

# NewSpace Strategy of Catalonia

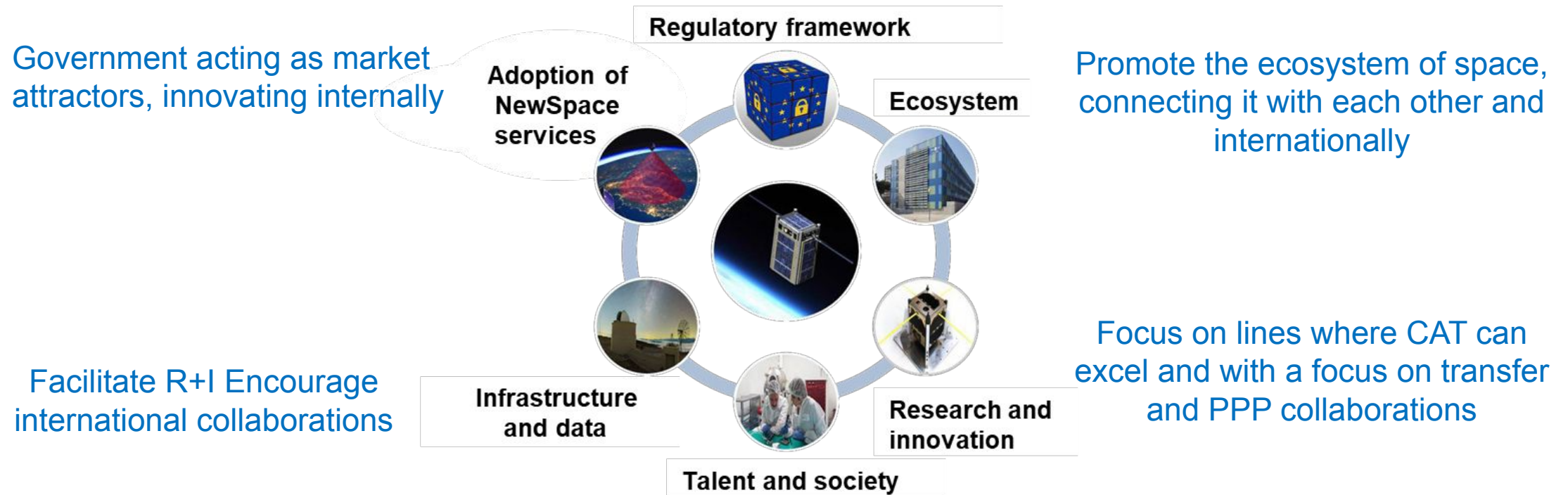
## Contribution of NewSpace to Disaster Risk Management: space infrastructure and use cases

**Josep Colomé**, Director of the Area for the Promotion of the Space Sector of Catalonia  
Institute of Space Studies of Catalonia (IEEC)

**PoI Guixè**, Head of Innovation in the Space Communications area, i2CAT Foundation

# NewSpace strategy of Catalonia

## Regions' role in the space sector

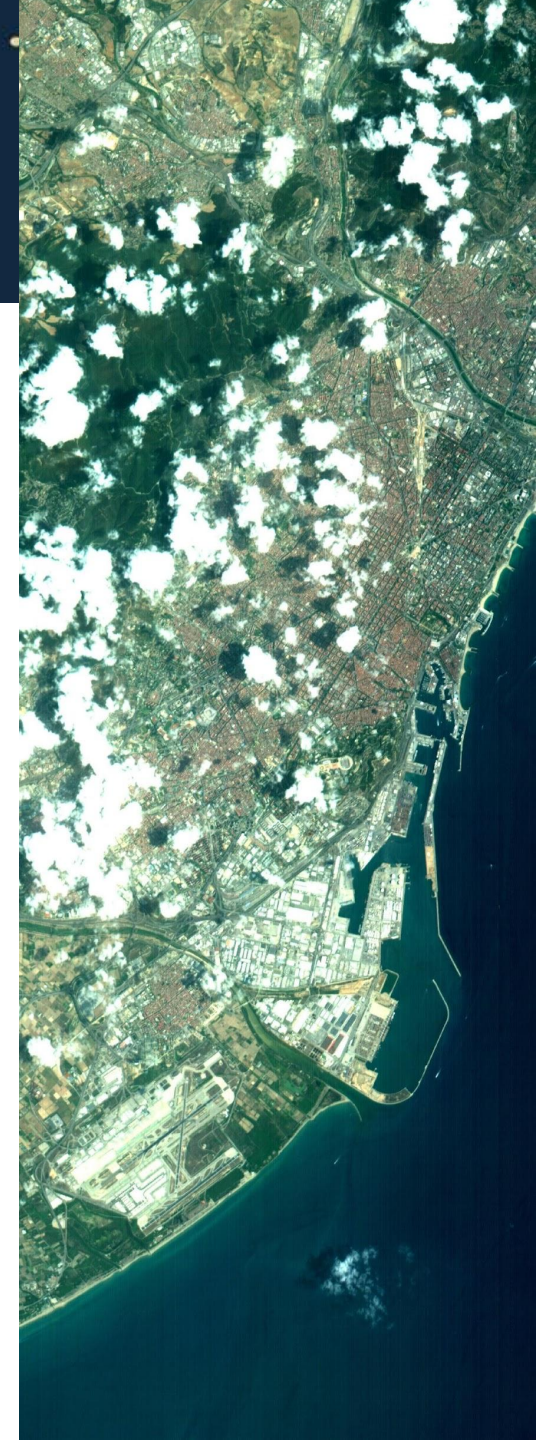


## Generation, attraction and retention

The NewSpace strategy of Catalonia was approved on October 2020

# Mission as a Service

- What is Mission as a Service? EO mission cases
  - IEEC designs and contracts a mission through a service provision framework
  - IEEC and the Government of Catalonia has exclusive satellite (or satellites) EO data over Catalonia
  - The Contractor retains the ability to commercialize the remaining satellite capacity
- Why this approach?
  - Cost efficiency: shared investment reduces the overall mission cost
  - Focused data: tailored EO data to our specific needs
  - Industry boost: enabling commercialization of data and risk sharing
- Additional advantages:
  - IEEC and the Government of Catalonia is involved in all aspects of the project, from definition to operations
  - Defining the platform allows IEEC to enable and In-Orbit Demonstration and Validation program for hosted payloads





New assets to increase the competitiveness of the sector in Catalonia

Space missions:

- [IEEC] GENIOT-01/Enxaneta – IoT/5G (22 March 2021 - deorbited July 2024)
- [IEEC] GENE0-01/Menut – EO & IOD (3 January 2023)
- [I2CAT] GENIOT-02/Minairó – IoT/5G (15 April 2023)
- [IEEC] GENE0-02 – EO & IOD (launch Q4-2025)

IOD opportunities

- GENE0-1/Menut – Payload for on-board AI processing
- GENE0-02 – Payload for In-orbit LISA Diagnostics Demonstrator (ILIADA)



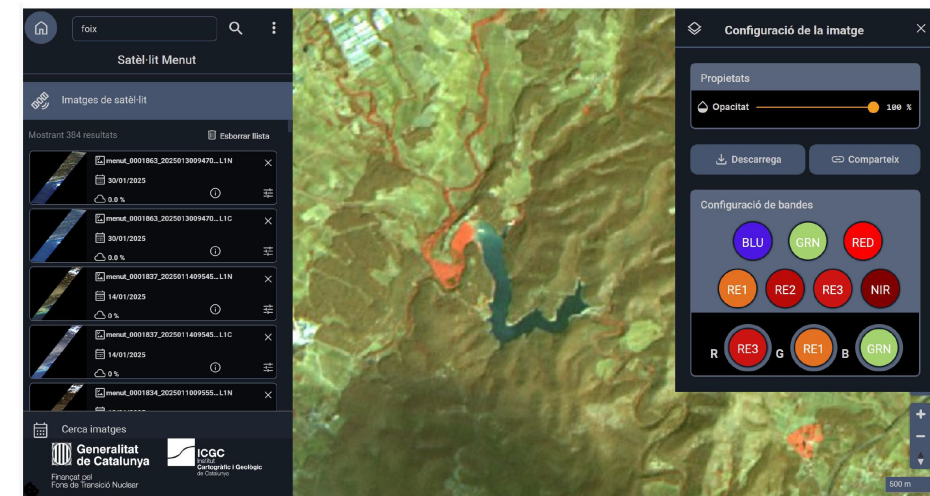
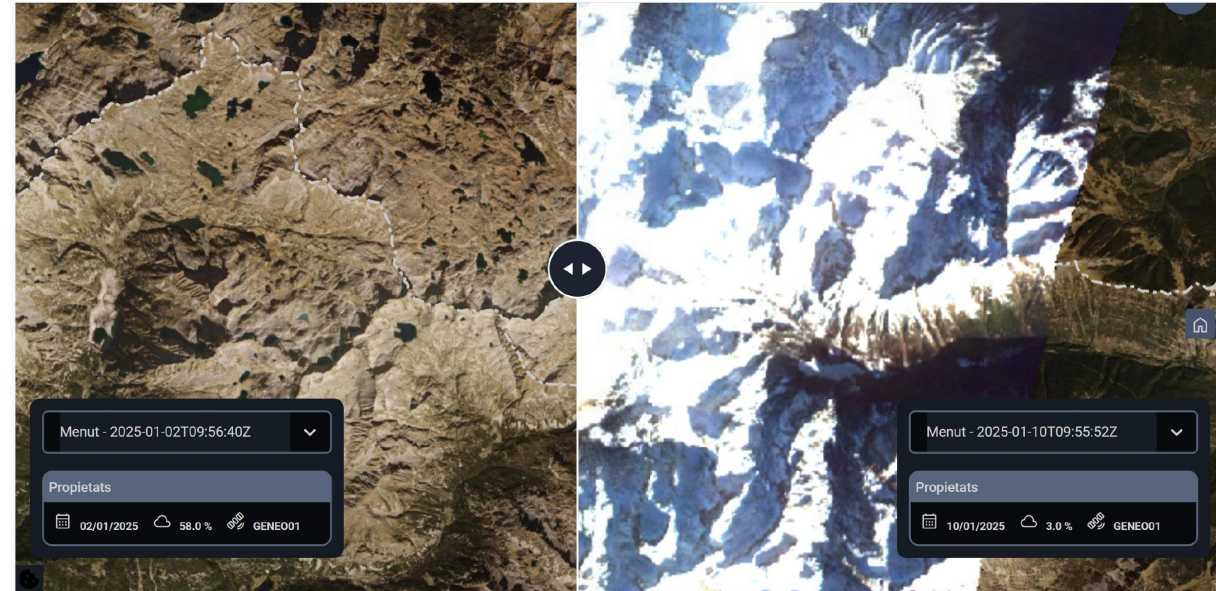
# Infrastructures: Ground-based assets

## Space Data Platform

- [ICGC] Data access for the development of applications and services

## Teleport Sant Esteve de la Sarga, at the Montsec Observatory

- [IEEC] Ground Stations: S band, UHF/VHF band, X/S band





# Adoption of NewSpace Services

Use cases to promote innovation from the public sector (total budget > 800 k€, 2022-24)

- Innovative public procurement (3 contracts, 200 k€/contract)
- Challenges (3 prizes, 15 k€/prize)
- Open innovation services (2 prizes, 50 k€/prize)
- DCA NewSpace Challenge (2 prizes, 50 k€/prize)



Open innovation service procurement to promote new space applications for the private sector



Innovative public procurement to promote new space applications: rail transport & GNSS, agriculture & IoT/5G, livestock & IoT/5G





# Menut for Disaster Risk Management

- Menut is able to offer quick tasking adjustment to target specific areas after an emergency occurs



**Coastline monitoring:** evaluation of damaged area after a cold drop that caused floods in Delta de l'Ebre - 5th September 2023



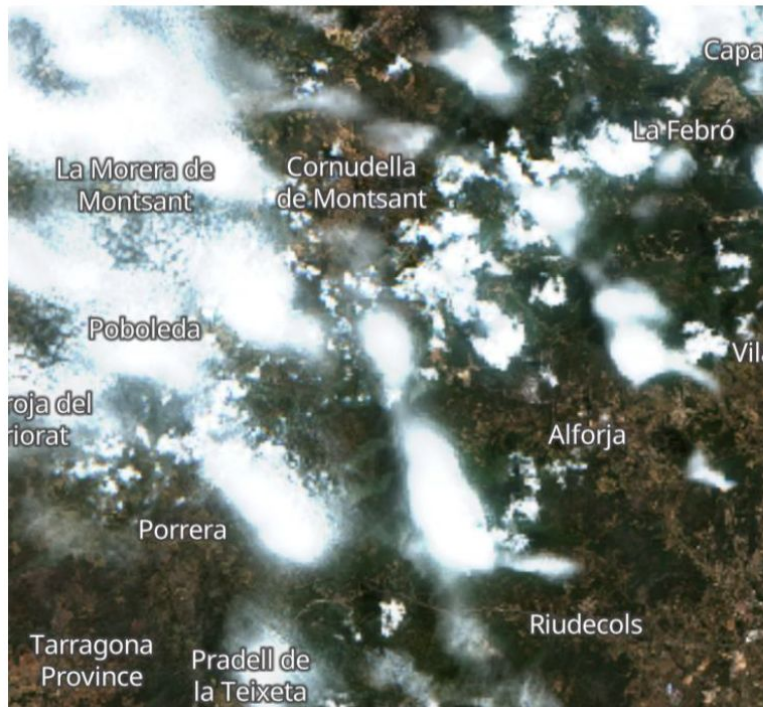
**Wildfire damage evaluation:** delimitation of total burnt area in the Cabacés (Priorat) area - 16th September 2024

@IEEC, @ICGC, Generalitat de Catalunya  
Acquired by Open Cosmos



# Menut for Disaster Risk Management

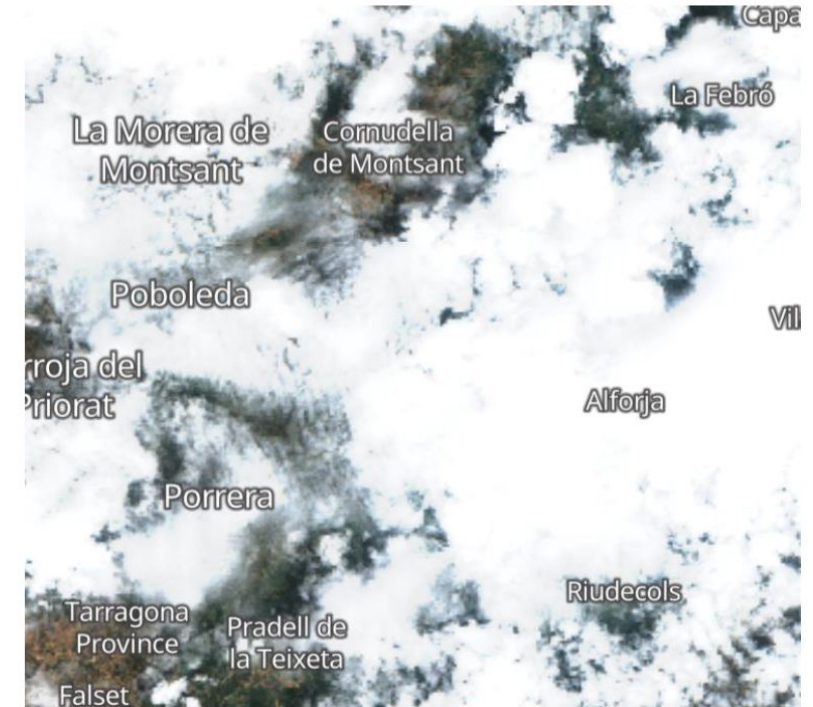
29 juny 2023 – S2



1 juliol 2023 - MENUT



4 juliol 2023 – S2





# Monitoring Remote Water Reservoirs for Rapid Response to Mountain Fires

## The Challenge

**Monitoring the water level of reservoirs for emergency use** in fire situations is a manual task that involves frequent trips to remote areas or the risk of being unaware of the water level.

## The Solution

With satellite monitoring, this **information can be obtained remotely**, ensuring that firefighters always have updated information on the available resources (water quantity) before acting.

- Execution: 2023 - 2024
- Location: Maçanet de Cabrenys, Tremp, la Bisbal d'Empordà
- Collaborating Entities: Firefighters of the Generalitat and GRAE
- Satellite Technologies: Enxaneta and SWARM



## Key Technologies & Areas of Expertise

NTN

Use Case Development

IoT

Satellite Connectivity

# Monitoring Remote Water Reservoirs for Rapid Response to Mountain Fires

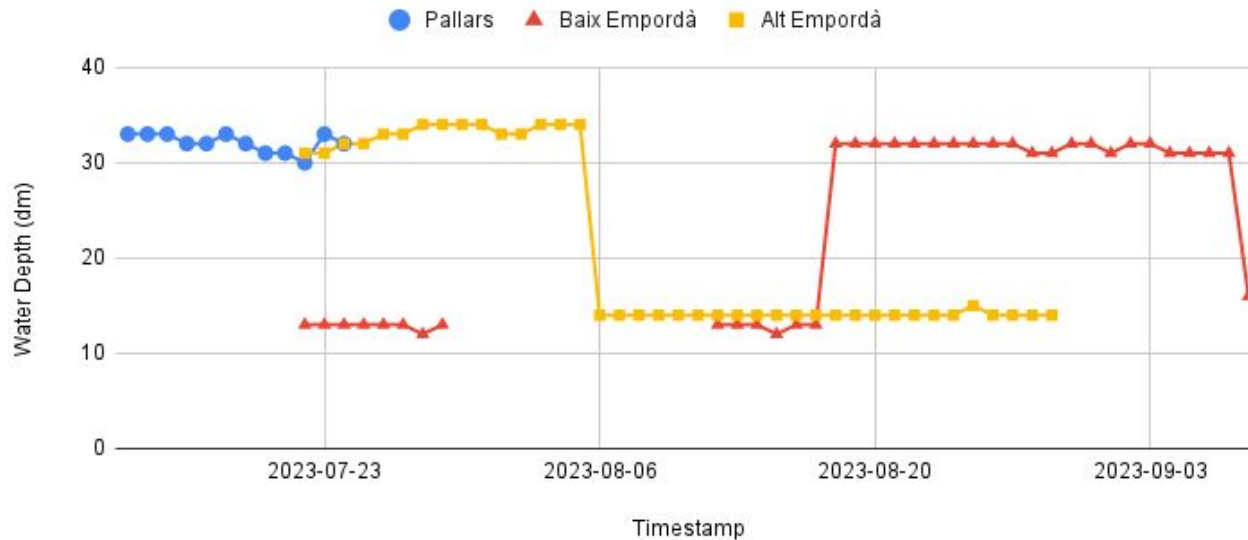
Firefighters need to monitor their remote water reservoirs

Water depth monitored from IoT devices

Deployment of three stations

Decrease of water depth due to usage (yellow line)

Big wildfire emerged in Catalonia



## Key Technologies & Areas of Expertise

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# Real-Time Data Collection for the Prevention of Forest Fires

## The Challenge

The lack of real-time data on **environmental conditions in remote forest areas** increases the risk of fires, making rapid response in these situations more difficult.

## The Solution

With satellite connectivity and data collection through sensors, **information on humidity and other environmental variables can be obtained**, allowing to take preventive action.

- Execution: 2024-2025
- Location: Móra d'Ebre
- Collaborating Entities: AUBE
- Satellite Technologies: SWARM and Minairó



## Key Technologies & Areas of Expertise

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# Thank you!

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