AERIAL UPTAKE
aims to create
supportive regional
policies for unmanned
aerial systems by
exploring needs and
barriers to innovation
and commercialisation,
including society's
acceptance of UAS.

www.interregeurope.eu/aerialuptake

ACTION PLAN
CATALONIA

AERIAL UPTAKE
Interreg Europe

European Union
European Regional
Development Fund

Research &
innovation

Contents

1. General information

Project: Removing barriers to the uptake of innovative Unmanned Aerial Systems in the EU

Partner organisation: i2CAT Private Foundation, Internetand Digital Innovation of Catalunya

Other partner organisations involved: Government of Catalonia

Region: Catalonia

NUTS2 region: ES51

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2. Background

Aerial Uptake project

AERIAL UPTAKE brings together local / regional public authorities and key players of the UAS sector from 6 European regions, being pioneers in the creation of a single European drone market. They exchange and transfer knowledge to unleash the potentials of UAS technology for civil and commercial usages. Besides exploring and addressing the key needs and bottlenecks of innovation and commercialization of UAS, partners investigate tailored solutions for increasing societal acceptance by enhancing and articulating positive social impacts of drone technology.

During the course of the project, partners learn from each other exchanging experiences regarding the methods, models and best practices that can help to implement an effective action plan in each of the five partner region (in the region of the Advisory Partner, no action plan is being prepared). The ultimate goal of an action plan is to set the target and structure for revising the policy instruments in the five participating regions towards a more open market for using drones in commerce and business.

The aim of creating the action plans in all regions corresponding to the overall project objective which is:
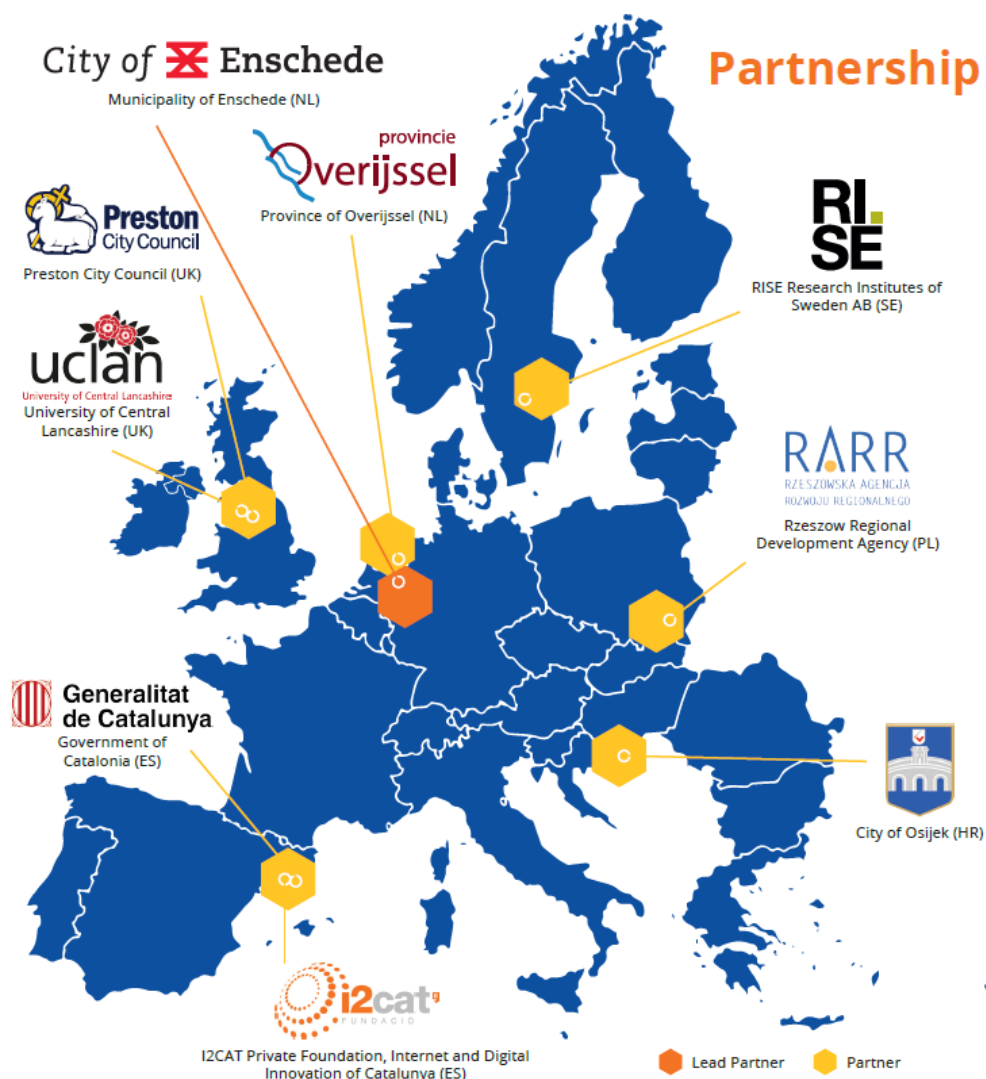
TO IMPROVE THE PERFORMANCE OF REGIONAL DEVELOPMENT POLICIES AND PROGRAMMES BY STRENGTHENING THEIR CONTRIBUTION TO THE DELIVERY OF NEW TECHNOLOGIES AND FIELDS OF APPLICATION OF UNMANNED AERIAL SYSTEMS (DRONES) FOR CIVIL AND COMMERCIAL USAGES.

In order to reach the above objective, AERIAL UPTAKE implements interregional learning activities among nine partners and six EU regions along three sub-objectives:

FOSTERING INNOVATION by creating a favourable environment and policy interventions, that facilitate experimentation, real-life testing and demonstration of novel UAS technologies (i.e. through specific experimental zones, urban living labs, removing specific regulatory and administrative barriers, etc.);

PROMOTING MARKET UPTAKE, through supporting and encouraging enhanced (quadruple helix) collaboration, networking and clustering among businesses, research organization, public authorities and potential end-users, also allowing cross-overs among different sectors;

IMPROVING SOCIETAL ACCEPTANCE of new UAS technologies by addressing ethical, legal and social concerns, raising public demand for new solutions and due consideration of potential social impacts and benefits, in. e.g. evaluation / monitoring criteria applied in addressed policies.

Partnership

City of Enschede
Municipality of Enschede (NL)

provincie Overijssel
Province of Overijssel (NL)

Preston City Council
Preston City Council (UK)

uclan
University of Central Lancashire
University of Central Lancashire (UK)

RI.SE
RISE Research Institutes of Sweden AB (SE)

RARR
RZESZOWSKA AGENCJA ROZWOJU REGIONALNEGO
Rzeszow Regional Development Agency (PL)

Generalitat de Catalunya
Government of Catalonia (ES)

City of Osijek (HR)

i2cat FUNDACIÓ
I2CAT Private Foundation, Internet and Digital Innovation of Catalunya (ES)

Lead Partner   Partner

Regional context

Catalonia is one of the pioneer regions in Europe, due to the number of companies specialized in drone technology. For more than 20 years, this region has had one of the oldest drone manufacturing companies in the entire continent, CATUAV, which built one of the very first drone test sites with a segregated airspace, BCN Drone Center. In early 2010s the number of drone companies and operators increased dramatically with the popularization of this technology applied for civil purposes. Today, Catalonia is one of the regions in Spain with a greater number of companies, manufacturers, pilots and drone operators at the state level.

Since 2015, the Government of Catalonia has opted to incubate and stimulate this and other emerging digital sectors in the territory through the strategy SmartCatalonia. This strategy, aligned with the Europe 2020 strategy of the European Commission, extends the concept of smart city at the country level to carry out a program that integrates and coordinate local and supra-local initiatives, support companies and deploy smart initiatives throughout the territory. SmartCatalonia aims to turn Catalonia into a smart country of international reference that takes advantage of the use of technology and digital information to innovate public services, boost economic growth and promote a more intelligent, sustainable and

inclusive society. SmartCatalonia strategy, coordinated by the Ministry of the Vice-presidency, Digital Policies and Territory, with the collaboration of all the departments and entities of the Administration of the Government of Catalonia, has structured its priorities around different action areas.

Among the different strategic areas within the SmartCatalonia strategy, the advanced digital technologies are grouped together to form technological communities. Among these Advanced Digital Technologies (ADTs) and Smart Communities, the Unmanned Aerial Vehicles and Systems (UAV and UAS) are represented in Catalonia Smart Drones, which gathers more than 125 members. This technological community brings together all the agents linked to this sector at the regional level: companies, entities, technology centers and universities.

Compared to other regions of the consortium such as Lancashire or Osijek, Catalonia does not have the presence of companies linked to the traditional aeronautical sector. However, Catalonia has a wide network of airport infrastructures with 105 facilities in its territory. As regards other productive sectors, in recent decades Catalonia has undergone a process of change towards a new economy in which activities related to innovation and ICT have taken on a relevant role. Furthermore, in recent years Catalonia has become a benchmark for business tourism, led mainly by the city of Barcelona with a wide range of technology fairs and congresses, among which the Mobile World Congress stands out. As strengths, due to its latitude and proximity to the sea, the territory has a good climate, as well as the variety and diversity of cultural, sports and gastronomic activities. These expand and complement the Business Tourism model.

Vision

The methodology used in this chapter is called the "**Postcard from the Future**". This tool is ideal for gathering out-of-the-box ideas from stakeholders and its main purpose is to obtain a comprehensive ideas and users' expectations that are minimally constrained by socially desirable answers.

Drones are flying all around providing useful services for citizens, companies and for the public administration in a secure, coordinated and seamless way. The sector is well developed, companies are profitable, high skill jobs are being created and social well-being is being generated.

Future me

Catalonia

Our vision is to **promote the development** of the **emerging digital sector** in the region by bringing together organizations, companies and entities of the quadruple helix, **maximizing** the **synergies** between these parties and exploiting the potential of drone **technology as** a **transformative tool**.

The **Government of Catalonia**, with the support of entities such as the **i2CAT Foundation** and other organizations, aims to **support** the **economic**, **business** and **research** institutions to promote the **consolidation** of this **ecosystem** and jointly face the challenges for the **sustainable development** of the region.

The aim is to **create an alliance of technology communities** that is **innovative**, **visionary**, **disruptive** and **collaborative**, and that places digital products and services companies at the center of its activity to understand and support their **development**, **growth,** and **consolidation**. This also requires other agents and resources such as: technological **demand** entities or potential **consumers**, technology **suppliers**, **laboratories**, **multiplier agents**, collaborative **projects,** and **policy makers**.

The region's vision is to become an **incubator** and **accelerator** for **emerging digital economic sectors**, including **UAS**, and to bring together the digital ecosystem to provide **growth** and **guidance** for its

consolidation. The so-called **valley of the death** is one of the major challenges that emerging technologies face. With this new action we aim to **bridging** this valley and ease the **technological transfer** and **adoption**.

To contribute not only to the emerging technological sector to thrive and grow in the region, but also the development of the drone sector in the region, the Government of Catalonia is tendering an action to facilitate the **access to drone test facilities** for both public **administrations** of the Generalitat de Catalunya and the **members** of the *DCA-Drons*. This action aims to **overcome** the existing **handicap** caused by the national drone regulation, which no longer allows professionals to use **aeromodelling clubs** and fields to fly drones for **commercial purposes**. At the same time and due to the increasing number of bodies at the **Government of Catalonia** and **SMEs** that need to train their **personnel** and test their UAS in **controlled environments** the kind of **dynamization** in the use of these kinds of facilities is required.

3. Policy context

The Action Plan aims to impact:
☐ Investment for Growth and Jobs programme
☐ European Territorial Cooperation programme
☒ Other regional development policy instrument

Policy instrument addressed:
Template part. 2:
- Name of policy instrument(s):
  - ERDF Operational Programme in Catalonia 2014-2020
  - ERDF Operational Programme in Catalonia 2021-2027
- Institution responsible for addressed policy:
  - Government of Catalonia
- Proposed self-defined performance indicator:
  - ☒ Type 1: implementation of new projects
  - ☐ Type 2: change in the management of the policy instrument (improved governance)
  - ☐ Type 3: change in the strategic focus of the policy instrument (structural change)
- Target value of the performance indicator:
  - 2 new projects
  - Action 1: 30 SMEs of different sectors with better knowledge on opportunities that the use of drones would bring to their business, therefore performing technology innovation.
  - Action 2: at least 30 users (SMEs, public administration, entities and bodies) will have access to the services provided by this action.

The policy context and the contribution to improve the policy instrument

The objective pursued with this action plan is to promote the **development of the emerging digital sector in the region** through the clustering of the emerging digital ecosystem by **implementing a new project** in addition to easing the **access to drone test facilities** from the instruments: ERDF Operational Program in Catalonia 2014-2020 and ERDF Operational Program in Catalonia 2021-2027.

The **ERDF Operational Program in Catalonia 2014-2020** was developed within the framework of the Catalonia 2020 Strategy (ECAT2020) and the Research and Innovation Strategy for the Smart Specialization of Catalonia (RIS3CAT).

On December 17, 2020, the Parliament and the Council adopted the Regulation by which the EU established the Multiannual Financial Framework (MFF) of for the period 2021-2027 and for the implementation of the **Next Generation program**. In the meantime, the 2014-2020 Operational Program remains operational and **under implementation**.

Given that the ERDF Operational Program for Catalonia 2014-2020 will continue to run until December 31, 2023, in order to give continuity to the actions defined in the framework of the AERIAL UPTAKE project,

we also want to influence the **ERDF Operational Program for Catalonia 2021-2027.** The Government of Catalonia and its departments has been involved in the definition of this new operative program. The digital policies for the new period have been designed by the *Departament de la Vicepresidència i de Polítiques Digitals i Territori* which has co-created with i2CAT the set of actions appearing in this Action Plan an secured the budget to execute both as part of the operative program.

The new ERDF program establishes **five investment priorities** for the **period 2021-2017**. Between 65% and 85% of ERDF and Cohesion Fund resources will be allocated to these priorities, depending on the relative wealth of the Member States. These are:

- A smarter Europe, through innovation, digitization, economic transformation and support for small and medium-sized enterprises;
- A greener, carbon-free Europe, implementing the Paris Agreement and investing in energy transition, renewable energy and the fight against climate change;
- A more connected Europe, with strategic transport and digital networks;
- A more social Europe, making the European survey of social rights a reality and supporting quality employment, education, educational and professional skills, social inclusion and equal access to healthcare;
- A Europe closer to its citizens, which is committed to local growth strategies and contributes to sustainable urban development across the EU.

4. Action 1: Digital Catalonia Alliance – *Drons*, clustering, incubation, and acceleration of the digital emerging technologies and UAS in Catalonia

This action is a **new project** based on the improvement of an existing policy, which is the set of SmartCatalonia communities funded so far through the ERDF Operational Program 2014-2020, and among which is the Catalonia Smart Drones. This action aims to improve operational efficiency among the technological communities created under the SmartCatalonia strategy and at the same time promote the clustering, incubation and acceleration of emerging digital sectors with a presence in the territory, including drones. The **Digital Catalonia Alliance** aims to bring together and provide shelter to the emerging digital economic sector, but especially focusing on those companies with emerging technologies, as well as members that can help in this disruptive and innovative ecosystem.

Some of the facts that have motivated this action are: the **increase of communities** in the emerging sector with similar strategies, but not always synergistic. Apart from **Catalonia Smart Drones**, there are other emerging digital sectors that are being incubated through the Generalitat de Catalunya: **Internet of Things (IoT)**, **NewSpace**, **Artificial Intelligence (AI)** and **Cybersecurity**. This growing number of communities has significantly increased the number of existing agents in the Catalan digital ecosystem and has generated some confusion to potential consumers or agents of technological demand, as they are collapsed by the wide variety of requests for collaboration with similar objectives

Background

Good practice(s) and project learnings

Regarding the lessons learned in this project, the following good practices identified by the consortium members are the ones stand out and motivated this regional action:

Lesson Learned	From whom?
The use of drones to serve citizens, public administration, law enforcement and emergency services	Drone2GO, Enschede Bilje Steppe-like grassland inventory for the coverage area relocation management plan, Osijek
The use of drones as a tool to boost the transformation and digitization in traditional sectors	Roofs inspections with drones, Lancashire Drones for tourism promotion, Osijek
The potential benefits of dynamizing digital and demand-side technology ecosystems	Drone Cluster in Poland and Lancashire Catalonia Smart Drones

As part of the **transnational activities** carried out in this project the workshops related to **TF-Market** have been the ones that have inspired this action the most, followed by the insights and findings from TF-Innovation and Social. The region has gained a **deeper understanding** of the situation of its drone sector with the activities proposed in the toolkit for TF-Market, such as the **Insight Journalism** and the **Desk Review**. During the project meetings the regional partners have been able of getting to know the approaches of the other regions to similar situations such as market uptake.

The fact that several regions of the **consortium** have taken **Catalonia Smart Drones** as a reference as a **best practice** is a good indication to keep on improving this regional public policy. Several regions in the consortium have **adapted** or **proposed** to implement **actions** in their **Action Plans** related to **drone clusters**. Some regions such as Poland, Croatia and United Kingdom have proposed actions involving clusters to influence and bring improvements in the market and innovation around UAS and, at the same time, promote the technological offer in the region.

Beside the transnational activities, the regional partners have also taken into consideration some of the comments and insights provided by the **regional stakeholders** gathered in the different workshops of the project. Some examples of these insights inspired the creation of this new community, for example the aim of the drone community for **breaking up** the **sectoral endogamy** and get to know the SMEs and stakeholders of the IoT, Artificial Intelligence and other communities.

Action steps and activities

*Detailed presentation of the action and its steps:*

Definition of the action

In 2021 the Government of Catalonia and i2CAT worked in the definition of this new community called Digital Catalonia Alliance (DCA) and the governance model for the existing communities that are going to be integrated in this new project plus the governance of the new communities to be launch from late 2021 until early 2022. The result of this definition process is summarized below:

- **What's the DCA?** An alliance of innovative, visionary, disruptive and collaborative technological communities. It is like an umbrella that gives coverage and coherence to the emerging digital economic sector in Catalonia. It is aligned to the European and regional strategies, and it is the source of technological SMEs and service providers for the new digital innovation hub to be created in the region.
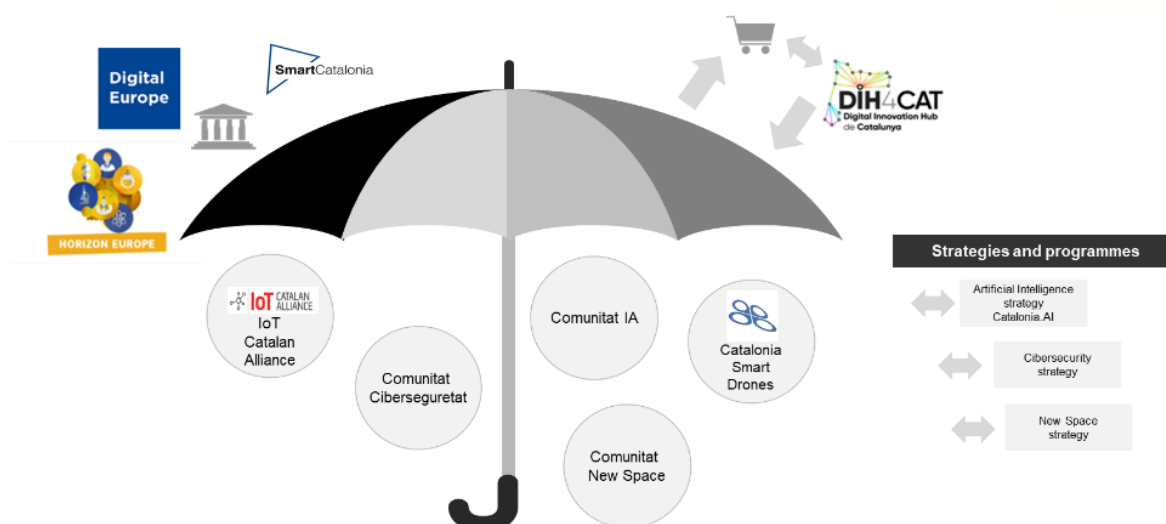
- **Mission:** be the group that brings together and provides knowledge and guidance to the emerging digital economic sectors, with the objective to help them to become consolidated.

- **Vision:** become an incubator and accelerator for emerging digital economic sectors (not companies), including UAS, and to bring together the digital ecosystem to provide growth and guidance for its consolidation.
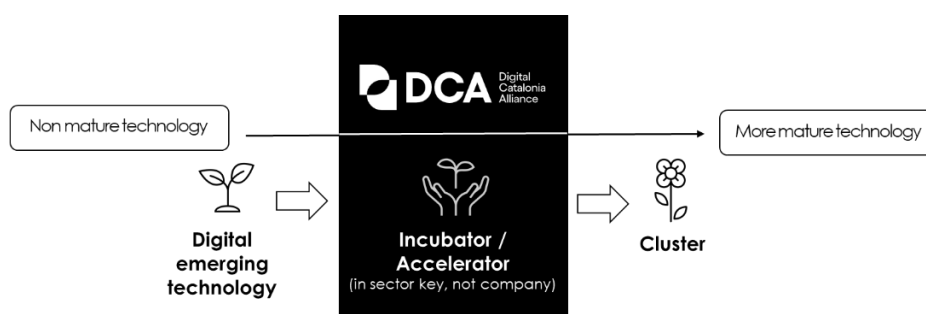
- **Values:** 1) Cooperation, 2) technological adoption, 3) contribution to the digital economy and 4) territorial social responsibility.

Cooperation

We are small
We seek to foster synergies between companies and generate collaborative projects.
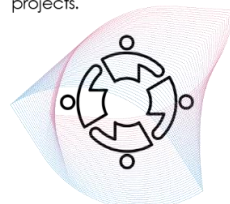
Technological adoption

We focus on Technology
Contributing to the digitization of the economic sector.
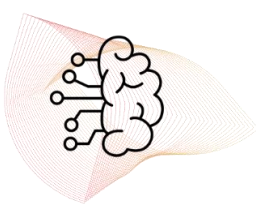
Contribution to the digital economy

Km 0
Grouping of the emerging digital sector focused on technological demand.

Territorial social responsibility

Building a Country
Alignment with the SDGs and with the strategic challenges of the territory.

- **Services:** The services offered by the DCA are structured around six strategic axes: 1) sectoral dynamization, 2) synergies and multi-technology, 3) strategic relations, 4) access to knowledge and infrastructures, 5) aces to funding sources, and 6) visibility an events.
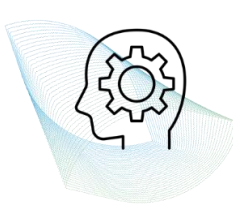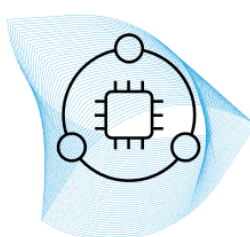
Sectoral dynamization

Promote the creation of business opportunities for technology companies.
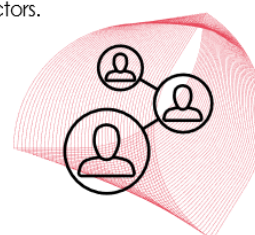
Synergies and multi-technology

Encourage the cooperation of their communities through workspaces and communication.

Strategic relations

Connect the existing innovation ecosystem and strengthen the relationship between the different actors.

Access to knowledge, technology and infrastructures

Facilitate the collaboration of DCA members with research centers and test facilities.

Access to funding sources

To support the funding needs of DCA members.

Visibility and events

Encourage participation in more well-known events, such as fairs and congresses.
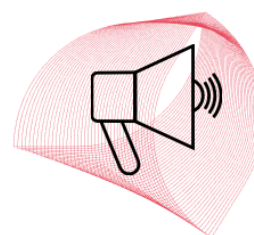
- **Communities in this new alliance:** this new ecosystem stats with 6 technological communities, among them the new drone community, which are: 1) DCA-IoT, 2) *DCA-Drons*, 3) *DCA-IA*, 4) DCA-NewSpace and 5) *DCA-Ciberseguretat*.

DCA IoT
- Since 2015
- 161 members

DCA Drons
- Since 2015
- 128 members

DCA IA
- Potential ecosystem of 179 companies
- 1.358 M € global billing

DCA NewSpace
- Potential ecosystem of 94 companies
- 808 M € global billing

DCA Ciberseguretat
- Potential ecosystem of 361 companies
- 820 M € global billing

Activities executed in 2021

As part of the definition process mentioned above, some activities have been already executed in 2021 as part of the **transition process** from the old communities to the DCA. Under the naming of the old communities, IoT Catalan Alliance and Catalonia Smart Drones, the Government of Catalonia and i2CAT have offered activities to their stakeholders to dynamize the sectoral demand, inform about different funding opportunities and do specific activities for each community.

In the meantime, both the Government of Catalonia and i2CAT have worked in the preparation of the **launch of the DCA: definition** of the new community, **governance** of the DCA and its communities, set of **activities and services** for the DCA and each community in 2022, the **public presentation** of the DCA and the **new communities**: AI, Cybersecurity and NewSpace. Related to **communication topics**, both partners have also worked in the definition of a **new branding**, **style**, **storytelling**, **newsletters**, **social networks**, and **websites** for both DCA and the communities.
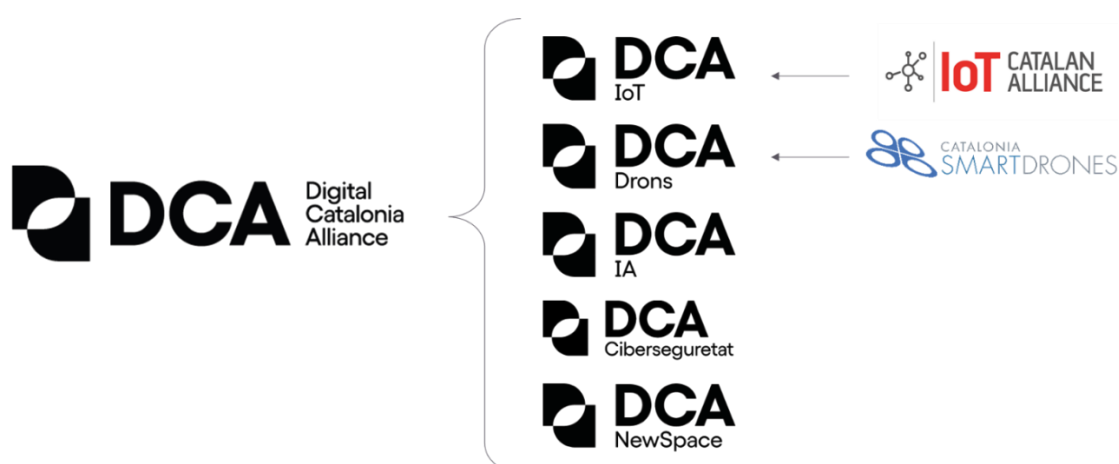
Activities of the Digital Catalonia Alliance

Through this action, several types of activities can be carried out to dynamize the technological ecosystems at a local level and generate business opportunities for companies linked to the technological offer with large corporations and/or public administrations. Some of these **activities** are detailed below:

1) For the **stakeholders** in the **emerging digital technologies sector** (including drones):
   a) **Sectoral demand Dynamization:** Encourage and support the adoption of the emerging technologies and solutions (such as drones) by the potential demand users and the aggregators of potential demand. This section consists of several phases:
      i) **Raising the awareness of the demand**: awareness-raising sessions are held on technological demand through the sharing of current problems in sectors such as agriculture, utilities, industry and health, and presenting the benefits that technology can bring in these areas and getting to know success stories of companies and technological stakeholders in the region.
      ii) **Sectoral challenges collection**: several meetings are held with different companies and organizations interested in adopting solutions based on advanced digital technologies. The objective of these meeting is to identify potential business opportunities for the SMEs that

belong to the Digital Catalonia Alliance (an so drones). These business opportunities are presented to the members of the Digital Catalonia Alliance so that they can prepare their solution proposals and pitch them to the owners of the challenge.

iii) **Matchmaking Event**: a brokerage session is held to bring together the SMEs and members of the Digital Catalonia Alliance and demand (challenge owners). The purpose of this matchmaking sessions is to allow both parties to explore possible collaborations in order to provide solutions to the needs identified in previous stages.

iv) **Follow-up**: Periodically, follow-up meetings are helps with both parties to see which opportunities have been converted into business. If needed, the Digital Catalan Alliance can provide some kind of support to both parties to bring the opportunity to term.

b) Access to **funding sources and opportunities**: Support the needs of the emerging digital sector to access R&D&I fundings. In this activity there are 2 types of possible actions to get to know these funds:

i) Communicating funding opportunities identified through different programs at local, national and European level, as well as opportunities to take part in consortiums, etc. through different communication channels: web, mailing, social networks, etc.

ii) Organizing internal meetings with the members of the Digital Catalan Alliance and offer them a training pills about the funding opportunities, eligibility criteria, and other relevant topics to support them at getting involved in specific programs.

c) Access to **knowledge**, **technology,** and **infrastructures**: the idea behind this activity is to support the members of the Digital Catalonia Alliance to increase their capabilities and awareness of the specific resources they can find in the region. Some possible tasks in this activity are: ease the access of the SMEs to laboratories and testing sites at the regional level. This action allows companies linked to emerging digital sectors to have benefits at accessing to this kind of infrastructures and telecommunications laboratories. In the case of drones, nowadays the Catalonia Smart Drones offers to its members a **voucher** for a free use for one day of the BCN Drone Center test facility. These vouchers can be extended to the members of the Digital Catalonia Alliance to promote the crossover and experimentation with different technologies with drones.

d) **Visibility and events**: the Digital Catalonia Alliance and its members can participate and attend to the events and congresses with greater notoriety for the digital emerging technologies. This activity consists of making the emerging digital sector in Catalonia visible at events such as the **Mobile World Congress**, the **Smart City Expo**, the Barcelona New Economy Week (**BNEW**), etc. In the case of **drones**, the reference congress for the use of this technology for civil purposes in Spain is **Expodrónica**, held in Madrid. This action also contemplates the possibility to provide **incentives** or **free passes** to the members of the Digital Catalonia Alliance, to allow its stakeholders to participate in these events and congresses.

e) **Strategic relations**: connect the emerging digital sector in Catalonia with the existing innovation ecosystem (investors, accelerators, etc.). This action aims to identify and publicize opportunities for the business development of companies through investment and acceleration programs.

f) **Transversal activities**: organization and/or dissemination of activities that can be interesting to the members of all the communities in the Digital Catalan Alliance through different communication channels to allow the stakeholders to be updated on all the activities that are being carried out through this project of technologies.

2) For **public administrations** and **decision makers**: Development of on-demand services such as action plans in which the convening capacity of the members of the community is valued in order to: organize events, make consultations, provide data, …

3) For **digital consumers**: Elaboration of technology exploration studies (Scouting), valuing the capabilities of the members to offer concrete "solutions", rather than theoretical knowledge about technologies. Demand multipliers should also be considered as potential customers of these services (e.g. furniture cluster, automotive cluster, …).

To date, the IoT Catalan Alliance and Catalonia Smart Drones technology communities have already carried out some of the activities mentioned in the previous point, such as sectoral dynamization. However, and as mentioned in the introduction, **new technological communities** will soon be created, such as **Artificial Intelligence (AI)**, **Cybersecurity** and **NewSpace**. All stakeholders in the emerging technology ecosystem require dynamization activities such as those proposed in this action, so they are expected to carry out similar activities for their own ecosystems. Nevertheless, from the point of view of the demand, this large number of communities and interlocutors can saturate the potential consumers or cause confusion due to the large number of requests for collaboration in initiatives with similar objectives.

With this new project, the **Digital Catalonia Alliance**, the idea is to **absorb all these common activities**, to increase operational efficiency and reach a wider audience by coinciding and favoring internal collaboration. Aligned with the scope of this new project, the current drone community named Catalonia Smart Drones will disappear and be integrated to the **Digital Catalan Alliance (DCA)** as *DCA-Drons*, and so will the IoT (DCA-IoT) and the other communities.

The **new drone community** *DCA-Drons* has a **renewed image** and as mentioned before, it shares a **common branding** with other digital communities. Nevertheless, the essence of the Catalonia Smart Drones will evolve to finally become the **drone cluster for the professional sector**, reaching the goal it was created for. The new *DCA-Drons* fill be focused at providing activities and services specific for its group of stakeholders. Its stakeholders with will also have access to the common activities of the DCA (listed in the section above) and other communities.

In the case of the **Catalan drone community**, through this action, several types of activities can be carried out to **dynamize** this **technological ecosystem** at regional level. Some of these **activities** are detailed below:

1. **Technical webinars or conferences:** on topics related to drone technology such as applicable and transitional regulations for the adoption of the European regulation, obtaining certificates as a light UAS operator, SORA methodology, remote identification, etc.

2. **Working group sessions**: to bring the community together and give continuity to the Aerial Uptake working sessions, which are intended to monitor the changes and needs of the community.

3. **Motor group sessions**: As a novelty, for 2022 the community members will gather periodically to transmit their interests and concerns and to propose activities or actions that have an impact on the development of the Catalonia Smart Drones (renamed as *DCA-Drons*) within the Digital Catalonia Alliance.

4. **Course of the School of Public Administration**: As a novelty for 2022, the DCA – Drones will offer this course, which is designed for civil servants and public workers to raise awareness of the possibilities that drone technology can have in the context of public administration. This will be a 4-hour course, divided into 2 days and organized jointly with the School of Public Administration of Catalonia, the Generalitat de Catalunya, the Fundació i2CAT and in which drone companies will give presentations to publicize the UAS and present their success stories.

5. **Training course for teachers of Vocational Training for employment**: As a novelty for 2022, the DCA – Drones will offer this course, which is designed for teachers in the field of vocational training and aims to enable them to bring to the classroom their knowledge of drone technology, and in turn train new professionals in various fields such as computer science, programming, mechanics, electromechanics, etc. To carry out this course, the Fundació i2CAT will propose a curriculum of 20 hours of training that will be taught by some of the members of the Catalonia Smart Drones. The professionals of the drone sector who participate as teachers of this course will be hired by the Institut de Ciències de l'Educació (ICE), who will assume the cost to make this course effective.

The stakeholders of *DCA – Drons* community will receive information as well about **tenders**, **calls**, **funding** and **business opportunities**, **news** and other relevant information specific for its members.

Activities to be implemented in 2022

I2CAT Foundation, as technical office of the Digital Catalonia Alliance will be the **responsible** of carrying out the activities proposed in this action. The activities to be implemented in 2022 by the **Digital Catalonia Alliance** are:

Event / Activity	#	Detail

Management of the DCA		This generic work package there are considered the set of activities performed by the technical office the manage the backoffice of the DCA, such as internal meetings and periodic follow-ups.
Communication		In this generic work package there are considered all the tasks performed by the technical office related to the communication of events and activities performed by the DCA, such as: newsletters, social media, web updates and the visual contents for the activities of the DCA.
Advisory Board meetings	2	DCA representative body. Advise and monitor the work carried out by the technical office. Decide which work groups and initiatives to take. Represent working groups within the Advisory Board.
Tech. dissemination day	1	This session belongs to the set of activities to develop the sectoral demand. In 2022 there will be a technological dissemination day of the role of advanced digital technologies in the field of health sector.
Matchmaking	4	This session belongs to the set of activities to develop the sectoral demand. Sectoral demand dynamization will be focused in 4 sectors: 1) utilities, 2) agriculture, 3) industry 4.0 and 4) health.
Access to funding sources and opportunities	2	Information days on European funds to raise awareness of funding opportunities among the different members of the DCA.
DCA community meeting	1	This session is expected to be the main face-to-face meeting and networking event for all the communities and members of this new alliance. During this session, the activities executed during the year are presented and so the objectives of the upcoming year.
Digital Alliance Lunch	1	This session is a networking lunch for the members of the Digital Catalonia Alliance with presentations of renowned speaker in the field of advanced digital technologies.

In addition to the activities of the DCA, **I2CAT Foundation** is the technical office of the *DCA-Drons,* as well, and so will be the **responsible** of carrying out the activities proposed in this action. The activities to be implemented in 2022 by the *DCA-Drons* are:

Event / Activity	#	Detail
Management of the *DCA-Drons*		In this generic work package, there are considered the set of activities performed by the technical office the manage the backoffice of the *DCA-Drons*, such as internal meetings and periodic follow-ups.
Communication		In this generic work package, there are considered all the tasks performed by the technical office related to the communication of events and activities performed by the DCA-Drons, such as the participation of the community in fairs or congresses, and the sessions mentioned below.
Working group sessions	3	Working groups will be set up to work with companies 1) the follow-up of the opportunities arising from the matchmaking in order to be able to highlight the results obtained as a result of the dynamization

		of the communities, 2) Analysis of European calls and calls framed in the innovation programs promoted by the European Commission and identification of possible projects to be involved, and 3) foster the synergies with entities, AAPP and companies in the territory through the collaborative project for social innovation.
Motor group meetings	2	It is the community representative body. Their members advise and monitor the work carried out by the technical office, decide which work groups and initiatives to take and represent working groups within the Advisory Board.
Training and courses	2	1) Course of the School of Public Administration 2) Training course for teachers of Vocational Training for employment
Cafè & Drones	1	Technology seminar with an expert from a leading company in drone technology to talk about the technological potential of this technology and its use cases in different areas.
Visibility and events	1	Participation of the DCA-Drons in a regional fair or congress.
Drone community day	1	This session is expected to be the main face-to-face meeting and networking event for the members of the drone community. During this session, the activities executed by the drone community during the year are presented and so the objectives the of community for the upcoming year.

Stakeholder involvement in the action:

The main stakeholders of this action are the **Ministry of the Vice-presidency, Digital Policies and Territory**, the **Fundació i2CAT**, other technical offices, technology demand companies and emerging digital communities: **drones**, **IoT** (Internet of Things), **Cybersecurity**, **Artificial Intelligence** and **Newspace**.

In order to carry out the actions mentioned in the previous point, it is necessary to know the potential ecosystem of technological suppliers established in Catalonia. The **stakeholders** of the **Digital Catalonia Alliance** are all those **members** who are part of the **communities**, which is estimated in almost 1000 entities in the region. Regarding the **drone sector**, the region already has such knowledge through the Catalonia Smart Drones and **DCA-Drons** community. This community is composed of **128 members**: companies, organizations, universities and research centers in the field of UAS for civilian use.

The other technological communities, in turn, have also identified their respective stakeholders. The IoT Catalan Alliance or **DCA-IoT** has more than **160 members** in this community. As for the **new** technological **communities**, they are currently in the process of **recruiting** their own **stakeholders**.

For the activities in which the participation of the technological demand is needed, the Digital Catalonia Alliance and the communities attached to it, will have the collaboration of **sectoral demand aggregators**. These agents are key to reach the companies of the potential **technological demand**, since the DCA is formed almost entirely by supply agents. Some examples of aggregating agents are sectoral **clusters**, regional and local **groupings**, **associations** and/or **entities**.

Timeframe, costs and GANTT chart:

In the image below you can see the **schedule** of the Digital Catalonia Alliance and the technological communities **DCA-IoT**, *DCA-Drons*, *DCA-IA*, **DCA-NewSpace** and *DCA-Ciberseguretat* in **2022**:
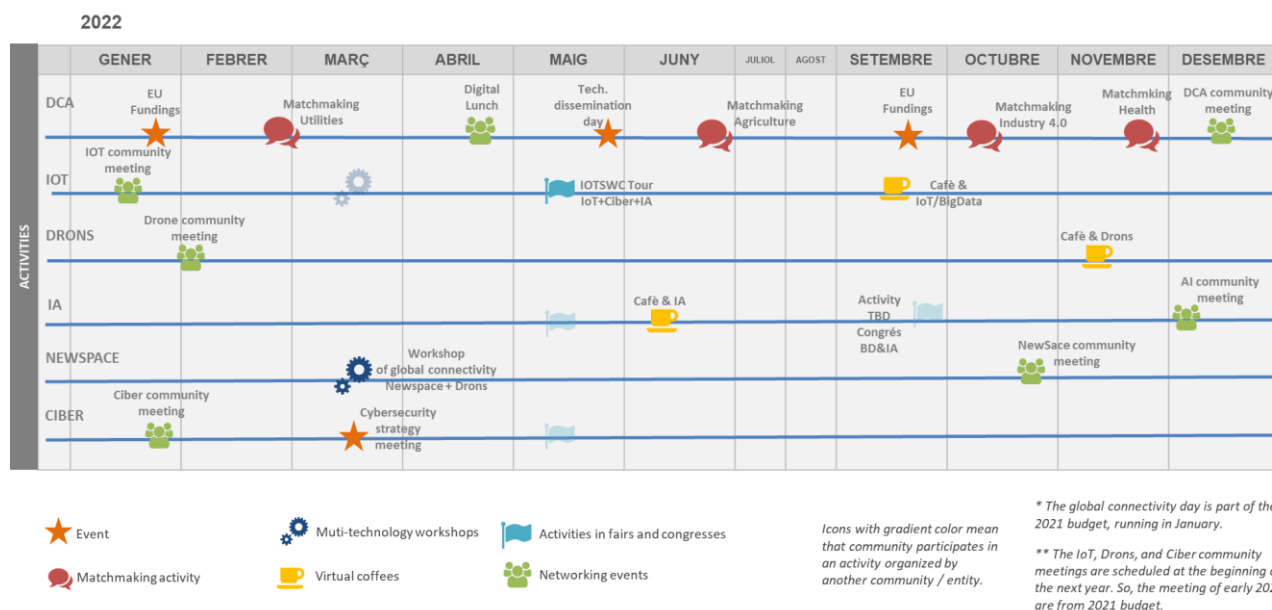
In terms of timelines, the previous schedule does not present the activities and actions of the Digital Catalonia Alliance executed in 2021, such as:

- Definition of the narrative and value proposition
- Definition of the catalog of services and activities
- Definition of the governance model
- There have also been rounds of interviews with entities and stakeholders.
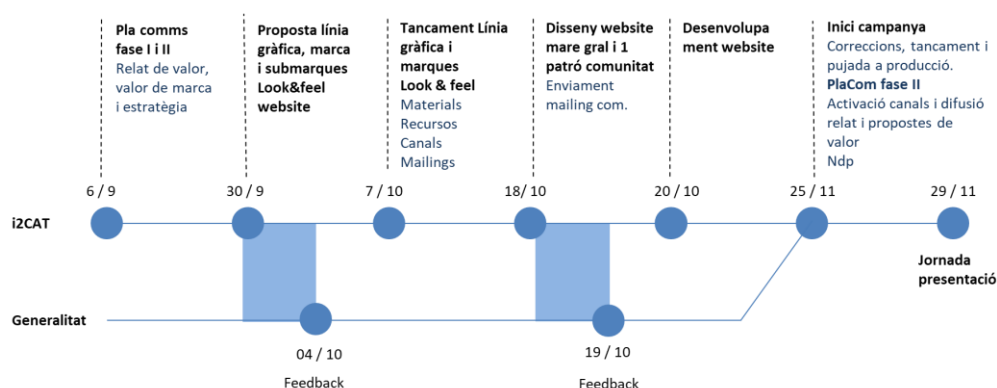
The **launch** of the **Digital Catalonia Alliance** and its **public presentation** was carried out on the **29th of November 2021**. After this date, the common activities of the DCA and its communities are carried out with the new identity of the communities.

In 2021 the **total budget** of the **Digital Catalan Alliance** and its **communities** was **300.000 €**, which is had specific amounts assigned to each subproject:

1. Digital Catalonia Alliance: **120.000 €**
2. *DCA-Drons*:   **50.000 €**
3. Other communities: 130.000 €

    TOTAL: 300.000 €

For the period 2022, the **secured total budget** of this project is **300.000 €**, which is has specific amounts assigned to each subproject:

4. Digital Catalonia Alliance: **140.000 €**
5. *DCA-Drons*:   **40.000 €**
6. Other communities: 120.000 €

    TOTAL: 300.00 €

Target groups:

These actions have an impact on the **4 helix**: public **administrations** and political **decision-makers**, technology **demand** companies, **technology supply companies** and agents linked to **academia** (universities, groups and research centers). In the new action Digital Catalonia Alliance, the target groups will be all the technological stakeholders, regardless their core technology. The _DCA-Drons_ instead, will keep the same **target group**, but only with the **stakeholders involved in UAS**.

Risk factors:

The main risk factor of this initiative is the funding source. The part activities carried out in **2021** were funded by the **ERDF Operational Program in Catalonia 2014-2020**. Nevertheless, in terms of financing the actions and **activities** proposed for **2022**, the aim is to mobilize **ERDF funds 2021-2027** to carry out this action as a policy change type 1: implementation of new projects However and given that the ERDF for the new period is still in the definition phase, the **final source of funds** for this action **might change**, but not the **amount secured** for its execution, which has already been **validated** by the **Ministry of the Vice-presidency, Digital Policies and Territory**, and **assigned** to **i2CAT**.

Other risk factors identified in for this action are:

1) For the **stakeholders** in the **emerging digital technologies sector** (including drones):
   a) **Sectoral demand dynamization**: the result of the KPI is strongly dependent on the number of companies that can be reached to participate in this activity. The conversion into business of the opportunities generated may take several months to occur, and therefore may not be reflected in the report at the end of the execution and monitoring period of the project.
   b) Access to **funding sources and opportunities**: the number of opportunities depends on the calendar of competitive programs at regional, national and European level.
   c) **Visibility and events**: attendance at events is conditional on the number of fairs and congresses may be conditional on the restrictions for COVID-19 containment.
   d) **Transversal activities**: the number of activities organized by non-DCA entities may vary, as well as the number of relevant news for the emerging digital sectors published.
2) For **public administrations** and **policy makers**: the result of this KPI may vary depending on the number of requests received or managed.
3) For **digital consumers**: in the same way as in the case of sectorial dynamization and activities aimed at public administrations and policy makers, the result of this KPI may vary depending on the number of agents reached.

Goals of the action

The objectives of DCA and its activities are:

4) For the **stakeholders** in the **emerging digital technologies sector** (including drones):
   a) **Sectoral demand dynamization**:
      i) <u>Objective</u>: at least 30 SMEs of different sectors will increase their knowledge on opportunities that the use of drones would bring to their business, therefore performing technology innovation.
      ii) <u>KPIs</u>:
         (1) Number of activities carried out,
         (2) Post the number of companies that have participated in this activity,
         (3) To account for the number of opportunities generated,
         (4) To account for the number of business conversions that have become effective.

   b) Access to **funding sources and opportunities**:
      i) <u>Objective</u>: at least 30 SMEs from the Digital Catalonia Alliance will participate in the dissemination meetings on funding sources
      ii) <u>KPIs</u>:
         (1) Number of dissemination meetings conducted
         (2) To account for the number of opportunities communicated

   c) **Visibility and events**:
      i) <u>KPIs</u>:
         (1) Number of events in which the Digital Catalonia Alliance and *DCA-Drons* have participated

   d) **Transversal activities**:
      i) <u>KPIs</u>:
         (1) Number of newsletters and press releases sent.
         (2) Number of impacts on social networks, newsletters and/or press releases (e.g. views, followers, number of posts and interactions)
         (3) Number of news items published relevant to emerging digital sectors.

In the case of *DCA – Drons*, the <u>objectives</u> of this community will be at least **9 meetings and session** organized by i2CAT only for its members, and **at least 30 different SMEs** from this sector will **participate in the dynamization activities organized** in 2022 for them.

Policy Change

As part of the development of this project at the financing level, it is intended to mobilize ERDF funds 2021-2027 to carry out this action as a policy change type 1: implementation of new projects. However,

given that the ERDF for the new period is still in the definition phase, the financing of this action may be at risk or it may be necessary to use funds from other sources to implement it.

For the **period 2022-2023** the Government of Catalonia and the Fundació i2CAT plan to mobilize **300 k€** to carry out this project. These funds will come through the ERDF Operational Programme in Catalonia 2014-2020 pending the resolution of the ERDF 2021-2027 and check if it is feasible to capture part of these funds.

Planned Policy Change:

To carry out this action it is intended to mobilize ERDF funds from the 2021-2027 operational program with the aim of further promoting the development and incubation of the emerging digital technology sector in Catalonia, which also includes drones.

However, the new ERDF operational program for the period 2021-2027 is still in the process of definition. It is therefore likely that part of the project will continue to be implemented with funds from the 2014-2020 period or other funds from the Generalitat de Catalunya.

5. Action 2: Access to drone test facilities to the Departments and bodies of the Generalitat de Catalunya and the members of the *DCA-Drons*

This action is a **new project** based on the improvement of an existing policy. Every year since 2014 the **Government of Catalonia** publishes a **tender** to support the **promotion** and **adoption** of the **drone solutions** by its **Departments**, **Ministries** and **bodies**. In this case, tendering by a public-sector organization is when such an organization announces publicly that it wishes to have a contract executed. The commissioning authority invites companies to submit a bid. This tender has been funded so far through the **ERDF Operational Program 2014-2020**. The number of lots and the amounts to carry out the promotion of this technology in the public administration have suffered slightly changes every year and been adapted to meet the needs of the Government of Catalonia. In **previous editions**, for example, there were **3 lots**:

1. **Access to facilities** and services for the performance of tests with UAS to evaluate the result of the application of this technology according to the requirements of the different units of the Generalitat de Catalunya and the drone SMEs based in the region.
2. **Training course** on **drone technology** and its **applications** to the administration aimed at **personnel** of the administration of the **Government of Catalonia**.
3. **Technological advice** and **support** to the **technicians** of the **Government of Catalonia** and in the identification and definition of possible scenarios or projects to use drone technology.

After 7 years carrying out this yearly tender, the personnel of the Government of Catalonia have reached a **fair knowledge on drone technology**. Some autonomous **law enforcement** and **security bodies** in the region have already **adopted** these kinds of solutions and started using **drones** in their daily operations, such as **Mossos d'Esquadra**, the **firefighters** and the **body of Rural Agents**. With a **mature drone regulation** at international level and having reach this level of adoption by the public administration, the Government of Catalonia wants to redirect the invest of this yearly tender on **facilitating the access to the test sites to the drone users**.

This action aims to improve and increase the **use** of the **drone test facilities** by the users of this technology, in both public and private sectors. With this action, the Government of Catalonia pursues an increase the safety and security of both **test** of new solutions and the **training** of new professional pilots with autonomous aerial vehicles.

Some of the **facts** that have motivated this action are: 1) the **drone regulations** in Spain, which no longer allows professionals to use aeromodelling clubs and fields to fly drones for commercial purposes, and 2) the increasing number of **bodies** at the Government of Catalonia and **SMEs** that need to **train** their personnel and **test** their UAS in controlled environments.

Background

Good practice(s) and project learnings

Regarding the lessons learned in this project, the following good practices identified by the consortium members are the ones stand out and motivated this regional action:

Lesson Learned	From whom?
The use of drones to serve citizens, public administration, law enforcement and emergency services	Drone2GO, Enschede Bilje Steppe-like grassland inventory for the coverage area relocation management plan, Osijek
UAS test sites in other regions	Lead partner (Municipality of Enschede) and RISE Research Institutes of Sweden (Linköping)

As part of **the transnational activities** carried out in this project the workshops related to TF-Market and TF-Inno are the ones that have inspired this action the most. The region has gained a deeper understanding of the situation and the current level of adoption of this technology with the activities proposed in the **toolkit** for **TF-Market**, such as the Insight Journalism and the Desk Review. During the **international project meetings** in **Sweden** and the **Netherlands** the partners were told about the existing test facilities in both regions, such as **Space53** (Enschede) and the **Drone Center Sweden** (**Västervik**).

Beside the transnational activities, the insights of the **regional stakeholders** have also taken into consideration. Some of the comments and insights brought up during the **RSG meeting** inspired this action, such as the **access to test facilities** and the creation of a **shared testbed material** for the drone community and SMEs to test before investing.

Action steps and activities

Detailed presentation of the action and its steps:

Definition of the action

In 2021 the Government of Catalonia published its yearly tender to support the promotion and adoption of the drone solutions by its Departments, Ministries and bodies with 2 lots:

1. **Access to facilities** and services for the performance of tests with UAS to evaluate the result of the application of this technology according to the requirements of the different units of the Generalitat de Catalunya.
2. **Training course** on **drone technology** and its **applications** to the administration aimed at **personnel** of the administration of the **Generalitat de Catalunya**, carried out on December 14th, 15th and 16th in virtual and face-to-face format. In this edition, 25 people from the departments and Ministries of Climate Action, Food and Rural Agenda; Home Affairs; Culture and the Ministry of the Vice-presidency, Digital Policies and Territory have participated in this course.

In late 2021, the Government of Catalonia worked in the **definition** of the **new tender for 2022**, which will only have **1 lot**. This year, as mentioned in the previous chapter, the action will consist of facilitating the **access to facilities** and services for the performance of tests to evaluate the application of this technology according to the requirements of the different **units** of **the Generalitat de Catalunya** and the **SMEs** of the *DCA-Drons*.

In the **tendering** process of any project, usually the **documents** to be presents has the following **sections**:

1. Introduction
2. Project background
3. Legal issues: proposed terms and conditions of contract
4. Supplier response required
5. Timetable for choosing a supplier
6. Requirements for tender submission, for example a fully completed but otherwise unamended form of tender must be submitted by the specified deadline.

Nevertheless, in this section of the Action Plan only the **activities to be executed** by the **winner** of this **tender in 2022** are presented, which are:

#	Service	Sessions/ Hours	Detail
1	Management of the services provided	250 hours	In this generic work package, there are considered the set of management activities to offer the services successfully. It includes the coordination, slot allocation and planning of the flight days and the users.

#	Service	Sessions/ Hours	Detail
2	**Access** and use of facilities and services for conducting **flight tests**	100 sessions (8h each)	By using this service, the user can have access and use the facilities and services for conducting the flight tests at the winner's test site. The **30 %** of these sessions is **reserved** to the members of the *DCA-Drons*.
3	Access to **support tasks** for the attendees and advice	150 hours	This service of having access and use of facilities and services for conducting flight tests also offers the access to support tasks for the attendees, such as: the configuration and modification of the devices, and in the analysis of data and results obtained. This service includes the advice provided by the senior drone expert during flight tests. The **30 %** of these hours is **reserved** to the members of the *DCA-Drons*.

Stakeholder involvement in the action:

The main stakeholder of this action is the **Ministry of the Vice-presidency, Digital Policies and Territory**, as the tendering public-sector organization in charge of this action. The other stakeholders of this action are the potential **users** of the **drone test facilities** in the region, which are the personnel of the **Ministries** of the **Government of Catalonia**, the autonomous **police** and **law enforcement bodies** and the members of the *DCA-Drons*.

Regarding the **drone sector**, the *DCA-Drons* community is composed of **128 members**: companies, organizations, universities, and research centers in the field of UAS for civilian use.

Timeframe, costs and GANTT chart:

The timeframe of this action is set according to the tendering process flow. The tender is expected to be announced, tendered, and awarded in the **first semester of 2022**.

For the period 2022, the **secured total budget** of this action is up to **115.000 €**, which by adding the 21% of VAT, increases this amount to 139.150,00 €. Both amounts have been determined by the expected costs of the winner of the tender:

Salaries:	Direct costs:	Indirect costs:	Structural costs	Industrial profit margin:	Budget without VAT:
63.250,00 €	8.050,00 €	9.200,00 €	24.150,00 €	10.300,00 €	115.000,00 €

Target groups:

These actions have an impact on the **4 helix**: public **administrations** and political **decision-makers**, technology **demand** companies, **technology supply companies** and agents linked to **academia** (universities, groups and research centers).

Risk factors:

The main risk factor of this initiative is the funding source. The part activities carried out in **2021** were funded by the **ERDF Operational Program in Catalonia 2014-2020**. Nevertheless, in terms of financing the actions and **activities** proposed for **2022**, the aim is to mobilize **ERDF funds 2021-2027** to carry out this action as a policy change type 1: implementation of new projects However and given that the ERDF for the new period is still in the definition phase, the **final source of funds** for this action **might change**, but not the **amount secured** for its execution, which has already been **validated** by the **Ministry of the Vice-presidency, Digital Policies and Territory**.

Goals of the action

The objectives of this action are:

1) Access and use of facilities and services for conducting flight tests:
    a) <u>Objective</u>: at least 30 users (SMEs, public administration, entities and bodies) will have access to the services provided by this action.
    b) <u>KPIs</u>:
        i) % of consumed flight test sessions,
        ii) To account the number of members of the _DCA-Drons_ that have had access to this service,
        iii) To account for the number of opportunities generated,

Policy Change

As part of the development of this project at the financing level, it is intended to mobilize ERDF funds 2021-2027 to carry out this action as a policy change **type 1: implementation of new projects**. However, given that the ERDF for the new period is still in the definition phase, the financing of this action may be at risk or it may be necessary to use funds from other sources to implement it.

For the **period 2022-2023** the Government of Catalonia plans to mobilize **115 k€** to carry out this action. These funds will come through the ERDF Operational Programme in Catalonia 2014-2020 pending the resolution of the ERDF 2021-2027 and check if it is feasible to capture part of these funds.

Planned Policy Change:

To carry out this action it is intended to mobilize ERDF funds from the 2021-2027 operational program with the aim of facilitating the **access to facilities** and services for the performance of tests to evaluate the application of this technology according to the requirements of the different **units** of the **Generalitat de Cataluny**a and the **SMEs** of the *DCA-Drons*.

However, the **new ERDF operational program for the period 2021-2027** is still in the process of definition. It is therefore likely that part of the project will continue to be implemented with funds from the 2014-2020 period or other funds from the Generalitat de Catalunya.

To come to the final version: endorsement from policy instrument owner.

Date: 13 January 2022

Signature:

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