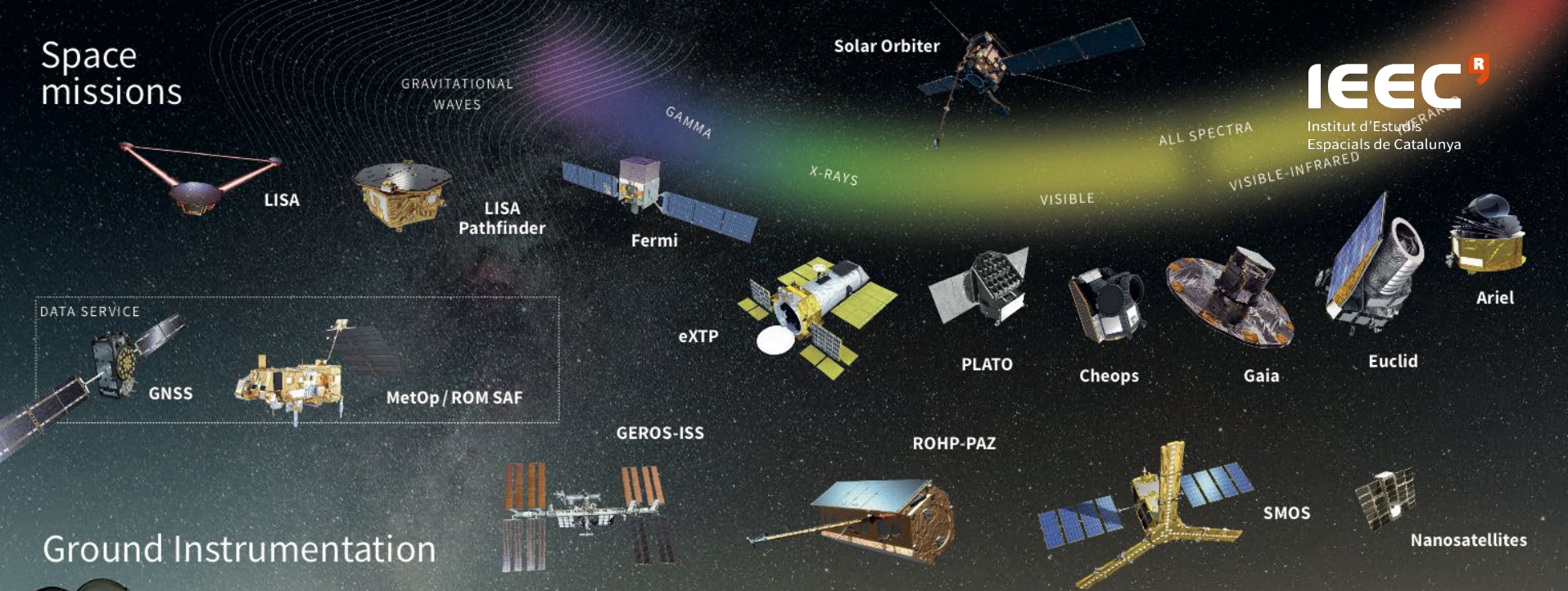


# NewSpace Strategy of Catalonia

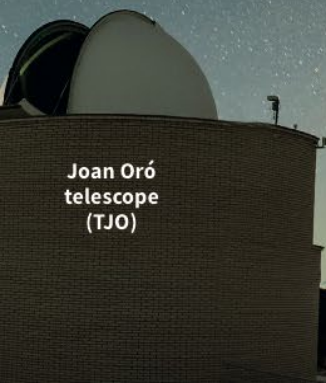


**Generalitat de Catalunya**  
Government of Catalonia

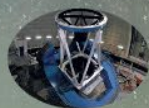
# Space missions



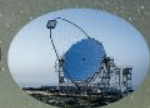
# Ground Instrumentation



Joan Oró  
telescope  
(TJO)



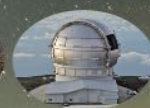
CARMENES



Cherenkov  
Telescope Array  
(CTA)



W1m (WGT)



MIRADAS



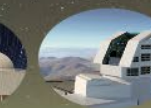
PAU



MAGIC



DES



Rubin  
observatory



DESI

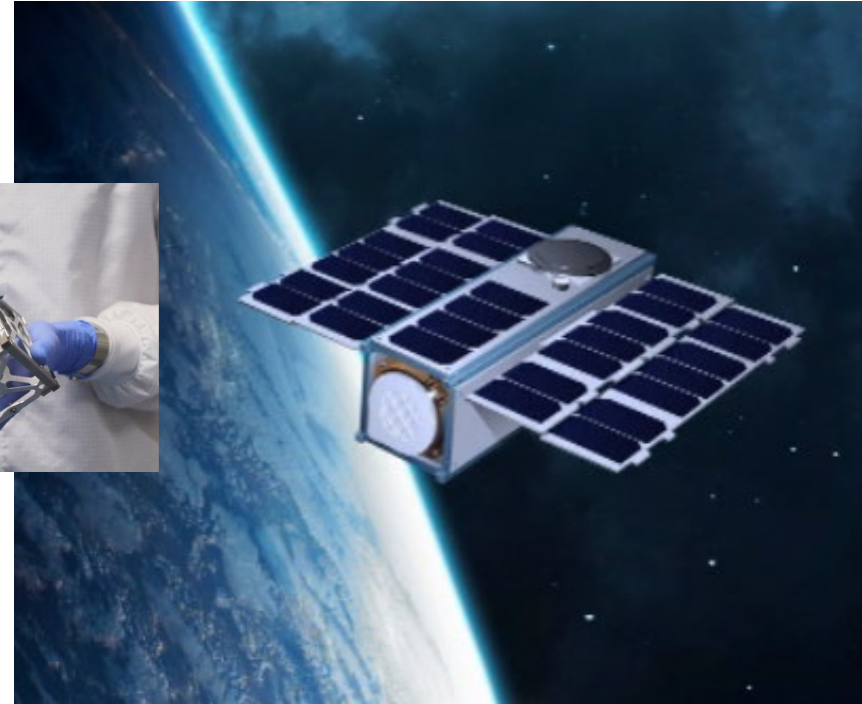
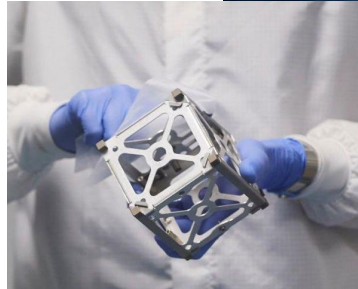


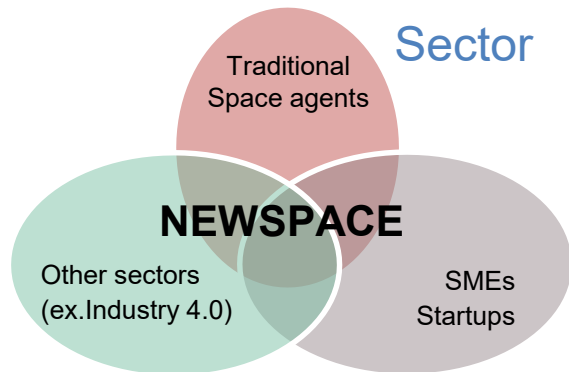
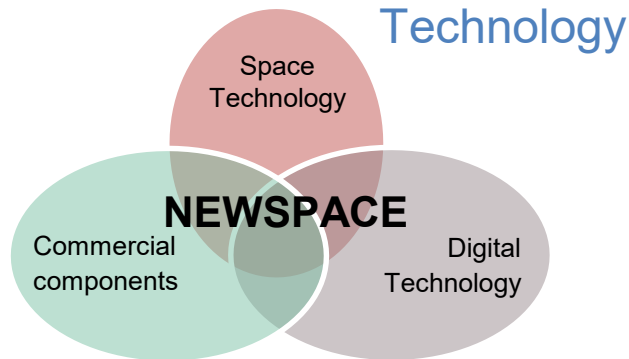
SDSS-III

## Nanosatellites / CubeSats

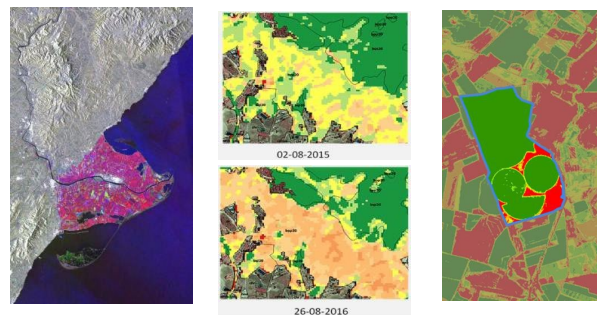
- **Low Earth Orbit**
- **Much smaller**
- **Much lower cost**
- **Rapid development**
- **Commercial focus**

Entry of new agents into the aerospace industry.





## Demand

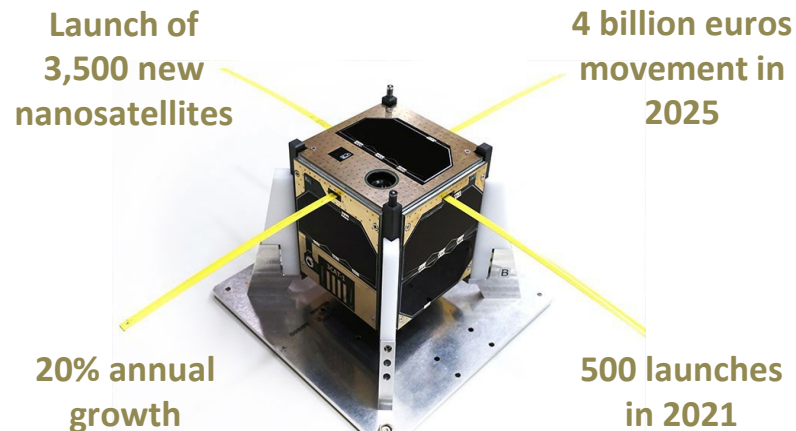


## ❑ Catalonia, European Digital Hub.



## ❑ Solid base of companies, research centers and universities in the sector, and powerful emerging entrepreneurial ecosystem.

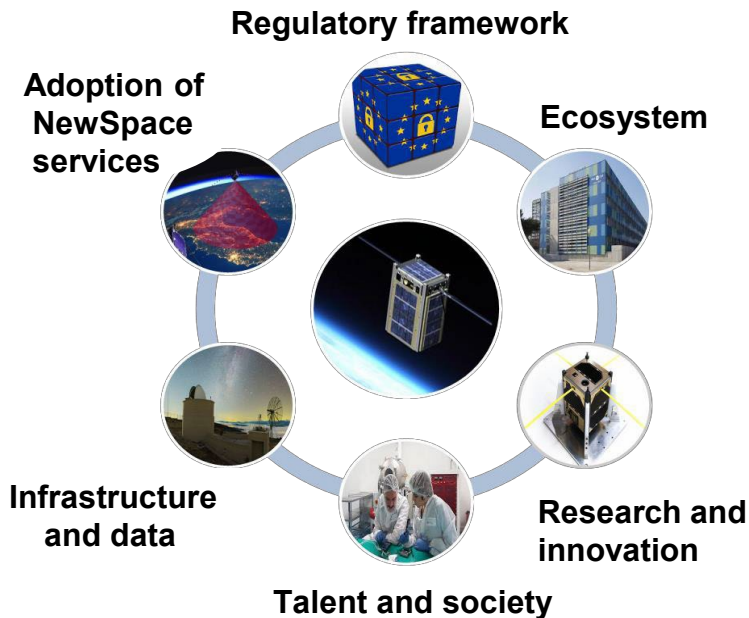
## ❑ The NewSpace global market



Approved on October 2020



**Generalitat  
de Catalunya**  
Government  
of Catalonia



## Research and technology centres



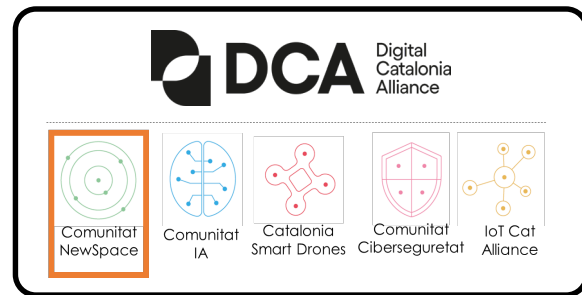
## Universities



## NewSpace technology



## NewSpace services



<https://dca.cat/en/dca-newspace/members/>



Mentoring

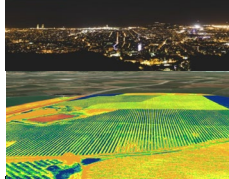


PRIMER Program

Business incubation

Business opportunities

Investors



Montsec  
Observatory



Algaire  
SpacePort



Barcelona Supercomputing Center



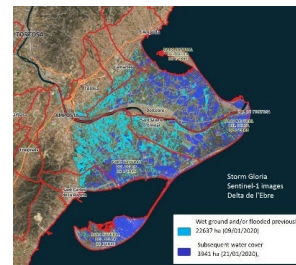
ICE-CSIC  
(Institute of Space  
Sciences, CSIC)  
labs



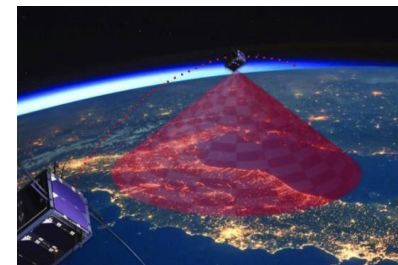
NANG SAT LAB



ALBA  
Synchrotron



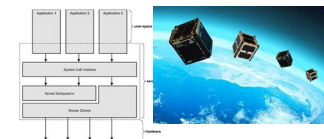
**Earth Observation**



**IoT Services**

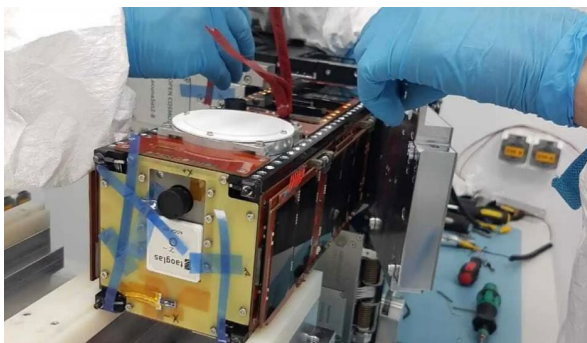


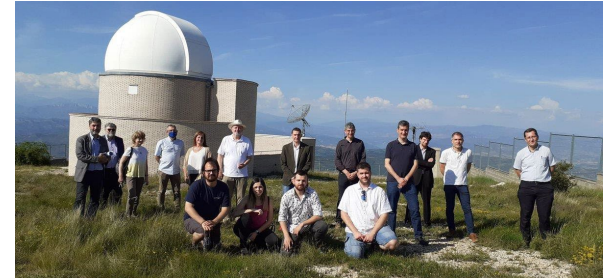
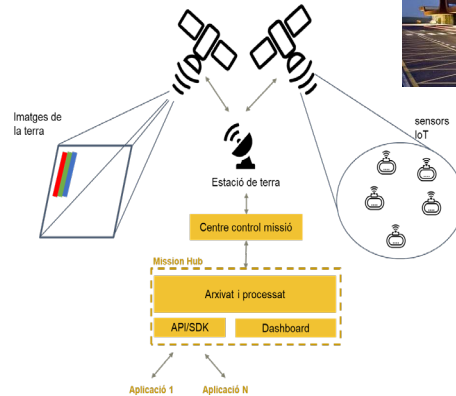
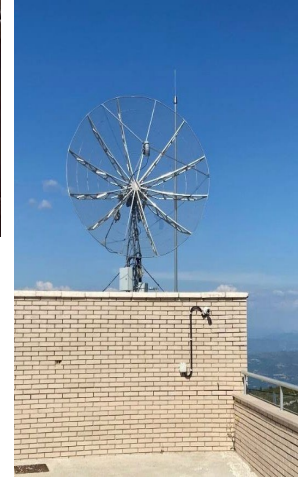
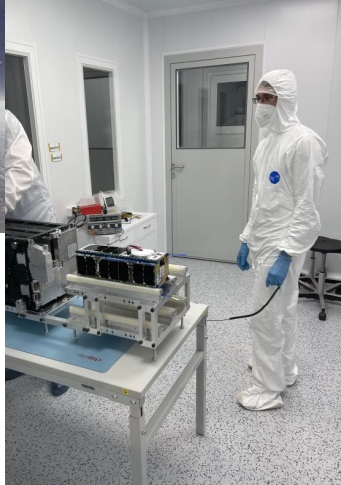
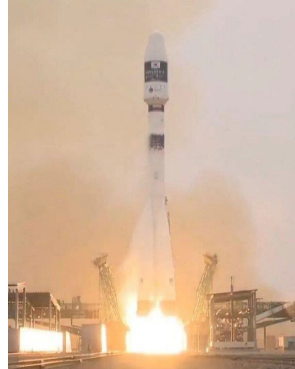
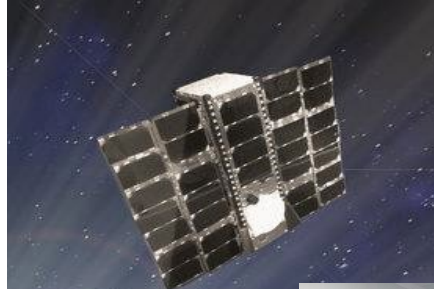
**PNT**



## Other drivers:

- Operating Systems
- Inter-satellite links (ISL)
- Network function virtual. (NFV)
- Quantum comms
- Artificial Intelligence / Data Fusion / Machine Learning
- RISC-V for on-board AI apps for EO

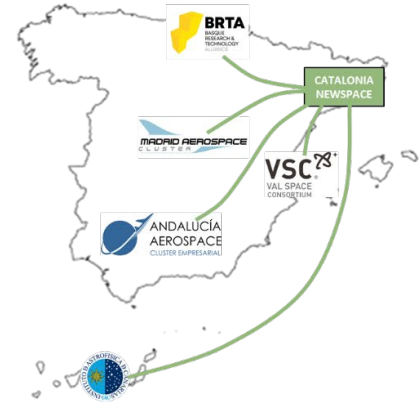
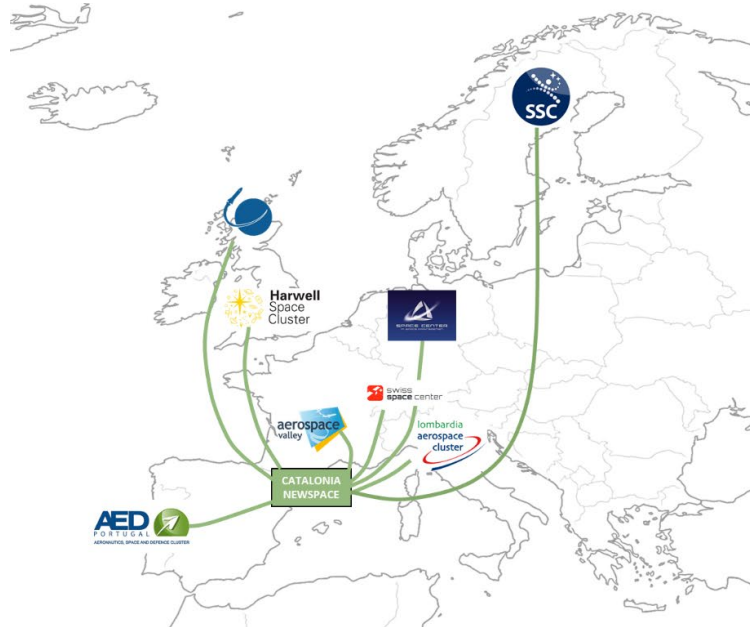
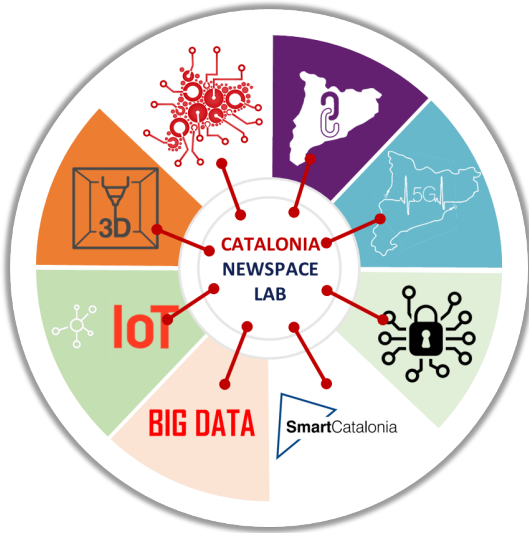




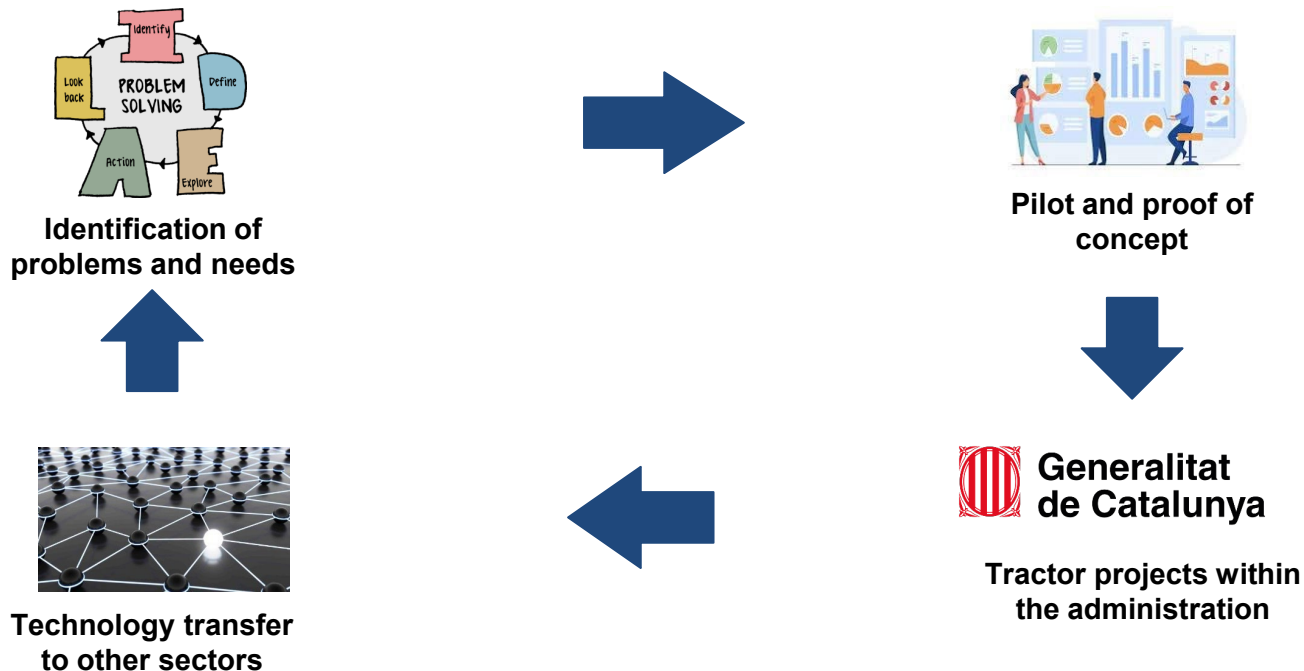
## LEO Missions roadmap

Type	2021	2022	2023	2024	2025	2026	>2027
Narrow-band IoT/5G	GENIOT / Enxaneta	+GENIOT Satellites					
Earth Observation		GENEO	GENEO2	GENEO3	GENEO4	GENEO5	+ GENEOSatellites
		Data services + IOD	Data services + IOD	Data services + IOD	Data services + IOD	Data services + IOD	
EO Constellation (access to 3 <sup>rd</sup> party satellites)			6 satellites	9 satellites	12 satellites	15 satellites	+ EO Constellation Satellites

## NewSpace Labs



# Adoption of Services



## NEWSPACE AWARENESS

PROMOTION OF  
STEM  
VOCATIONS

GENERATION,  
ATTRACTION AND  
RETENTION OF  
TALENT

ENTREPRENEUR  
TALENT  
PROGRAMMES

EMPOWERMENT OF WOMEN  
IN THE SECTOR



# Regulatory Framework



**Representative body**



**International relations**



**Promotion of policies**



**Long term strategy**

**Catalonia Space Office**

**IEEC<sup>R</sup>**

Institut d'Estudis  
Espacials de Catalunya

# NewSpace Strategy of Catalonia

[newspace.gencat.cat](http://newspace.gencat.cat)

