Smart Tooling

Stuurgroep bijeenkomst
Update overleg 10-04-2018

Cluster : Buiten vliegen

Interreg
EUROPESE UNIE
Vlaanderen-Nederland
Europees Fonds voor Regionale Ontwikkeling

KIC|MPI
Kennis- en innovatiecentrum
Maintenance Procesindustrie

10 april 2017

Smart-Tooling Status Update – 10/04/2018

Interreg
EUROPESE UNIE
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Europees Fonds voor Regionale Ontwikkeling

AIRobot

TURNING DRONES INTO FLYING ROBOTS

CONCEPT

RGB or THERMAL camera

AVULAR CURIOSITY PLATFORM

Light, low impact (<5KG)
- Easy to deploy
- 20-30min autonomy

Mechanical protection to avoid damage
Following an impact

360 Degrees + Upwards Collision avoidance

Accurate Positioning (RTK) for
Flight stabilization & georeferencing

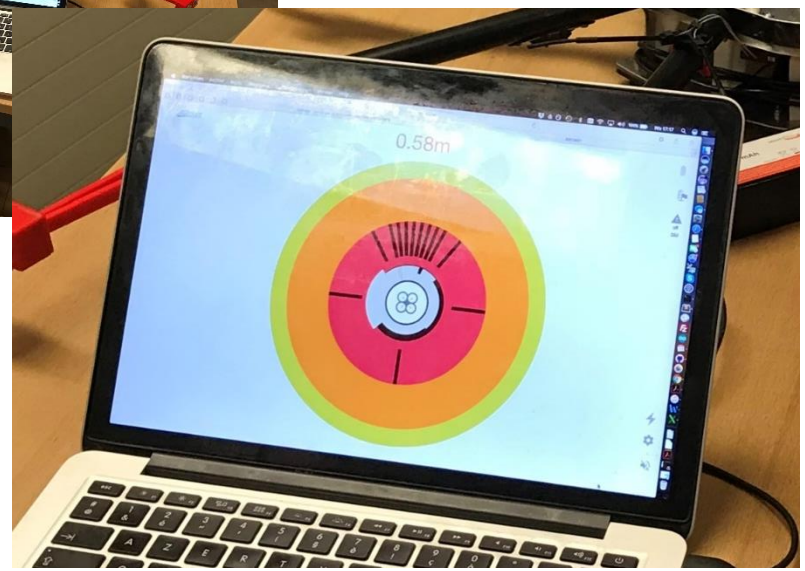
Geofencing to avoid ATEX and other zones

Easy Navigation software

Data-management software

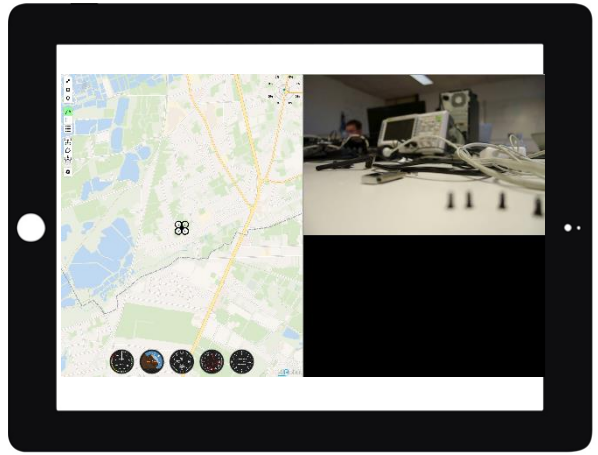
HARDWARE – SUBCOMPONENT DEVELOPMENT

360° + upwards collision avoidance



Laser Altimeter

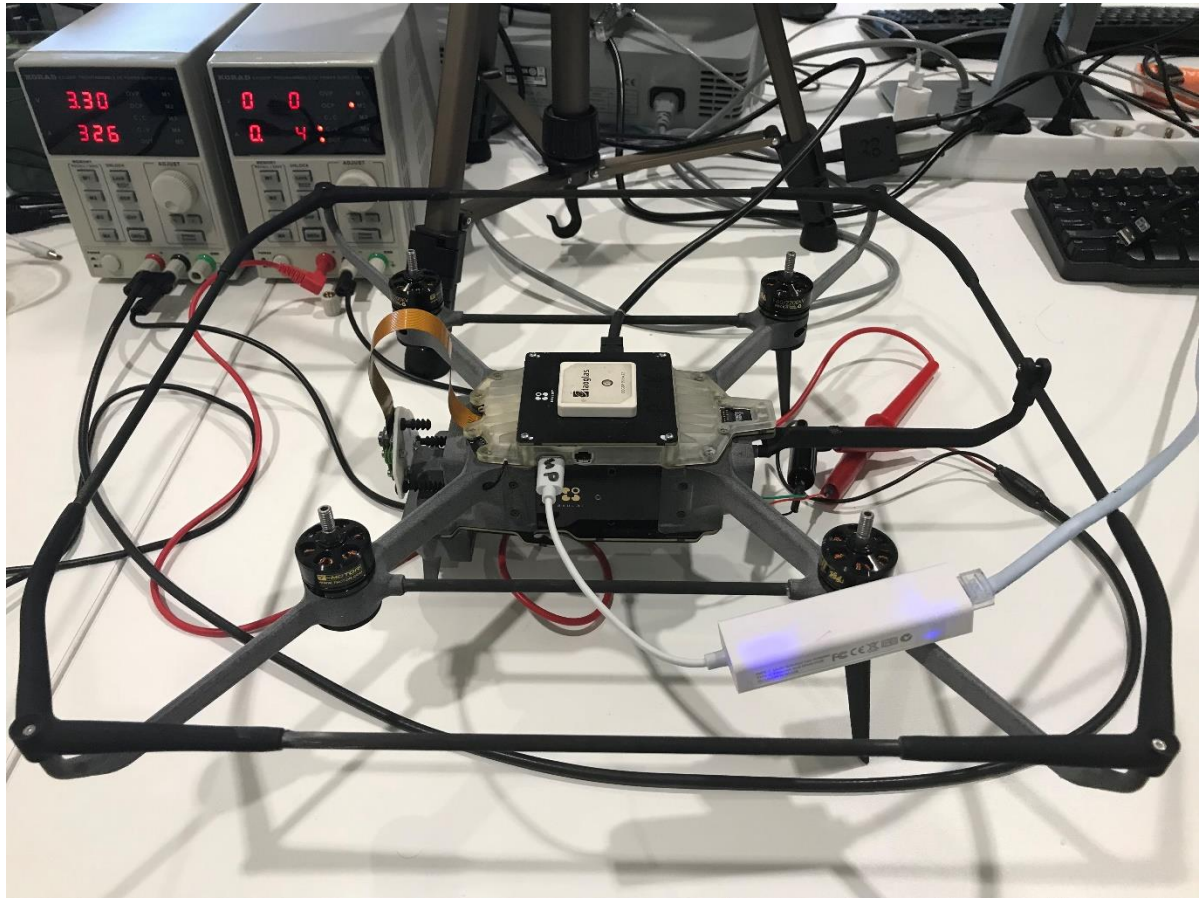
Realtime IP link & integrated user interface



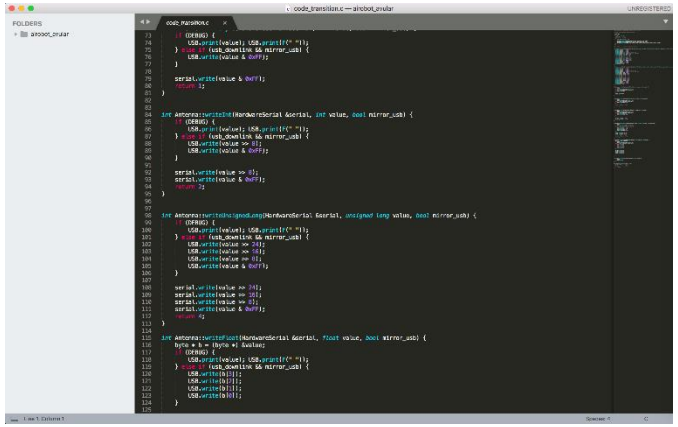
RTK POSITIONING + CORRECTION UPLINK

CURRENT ACTIVITIES

Prototype platform running Airobot software stack



Porting of Airobot firmware to Curiosity Platform



Hardware design of interface electronics (new employee Airobot)

TEST LOCATION

- Location: Woensdrecht, Aviolanda
- SPIE will provide pipes & other parts decommissioned infrastructure to create a test-setup where flight tests can be performed
- Platform ready to be tested in **June**

PLANNING

April / May:

- Integration of Airobot hardware & firmware components on Curiosity Platform
- Have first version of navigation software
- Have mock-up ready for data management software

June: Hardware platform ready for flight testing and demonstration to industry

- Meeting & demonstration with key industry users (BASF, DOW…) to be planned end of June
- First tests to be performed in Woensdrecht

July - September:

- Development of first version of data management software

September: demonstration at Maintenance Expo

October – December:

- Perform test in industrial environment
- Finish implementation to have a MVP product, ready for initial use in industry by december

Huidige status werkpakketten

Werkpakket	Status
Aanpassingen Veilige Drone (Avular, Airobot)	Avular: Curiosity Platform is available **Hardware Integration of Airobot sensor & technology ongoing**
Ontwikkeling van gebruikerssoftware voor inspecteurs (Airobot, Spie)	Initial proposal interface made by Avular too complex for current scope, new Mock-up to be created for feedback with industry.
Ontwikkeling van gebruikerssoftware voor piloten (Avular, Airobot)	Being integrated on drone
Uitvoeren van inspecties in operationele omgevingen (SPIE)	In afwachting van drone met payload. **Test locatie:** Woensdrecht
Analyse mogelijke contact-inspectie methodes (Airobot Spie)	Nog niet begonnen