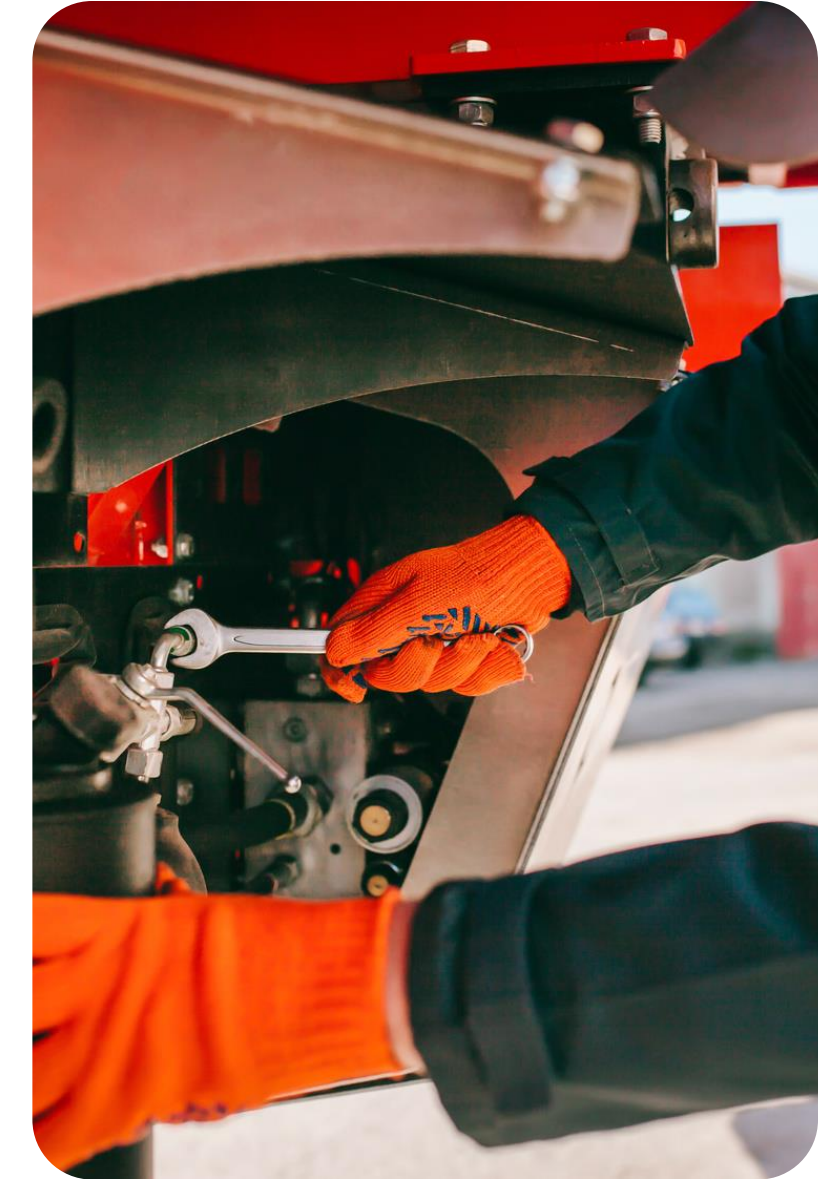
**Limited Product
Selection**



Maintenance

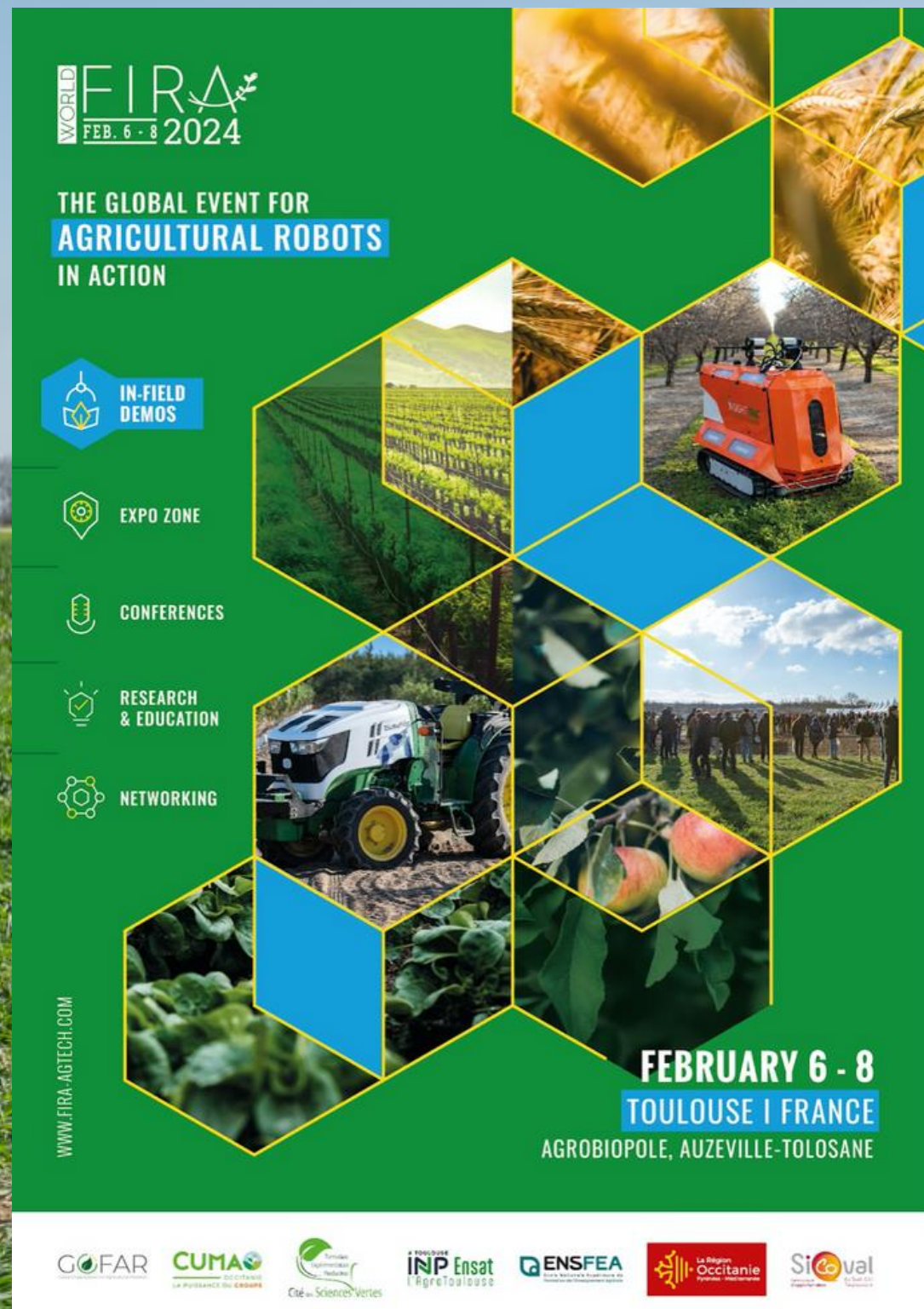
**Technical
complexity**

**Rapid Technological
Advancements**



**Integration
Challenges**

Service and Support



DEALERS NETWORK:
WANT TO KNOW MORE ?
TO PREPARE YOURSELF
AND YOUR TEAM ?

=> JOIN THE NEXT FIRA



Aims to promote and to develop the agricultural robotics industry worldwide

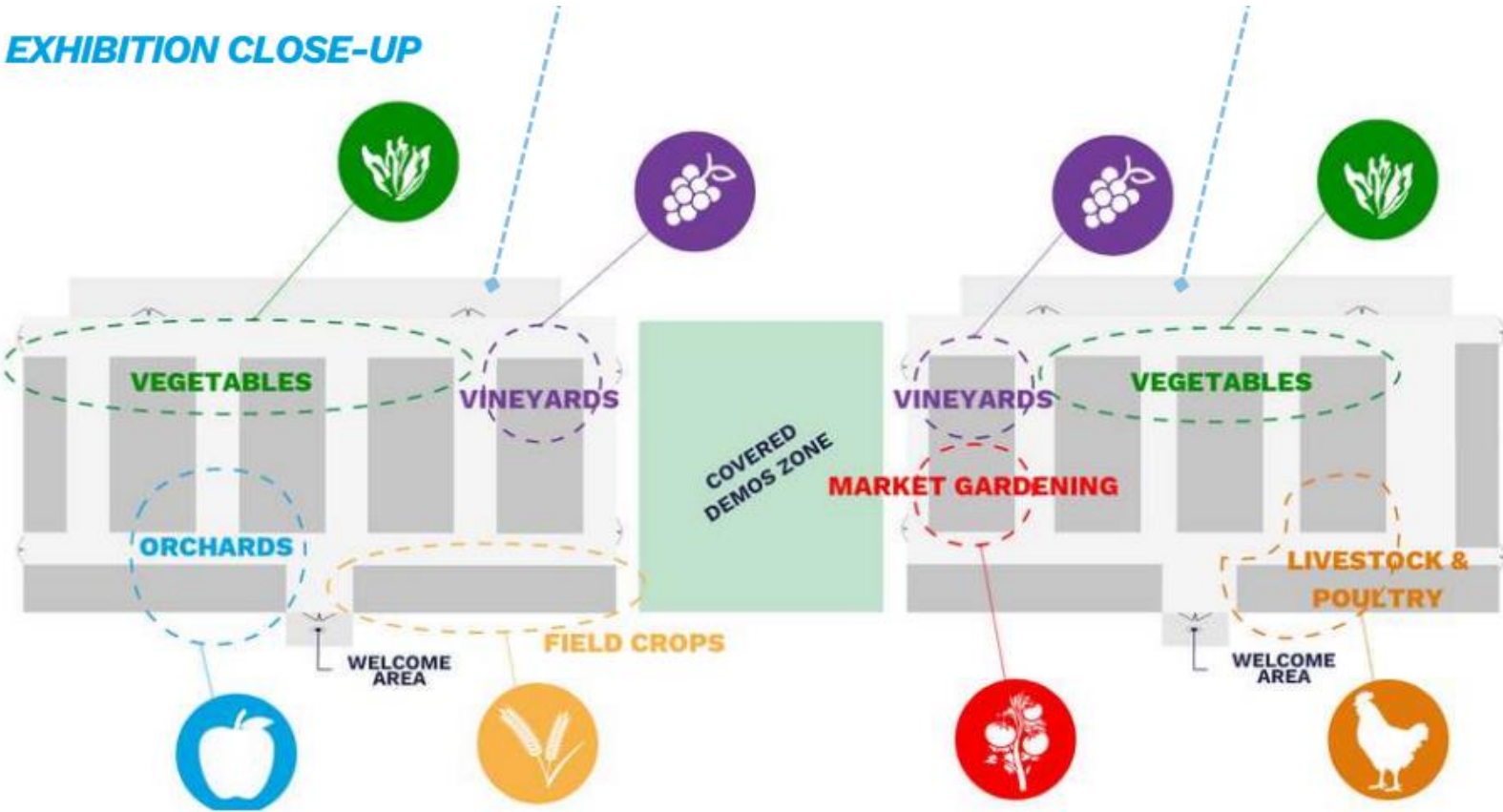
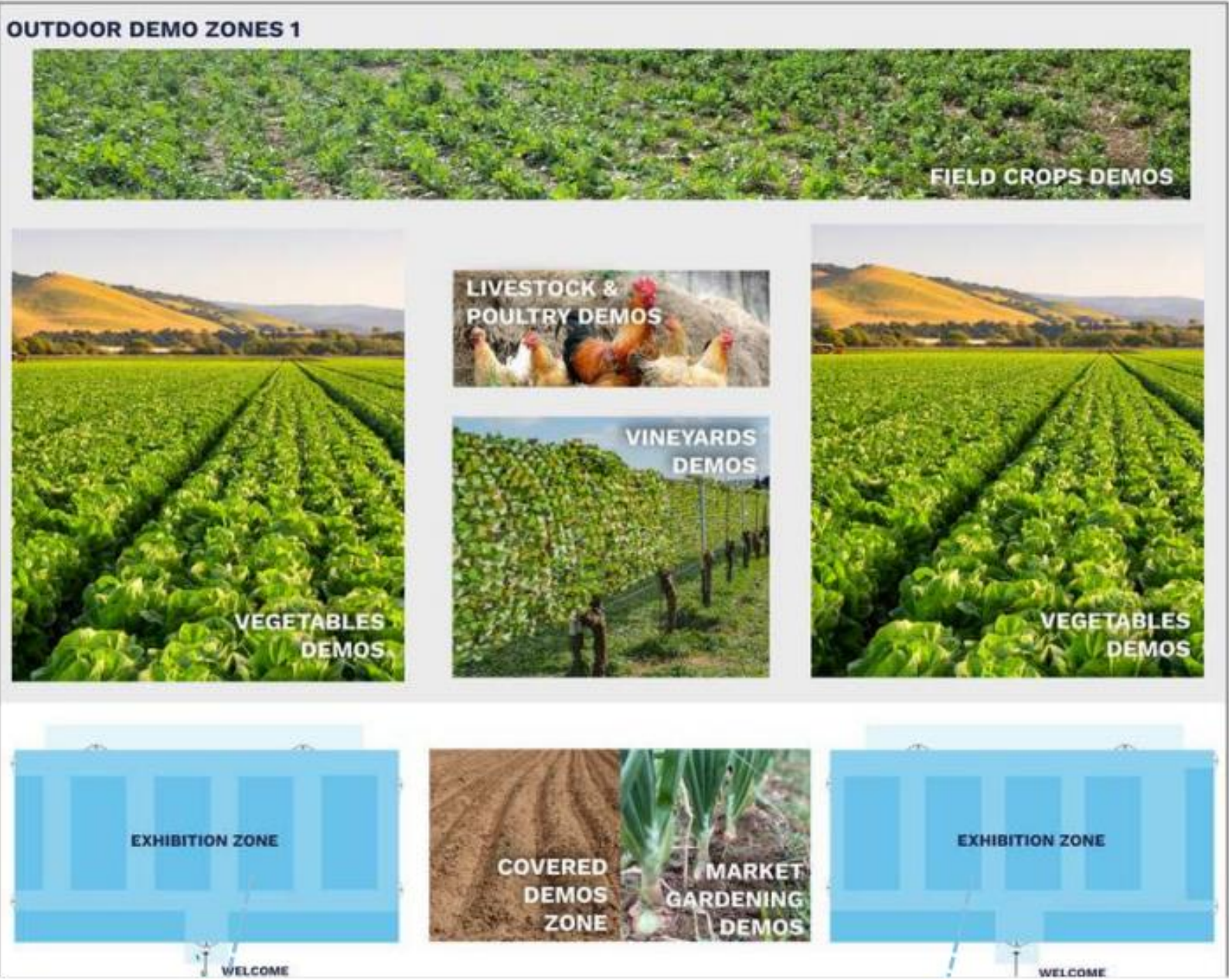
GOFAR meets the increasing need for visibility and networking of the agricultural robotics sector.

French non-profit launched in 2019
4 main work streams:

- Organizing annually the International Forum of Agricultural Robotics ([FIRA](#))
- Setting up international collaborations
- Development of an information platform around the Agricultural Robotics sector – www.agricultural-robotics.com
- Creation and animation of a network of leading international experts in agricultural robotics.

WORLD FIRA EXHIBITION AND DEMO ZONE - GLOBAL LAYOUT

DISCOVER THE EXHIBITION AND DEMO AREAS, A NEW FIRA EXPERIENCE WITH DEDICATED AREAS





World FIRA 2024

6th to 9th of February in Toulouse (France)



01

Understand the
technology and its
uses

02

Lastest updates of
the market
developement

03

find out the best
partners

04

Get farmers to come
and sign first deals

Get Connected With Us

Contact Information



Socials



contact@fira-agtech.com



world-fira.com



www.agricultural-robotics.com



12/10/2023

THANKS

