

# DTA

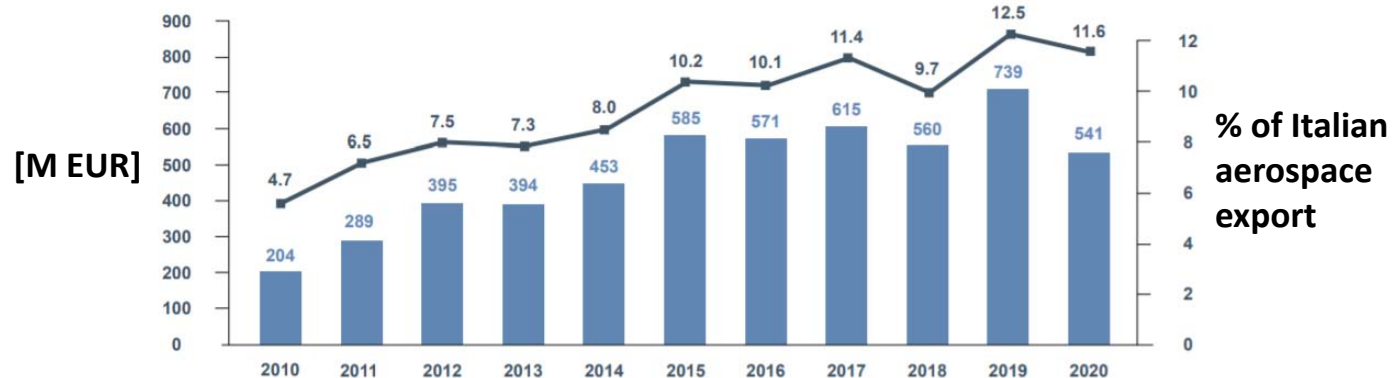
## The Technological Aerospace Cluster

Giuseppe Acierno, President



## Apulian Aerospace data

- ❖ **80+** companies, and research centers
- ❖ **1.5B EUR** + revenue
- ❖ **7000+** employees
- ❖ **541M EUR** export *year 2020*
- ❖ **400+** researchers
- ❖ **5** Universities
- ❖ **2** National Research Organisation
- ❖ **1** Aerospace cluster

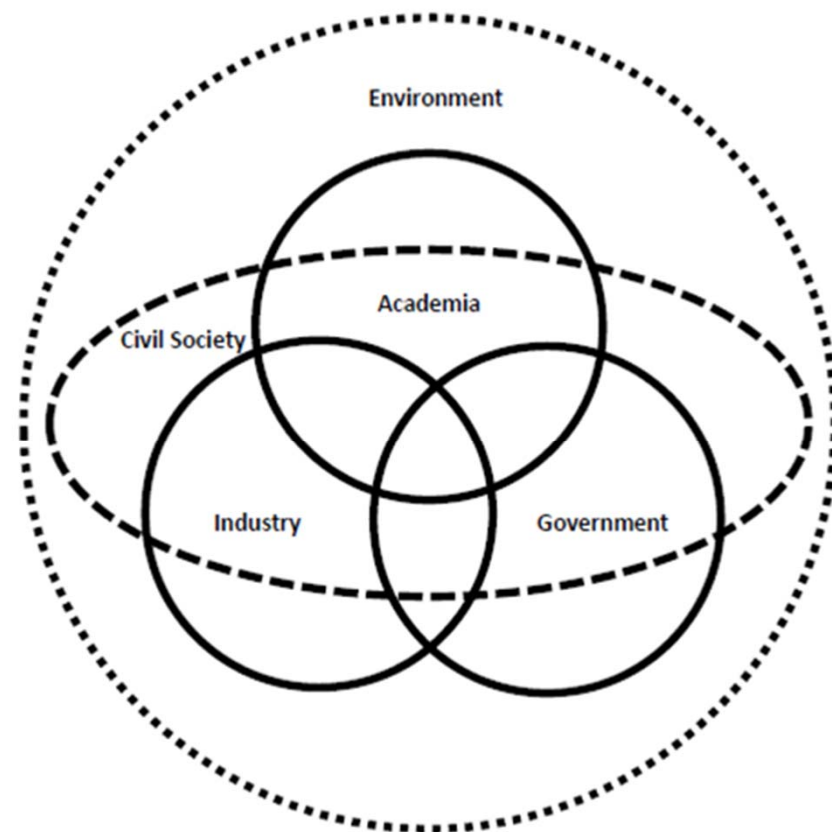


**DTA s.c.a r.l.** is a non-profit consortium company joined by the main companies and research centers in the aerospace field, three Apulian universities, two public and two private Apulian research centers.

**Mission** is to increase the competitiveness of its members and the regional aerospace value networks by improving innovation capacity, creating new competencies and know-how, developing research infrastructures, pushing internationalization of the regional system.

To achieve it, DTA:

- provides engineering services to its members and the market;
- launches and leads research and innovation projects, bridging the gap between industry, research, and education participants;
- creates a network of relationships and partnerships with the cluster's stakeholders, collaborating with public administrations on innovation policy.



# Our Members



## DTA locations



## DTA data

- 4M€+ revenues
- 20+ direct employees
- 1 headquarter and 4 secondary offices
- Wide network of collaborators

## DTA members

- 5 Public research organizations
- 2 Private research organizations
- 10 Small and Medium Enterprises
- 9 Large enterprises



## Aerostructure Division

Composite vertical fins for commercial aircrafts



## Helicopter Division

Aerostructures Centre of Excellence - structural assembly, metal to metal bonding, sheet metal work, and heat and galvanic treatments



**Grottaglie (Taranto)**  
Manufacturing of large  
aerostructures for  
commercial aircrafts



## Electronics Division

Design and development of  
Command-and-Control systems for  
naval and airborne applications



# Main Shareholders: Avio Aero - GE Aviation business



**Brindisi**



Assembly and Maintenance of  
aviation Engines, Test, Case &  
Frames, Services





## Sitael

Design and Production of Small Satellites, the leading position in the Electric Propulsion



## Mola di Bari

Monopoli



## Blackshape

Development and production of two-seater carbon fiber aircrafts (leisure aviation and military training)



## Planetek

Provides solutions to exploit the value of geospatial data through all phases of data life cycle from acquisition, storage, management up to analysis and sharing



# Main Shareholders: Universities and Public Research Organizations



**Polytechnic  
University of Bari**



Consiglio Nazionale  
delle Ricerche

**National Research  
Council**



**University of Bari**



**Italian National Agency for New Technologies, Energy  
and Sustainable Economic Development**



**Università del Salento**



Consiglio Nazionale  
delle Ricerche

# Infrastructure: Grottaglie Spaceport

The evolving space sector is presenting new and attractive business opportunities. Today there are many commercial launch companies. Most companies use expendable launch vehicles while SpaceX rockets have reusable boosters. The near future will include launch providers with reusable first stage engine compartments, reusable first stages that land vertically or horizontally, and fully reusable two-stage launch vehicles employing vertical or horizontal take-off and landing approaches. Some countries are involved in the realization of new spaceports



# Infrastructure: Grottaglie Spaceport

Apulia in the new era of Space Commercial Transportation.  
The evolving space sector is presenting new and attractive business opportunities



Richard Branson in Sitael



Joseph Aschbacher Space Rider / Grottaglie Spaceport



# Infrastructure: Grottaglie Spaceport



On 5 May 2020 ENAC published a draft regulation on the construction and operation of spaceports (Draft Regulation) which is the first piece of legislation on this type of infrastructure and is aimed at setting forth the features and requirements for the establishment of the first Italian spaceport.

On 21 October 2020 ENAC approved the regulation for construction and operation of spaceports

Aeroporti di Puglia is the company that will manage the spaceport



# Infrastructure: Grottaglie Airport Test Bed

## Mission

**Grottaglie Airport Test Bed (GATB)** is an Infrastructure in the technology domain of UAS. It is intended to support national, national and european public and private organizations in creating new knowledge, competence and capability in technologies, systems and applications of UAS.

### Systems and applications

UAS

Urban Air Mobility

Earth observation

Monitoring services

ATM/U-Space

UAS regulations and impacts

Spaceport

### Tecnologies

SatCom & Telecom

Payloads

Vehicle automation

Airframe and propulsion

Cyber Security

Data Analytics & AI

AR/VR

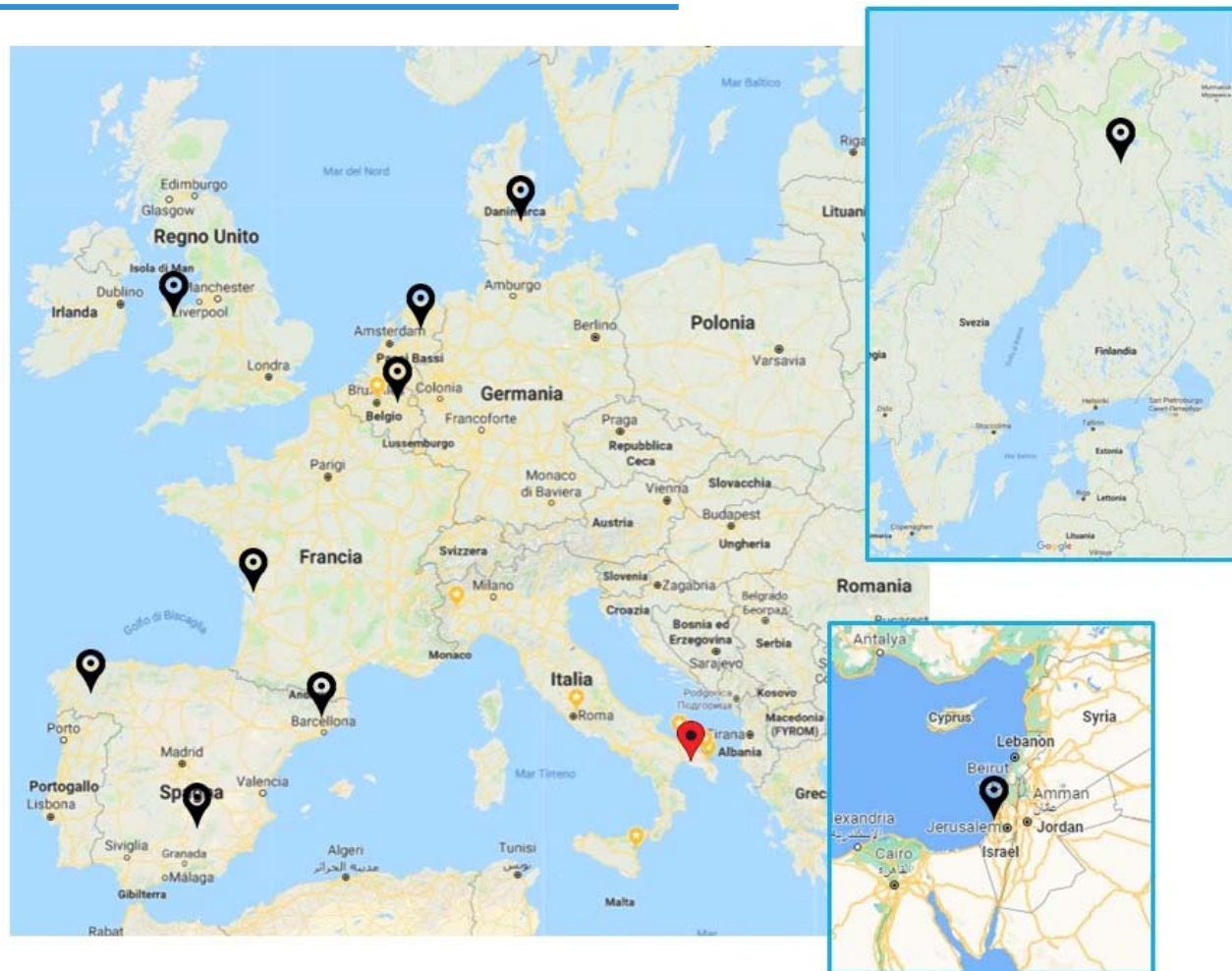
HMI

GATB will provide experimentation services aimed at boosting UAS innovation development

# Infrastructure: European capacity

Several European countries are quickly moving to support UAS/UAM industry

- Top institutions guidance/leadership
- Renew old/unused minor airfield
- Multidisciplinary community
- Light UASs main limitation





# Infrastructure: Grottaglie Airport Test Bed

**Grottaglie Airport Test Bed (GATB):** technological infrastructure, nested with airport and airspace, to favour, lead, and support UAS/UAM/AAM operators in industrializing products and services.

**Develop UASs and UAM services**  
**Flight trials in real life environment**  
**Industrial development platform**



## Physical assets

- Fully equipped, low traffic airport
- Large runway (45 X 3200 m)
- Large air space (~370Km<sup>2</sup>; on land, coast, sea)
- Sparsely populated area

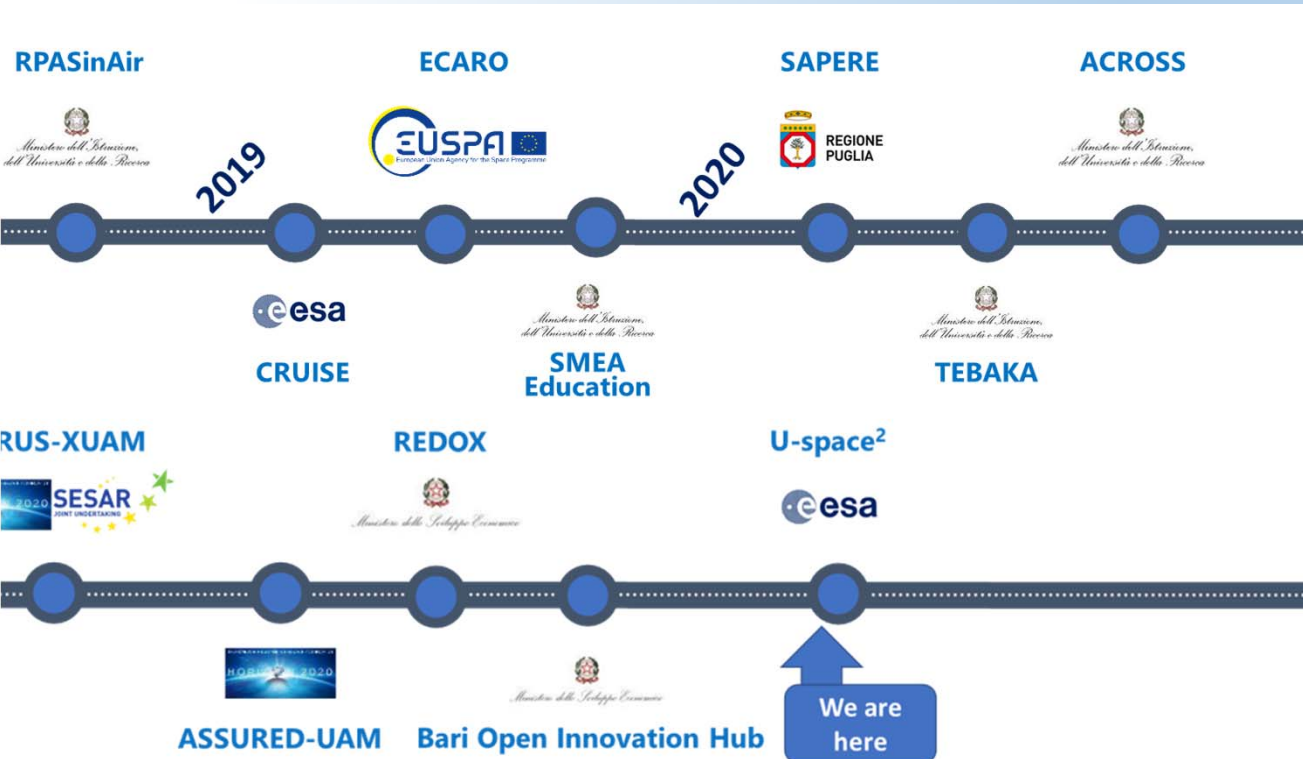
## Support services

- Test engineering and risk assessment
- UAS operation authorization

## Technology assets

- Equipped office
- Data center
- Space services (SATCOM, GNSS) – *TPZ to provide*
- GNSS interference monitoring – *PLK to provide*
- Drone available
- Workshop

# UAS and UAM on going projects



## 14 Innovation & demonstration projects co-funded by

- H2020: 2
- ESA: 3
- EUSPA: 1
- IPA-CBC IT-AL-ME: 1
- MIUR: 3
- MISE: 2
- ASI: 1
- Regione Puglia: 1



## Aviation themes

- RPAS/UAS insertion into ATM
- GNSS-based navigation
- U-space services
- Cybersecurity

## Aerial services

- Precision farming
- Urban security/ safety
- Emergency management
- Transport of goods

## Total projects budget, all partners

**40+M€**

## KNOWLEDGE DISSEMINATION CHANNELS

- Scientific papers
- Conference participations and speeches
- Dissemination in European/SESAR/EASA work groups

# Infrastructure: Drone living lab – Bari Smart City

cooperative framework in which research, industry, institutions and users work together (co-design, development, real scenario test) to **accelerate the uptake of new space-based solutions**. The city of Bari is the biggest metropolitan area in Puglia, representing a perfect real-world scenario in which to test UAM services.



# Infrastructure: Drone Living Lab - Bari Smart City

## TEST AND EXPERIMENTATION IN THE URBAN AREA

### AVIATION



UAVs & parcel delivery



Air-Taxi e VTOL



Satellite



Space-port & Launcher



Monitoring

### MOBILITY



Autonomous driving



Goods delivery



Robots



eMobility e infrastrutture



Sensors

### SMART CITIES



Connectivity



Intelligent Traffic System



Cybersecurity



Smart building



Data analytics AI/ML

# Drone Living Lab - City of Bari: Next flight trials



Nov/Dec  
2021

Jan/Mar  
2022

Jan/Mar  
2022

Jun  
2022

2022  
2023

2022  
2024

RPAS in ATM, BRLOS, GNSS, CyberSecurity, HMI/HF

Urban-park wildfire risk prevention

• Transport/delivery of medical goods

• Precision farming operations

UAM services for Smart Cities

DTA, Leonardo, Telespazio, Vitrociset, ENAV + Univ. and ROs

DTA, Vitrociset, Leonardo, ENAV, Bari

• DTA, ENAV, Pipistrel, d-flight, NAIS, Techno Sky

• DTA, ENAV, d-flight, Planetek, CNR, other UAS opr.

DTA, ENAC, ENAV, other UAS opr.

# DTA Network



## Main Project Partners

Authorities/ agencies	Technology Developers	ANSP and USSP	UAS Manufacturer and Operators	Consulting firms	Research Organizations
 ENTE NAZIONALE PER L'AVIAZIONE CIVILE ITALY CIVIL AVIATION AUTHORITY   Agenzia Spaziale Italiana	   a LEONARDO and THALES company    	   enabling autonomous flight	 an enav group company      		   Italian Aerospace Research Centre   Consiglio Nazionale delle Ricerche

## Cooperation

 ENTE NAZIONALE PER L'AVIAZIONE CIVILE ITALY CIVIL AVIATION AUTHORITY   a LEONARDO and THALES company	   CENTRO SPERIMENTALE DI VIDEO	 agenzia spaziale italiana    	 Italian Aerospace Research Centre  	 Cluster Tecnologico Nazionale Aerospazio Italian Cluster for Aerospace Technology	  	 network of european regions using space technologies   UIC <sup>2</sup> Unificazione Interregionale della Ricerca
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## Contact

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[Discover more: www.dtascarl.org](http://www.dtascarl.org)