

# Closure Navisp Project

AGCbox, Navigation and Geofencing projects

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CTO

NAVISP EL2-088

Contract number : AO/1-8927/17/NL/MM

06/07/2023





## AGREENCULTURE

NAVISP  
03 JULY 2023



- AGREENCULTURE context and products
- NAVISP Scope
- NAVISP Activities
  - Safencing
  - AGCbox
- NAVISP Outcome





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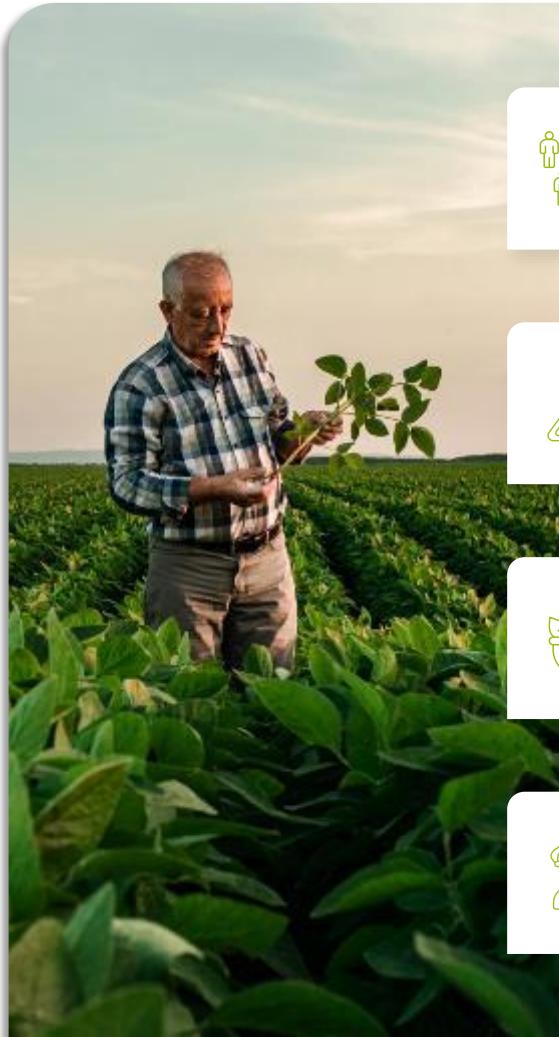


**IMPROVING FARMERS' WORKING EXPERIENCE  
BY INCREASING PARTNERS' EXPERTISE**





# CONTEXT



**From 7 to 10 B**  
people



Less  
**chemicals**



More  
**sustainable food**



Less  
**farm workers**



**16 years**  
of expertise  
in precise  
positioning



**Partnerships**  
with industrials  
and start-ups



**Offroad  
machine**  
automation



How can robots and autonomous  
tractors help farmers move toward  
more sustainable production ?



# CONFIGURE & CONNECT SOLUTION FOR AUTONOMOUS MACHINES



Thanks to



AGCBOX



EMBEDDED

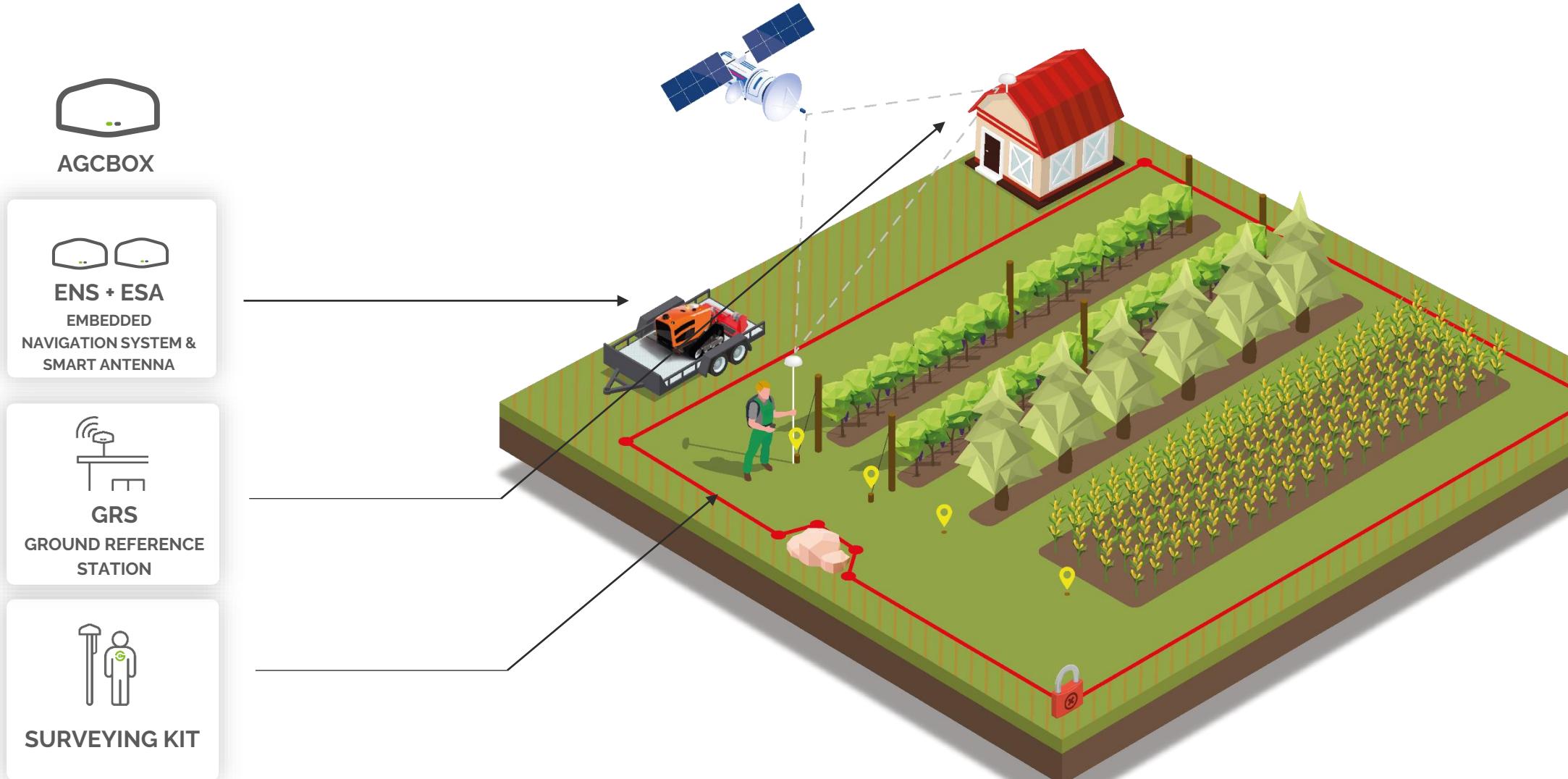


CLOUD PLATEFORM



# AGCBOX

## TO MAKE MACHINES AUTONOMOUS, CONNECTED & SAFE

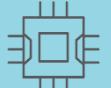




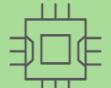
# EMBEDDED COMPUTERS AND SENSORS



EMBEDDED



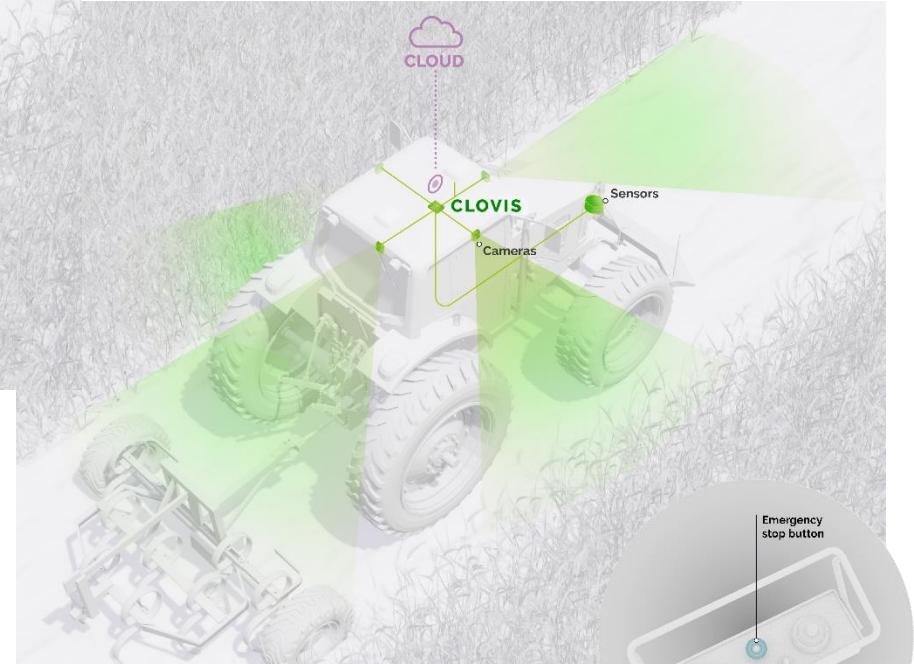
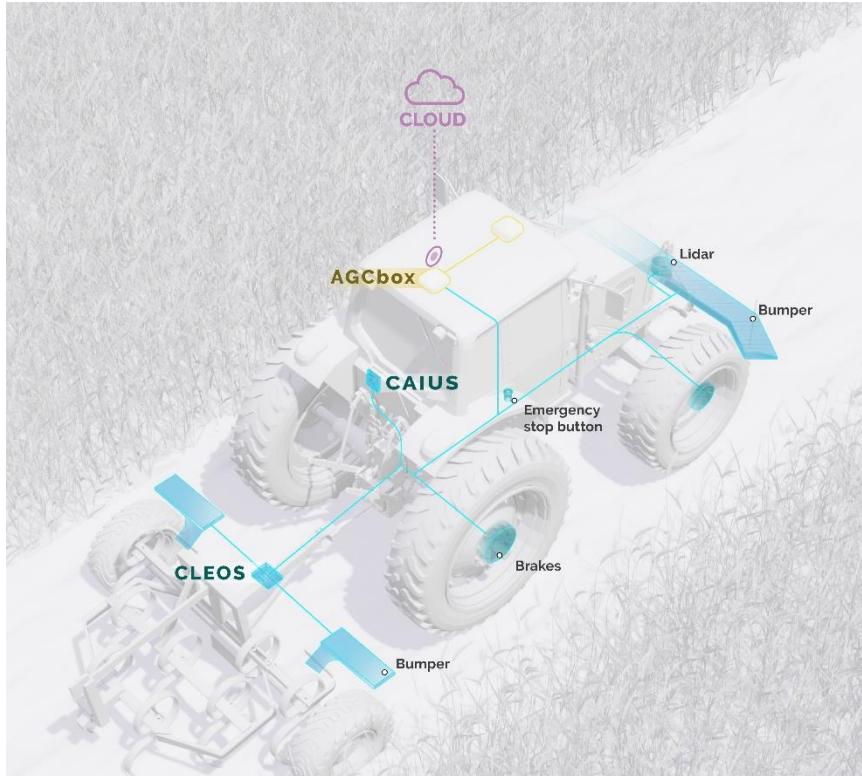
SAFETY ECU  
CAIUS & CLEOS



PERCEPTION ECU  
CLOVIS



SENSORS





# CLOUD PLATFORM



## CLOUD PLATFORM



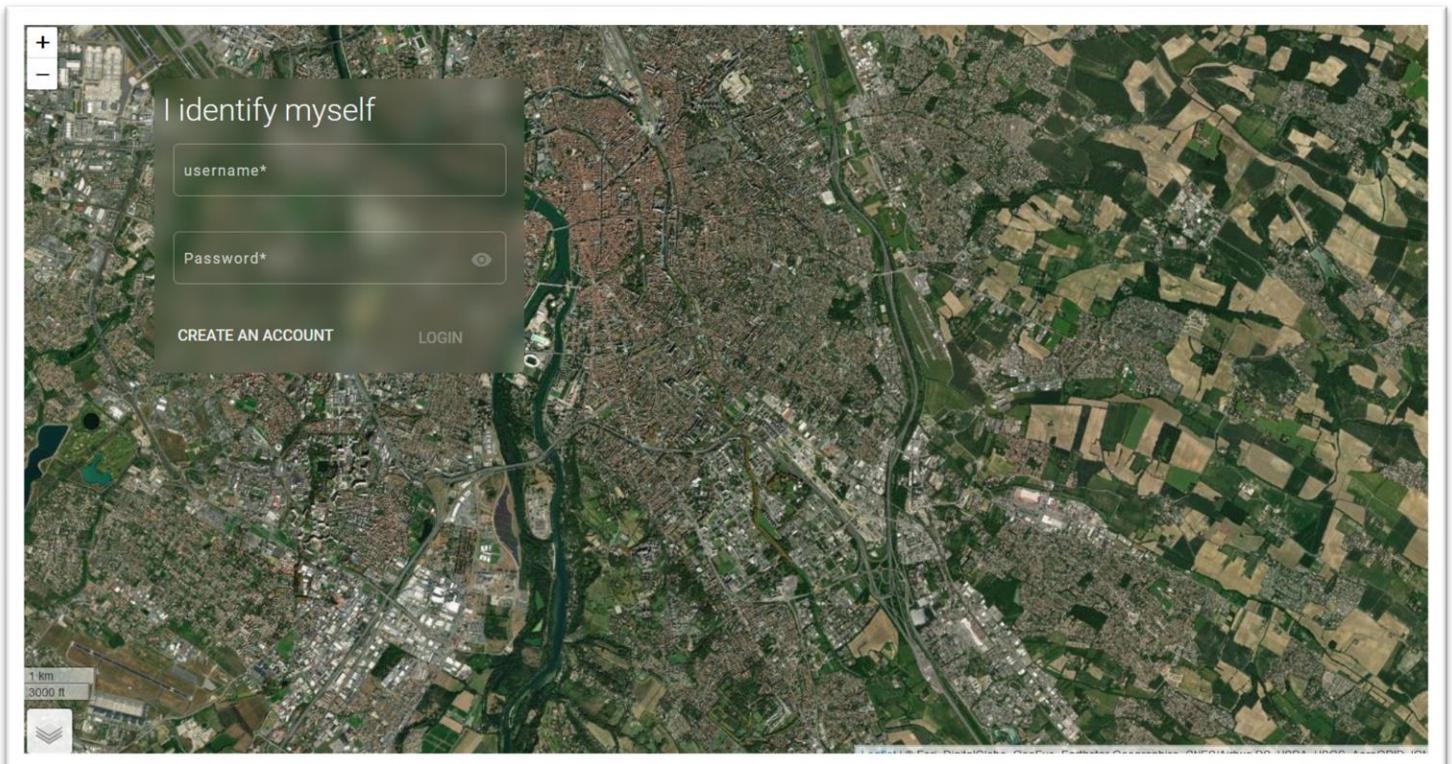
### PRE-WORK



### LIVE DATA



### DATA ANALYSIS



→ A **modular** and **scalable** platform



# CONFIGURE & CONNECT SOLUTION FOR AUTONOMOUS MACHINES





Laureate



## Partners :



Financé par l'Union européenne  
NextGenerationEU



Founded in  
**2016**



Based in  
**Toulouse**



**60**  
Collaborators



**3**  
Patents



**8**  
Nationalities



Revenue  
2020 2021 2022  
**665K€ 1.3M€ 2.4M€**



## AGREENCULTURE

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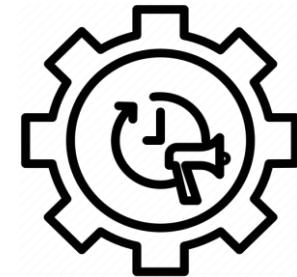


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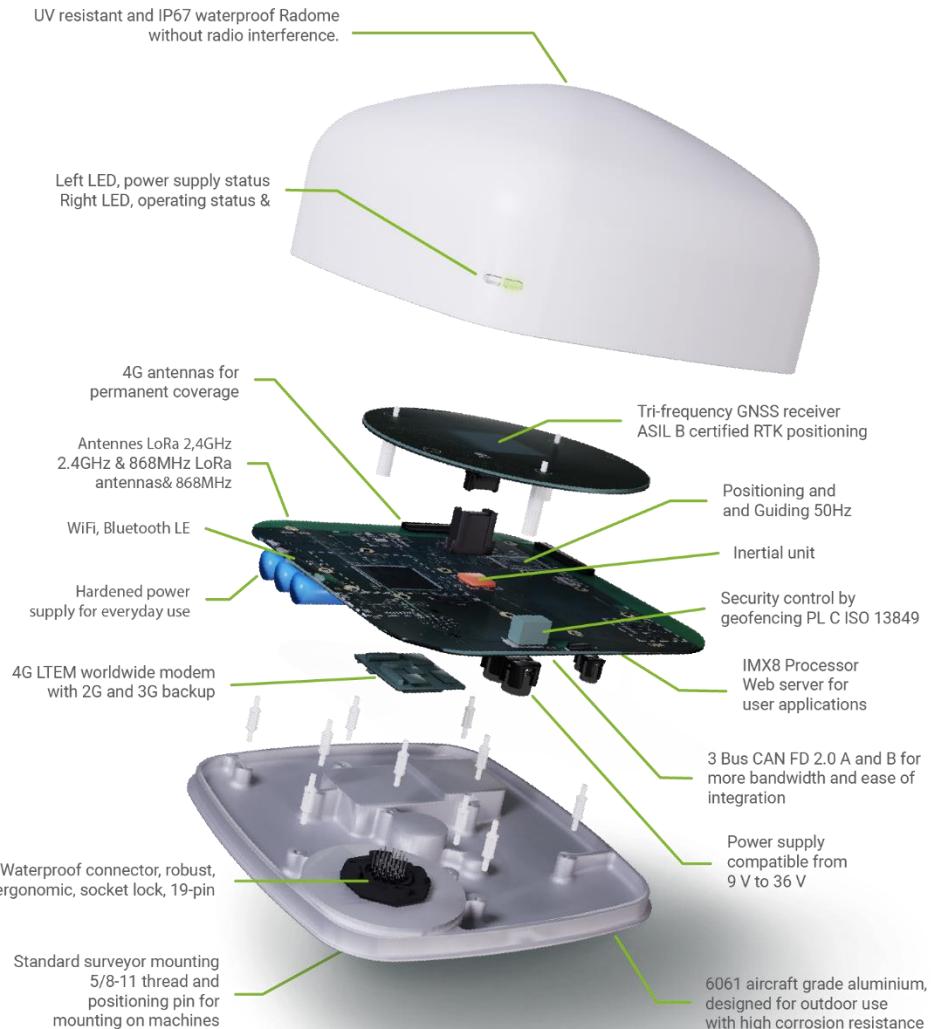


- Pre certify AGCbox
- Increase maturity and TRL  
(*Electronic, Positioning, Navigation, Safencing*)
- Reduce time to market





# NAVISP SCOPE : AGCBOX



## 1 SURVEYING

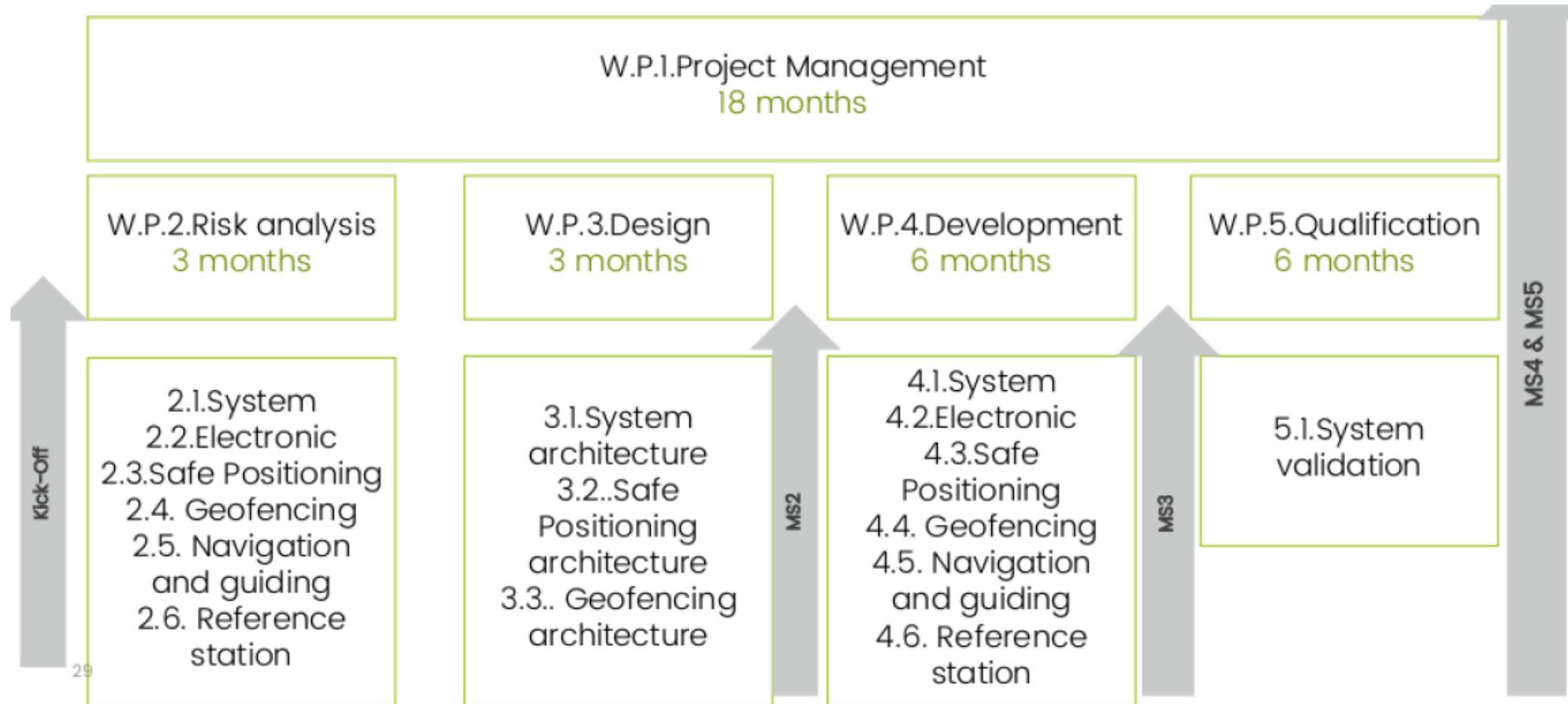


## 2 MISSION GENERATION



## 3 MISSION PROGRESS







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**Safencing©** is a safety component within the scope of the Machinery Directive for autonomous machines, such as **agricultural robots**, whose safety function is to inform the machine if it is, or is not, in its defined working area, or if it is about to leave it. It is currently being certified to **PLd** level according to iso **13849**.



**ARCHISYSTEM-AGC-SAFENCING**  
Document strictement confidentiel - AGREENCULTURE

16 juin 2023 16:37  
Référence document : /index.md  
Version : 0.2.1

1 Version Control

Date de génération : 16 juin 2023 16:37

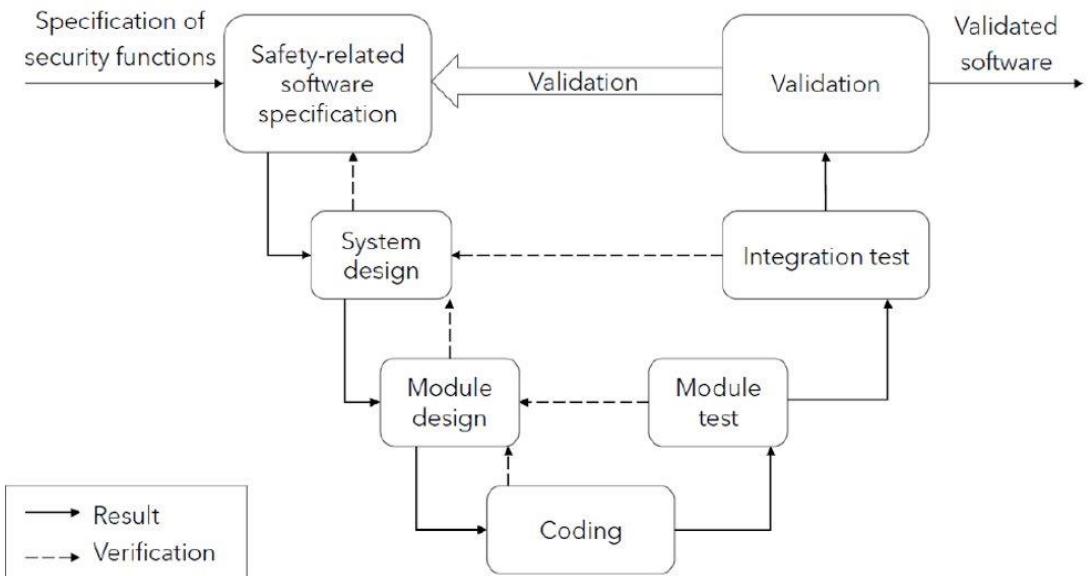
**1 Version Control**

Project	Branch	Version	Commit Hash
archisystem-agc-safencing	develop	0.2.1	76b4d126abdf9cb68dd95e5ab23e574e3c77103
GenerationPythonFromModel	develop	1.3.3	aa702d115759e8ace5f0ebc536416970f5cd8e0
agc-doc-toolbox	-	1.9.0-124	-

[Analyse Opérationnelle](#)  
[Analyse Système](#)  
[Architecture Logique](#)  
[Architecture Physique](#)  
[Procédures de tests](#)  
[Résultat de tests](#)  
[Tracabilité](#)

..... FIN DU DOCUMENT .....  
Document strictement confidentiel

**AGREENCULTURE**  
Smart robots for smart farming





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# NAVISP ACTIVITIES: AGCBOX





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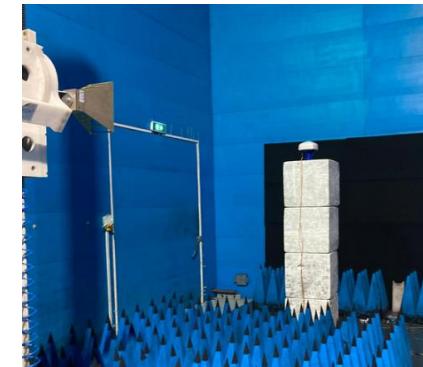
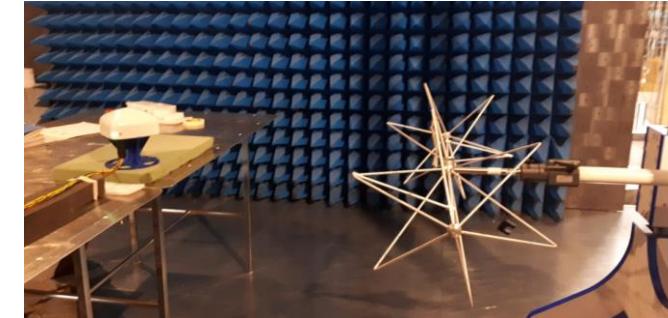




# NAVISP OUTCOME: AGCBOX CE CERTIFICATION



- **Vibrations** Tests
- **RED** (Radio Emission Directive)
- **EMC** (Electro Magnetic Compatibility)
- **Electrical Safety**
- **Waterproof** and **Dust** tests





# THANK YOU

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**PELLENC**



**bpifrance**



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