INNOVATION CLUSTER ACCELERATING REMOTE SENSING

Interreg 2 Seas Mers Zeeën

EUROPESE UNIE

D 2.1.4.

Report of demo runnings on the test- and demosites

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Content

"Development of one central test/demo site and one mobile demonstration facility with equiptment / facilities for remote sensing/drones"

ICAReS

Common challenges

Within the 2 Seas area the three major sectors (agriculture, nature and water) constantly face important challenges which require innovation to help tackle them. Greater use and development of remote sensing (RS) and data processing methods will help provide this innovation, and both will create and support new solutions to face these challenges. Moreover, it will greatly improve the efficiency of these sectors.

However, there are obstacles in the way when looking at remote sensing. For example, there is a lack of knowledge and awareness of the possibilities remote sensing can bring; there is a lack of suitable testing and demonstration locations for companies to further innovations; and the policy on legislation and the use of drones for remote sensing is unclear.

From this the following challenges need to be addressed: the aggregation of sector demands, communication with RS companies and knowledge institutions, creation and advertisement of sites for demonstrating new remote sensing applications, harmonisation of legislation and regulations and finally the formation of a durable cluster to work together on these issues.

Overall Objective

The overall object of the ICAReS project is:

To develop a cross-border innovation cluster and create the necessary conditions for innovation in the field of remote-sensing and advanced data-communication and -processing, based on the needs of the priority sectors: nature, agriculture and water & infrastructure.

A durable cluster will result in some key benefits. There will be cross-border collaboration within the sectors allowing the demands to be aggregated and jointly tackled. The innovation of remote sensing products and services will accelerate. This will allow business operations to improve through the increased use of remote sensing. Finally, the cluster will bring clarification of different national legislations and a joint lobby for better regulations to create business opportunities.

Summary Workpackage 2

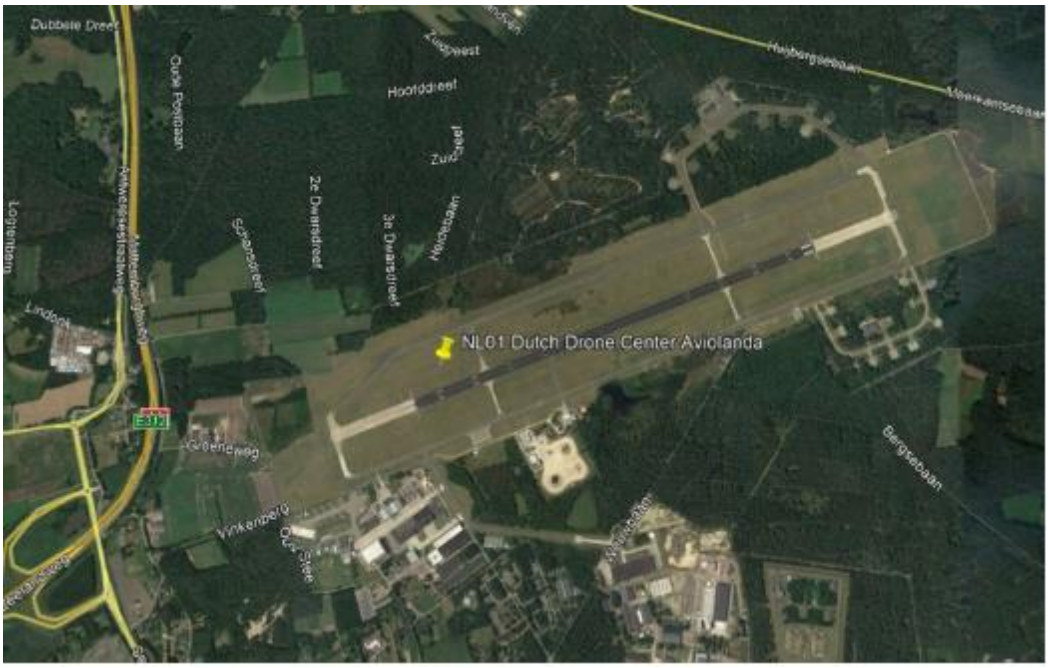
A second important issue for innovation is the development of facilities and services so that partners in the cluster can find each other, get a good picture of the demands and have appropriate facilities to test innovative applications. The main services and facilities for the RS innovation cluster are: well-equipped test- and demonstration sites including a kind of central organisation that coordinates demo flights, an office or virtual desk for demands, aggregation of demands and transferring demands to research institutes and SMEs and a (virtual) desk or info point for questions about regulation and legislation in the different countries. In this work package the majority of the ICAReS partners will participate in workshops to outline and describe the conditions for these 3 facilities/services. They will also make an inventory of existing and planned test sites in the 2Seas region and describe the facilities of those sites, including what is missing.

Activity A 2.1

One of the activities in ICAReS is to investigate all test- and demonstration sites (incl. actual facilities) Conditions and facilities for test- and demonstration sites in the future will be investigated based on demands from end-users, SMEs and research institutes. Based on this information the ICAReS project will develop an equipped site and in addition they will organise the cooperation to build cross border networks in demanding organisations of the sectors agriculture, nature, water & infrastructure.

Central test and demo site

Based upon the investigation of report D.2.1.1 it has been determined that the Dutch Drone Center is the most suitable location as central test and demonstration sites on the main land of Europe for the 2Seas area.



This report focus on the test run that took place on 27th March 2019.

Test day and locations

The ICAReS partners sent out an invitation to all SMEs in the 2Seas area that are connected in the ICAReS Cluster. In total 188 SMEs were invited to do a test-run on the demonstration site at Woensdrecht.

For the test day 45 participants registrated. Of the 45 registrations 10 SMEs have indicated that they wanted to participate in the test-run. All SMEs that wanted to fly could indicate on which location they wanted to do the test run.

The test and demonstration site had four locations for the test run on the 27th of March. All location had their specific characteristics listed below.

1. This location is suitable for certified and non-certified drones (multi-copters) on different terrains (grass, water, forests infrastructure and building)
2. This location is suitable for all types of certified and non-certified drones on different terrains (grass, water, forests, agriculture and infrastructure) “landing strip available”
3. This location is suitable for all types of certified and non-certified drones on the Fire exercise terrain including building inspection
4. This location is suitable for all types of certified and non-certified drones on different terrains (grass, open water, forests and infrastructure)

Flights and impression

During the test day, of the 10 SMEs who registered an interest to fly, a total of 6 performed a test or demonstration flight.

Terradrone from site 1

Terradrone wanted to do a test with their equiptment to drop an item from different altitudes. The safety inspector from the National Aviation Authority did not approve the test. Due to the law and regualtions it was not allowed to drop items from a aircraft. This is also not allowed on a test and demosite. The test-site needs to have a special permit to allow these kinds of testing.

Geo-Inspect from site 1

This SME did a test with a LIDAR attached to a drone. They used a DJI drone. These drones are blocked to fly in a certified airspace. The block can be lifted after applying a un-lock code. The first time the code did not work but with the help of the other SMEs the un-lock code was finanly accepted.




This made it an extremely useful test for Geo-Inspect. Due to the other SMEs and knowledge exchange, Geo-Inspect learned to un-lock the DJI in certified airspace.

Geo-Infra from site 2

Geo-Infra wanted to do a E-VLOS flight above the businesspark and a part over the air-force base. The air-traffic control tower of the Airforce base did not give their approval for that flightplan. However, Geo-Infra did a flight on the landingstrip of the airforce base and the flight was E-VLOS.

The general conclusion from Geo-Infra: It was very disappointed that E-VLOS was not allowed, but during the flight they flew E-VLOS. They had no extra adjustments that had to be made on the test-site. The flightplan of Geo-Infra is added as annex II.

VITO from site 2

VITO used the same RS platform as Geo-Infra. Also VITO did a test with E-VLOS flying, but also to fly in a closed airspace area. The conclusion from VITO was that the flight was very satisfying and the facilities were very good.


ATMOS from site 2 (site four was closed due to security)

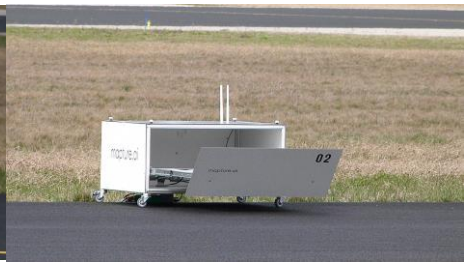
ATMOS did a test with the a fixed wing that could do a vertical take of and landing. The test was preformed on a part of the runway of the airfield. After take off the RS platform would follow a predetermined fly-path.

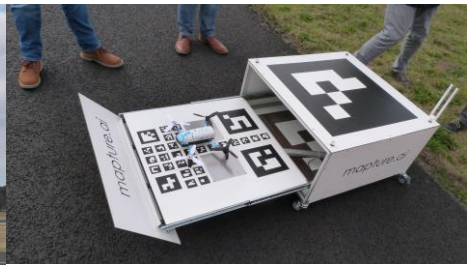
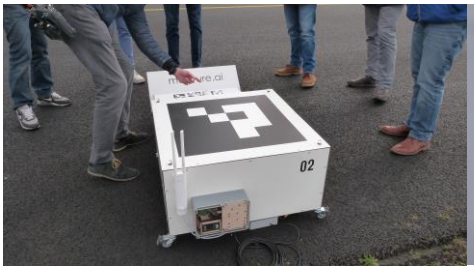



ATMOS was satisfied with the preformed test and the support by the safety officers on the scene.

MAPTURE from site 2

MAPTURE did a demonstration from their new application “Drone in a box”. This RS platform can perform a completely automated take-off, flight and return home (in to the box). In its box the drone can recharge and send the data to its user. This drone can be permantly positioned outside for different usages, like security, agriculture, road inspections, etc.


Annex

For the central test and demonstration site of ICAReS a procedure plan has been made as possible input in Workgroup 1.7. of DRONEREGiM. This plan is added as annex I and can be used by other test and demonstration sites as a reference plan.

As second annex the E-VLOS Flight-plan from Geo-Infra has been added as annex II.

ANNEX I: procedure plan

ANNEX II: E-VLOS flight plan

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