



#smartcapsule

Problema



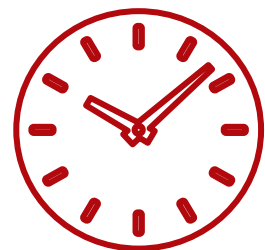
5 Milioni di sacche di sangue **perse**

Valore stimato **1 B€**



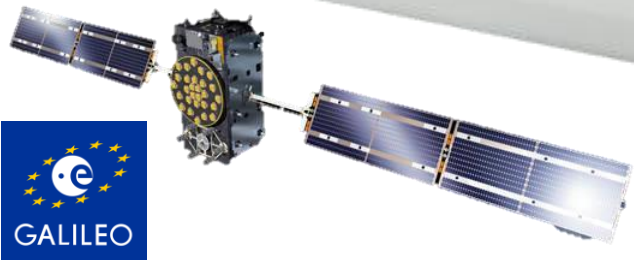
10.000 reni **scartati** dopo il trasporto

Valore stimato **0.5 B€**



Lunghi tempi di consegna

Soluzione



Smart Capsule



5 Brevetti
Approvati



Sensori innovativi
minilysis[®]
(pH & emolisi)



Intelligenza
Artificiale



Qualità
preservata e
garantita



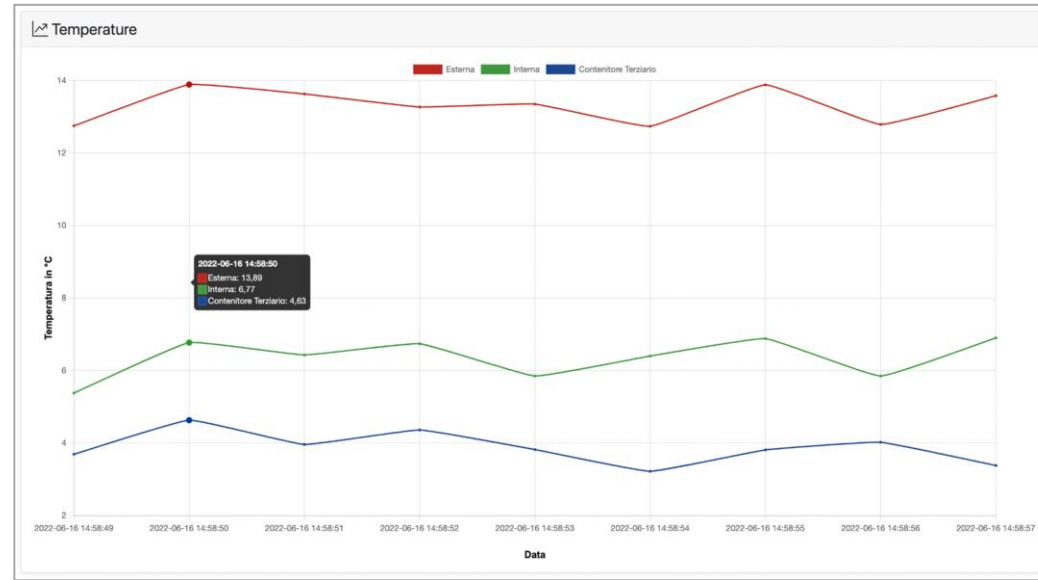
Piattaforma Spoke

App



Monitoraggio
delivery

Web



Monitoraggio
in real-time

Intelligenza Artificiale



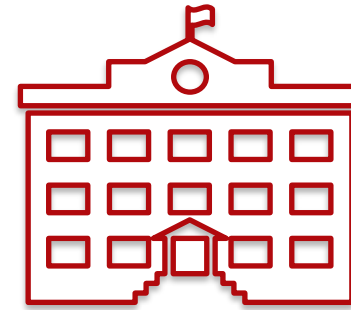
Supervisione &
controllo
veicoli
autonomi

Business model


MODELLO zero
POC / demo / long trial

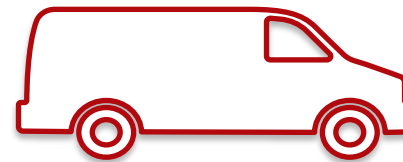
 **SERVIZIO**

MODELLO A
(lancio)



Servizi sanitari
pubblici e privati

MODELLO B
(Scale up)

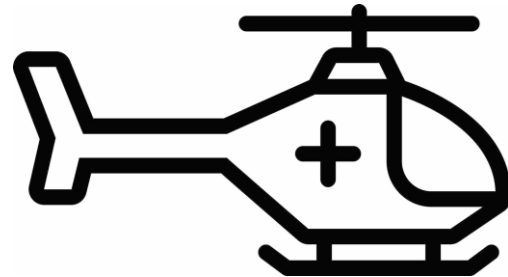
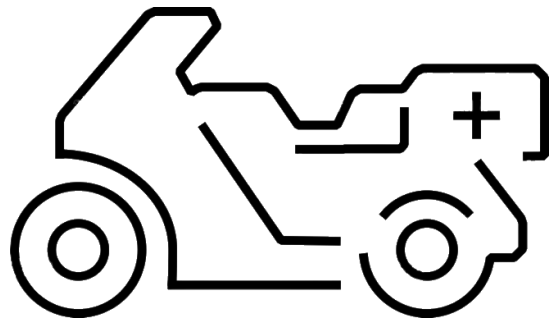
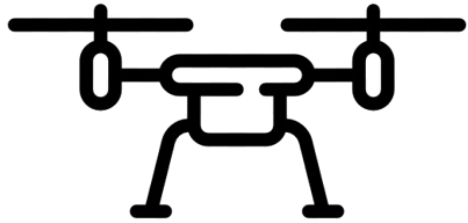


Operatori logistici
Tradizionali
(+ 40% margine)



Vantaggio Competitivo

Multimodalità

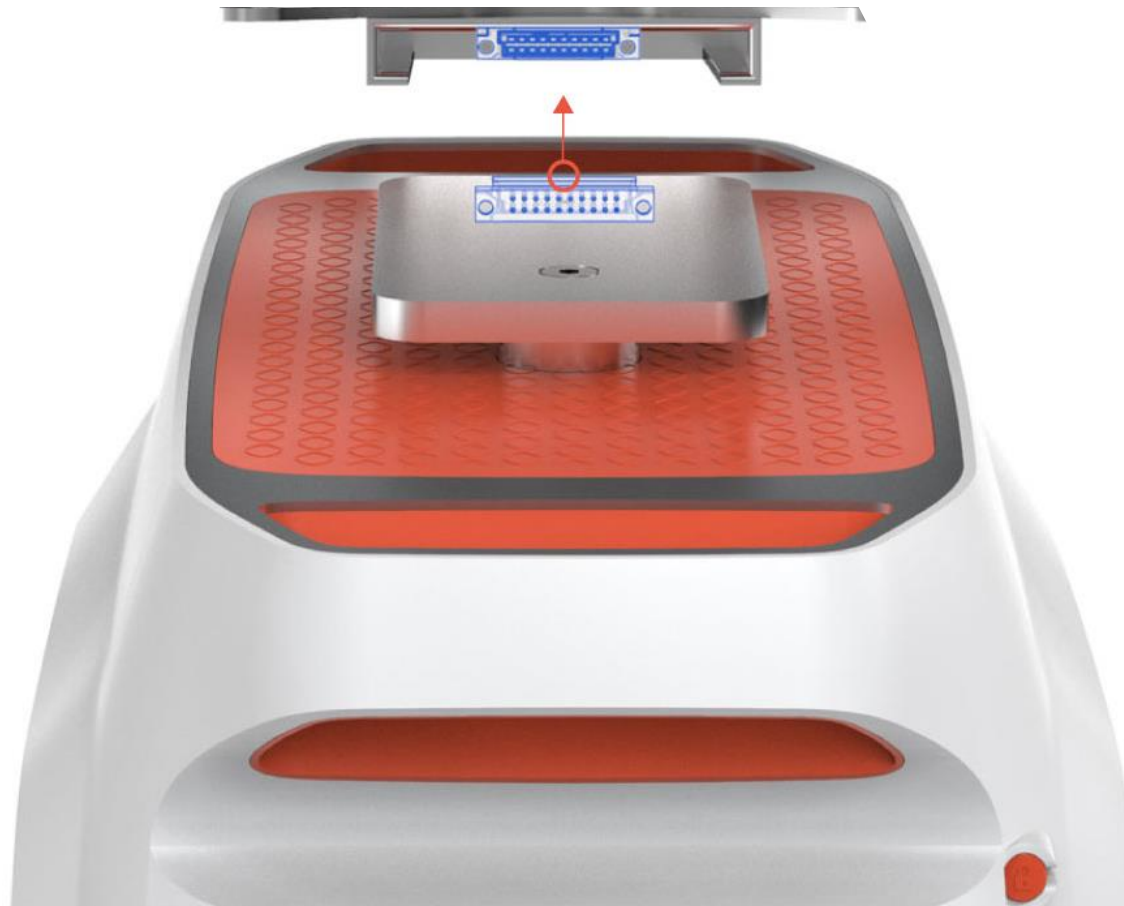
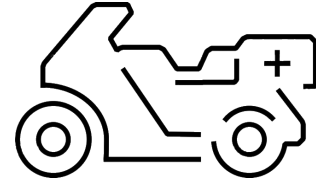
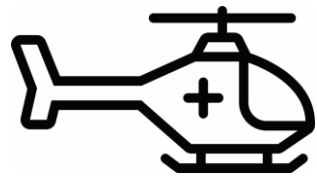
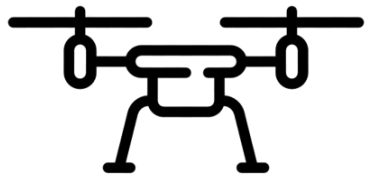


80% Riduzione del tempo di consegna

40% Riduzione di costi diretti

CO₂ Riduzione di emissioni

Smart link



Any-drone compatibility

AI



Exacopter DJIM600 (17 km range)



Octacopter ID8HSE (10 kg payload)



Quadricopter (100 km/h max speed)



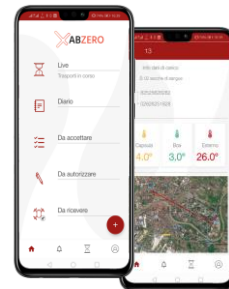
VTOL



Funzionamento



- 1 Richiesta
- 2 Autorizzazione
- 3 Avvio missione e monitoraggio
- 4 Consegna

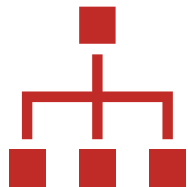




Step by step

Architettura della piattaforma software per attivare la procedura di richiesta, carico della capsula, volo e ricezione

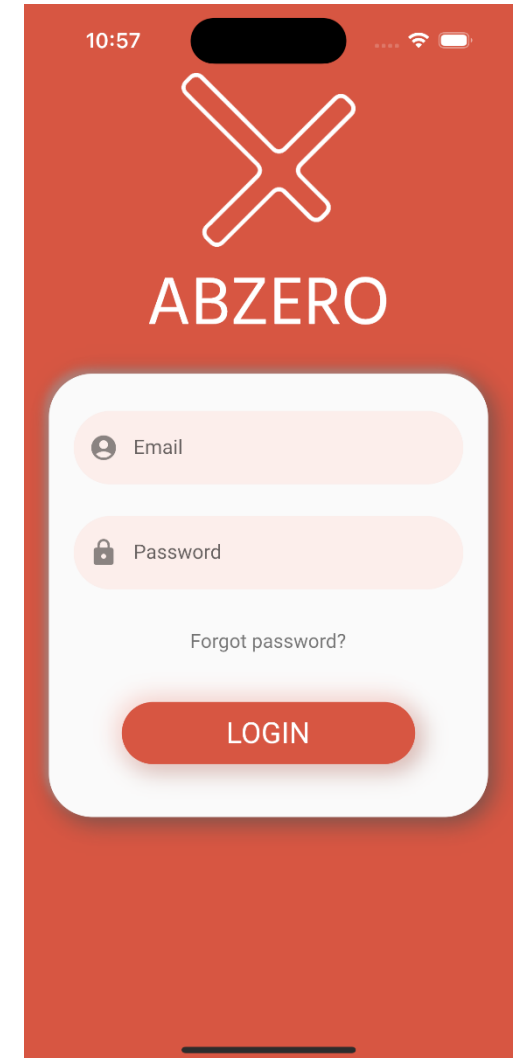
- Semplice ed intuitiva
- Nessuna possibilità di errore per l'operatore,
- Nessuna necessità di licenze di pilotaggio per l'operatore



Multi-ruolo



Multiutente





Invio/ Ricezione/ Sistema di autorizzazione

Procedura d'invio

Procedura di ricezione

Procedura di autorizzazione



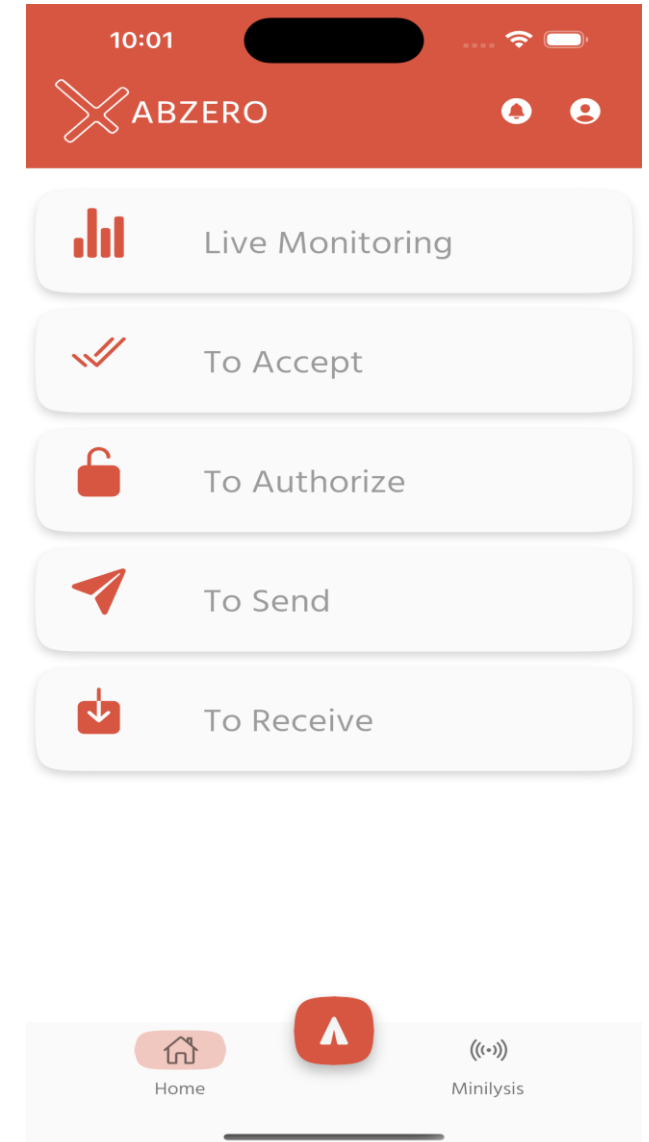
Operatore d'invio



Operatore di ricezione



Responsabile autorizzativo





Procedura d'invio



Addetto all'invio



10:03

USER PROFILE

Operatore Rosso

Qualification: Operatore

Phone: 12345678

Email: operatore@abzero.it

Address: via operatore 1

Status: Attivo

LOGOUT

12:20

T. TO ACCEPT

MAR 3 FRI	MAR 4 SAT	MAR 5 SUN	MAR 6 MON	MAR 7 TUE	MAR 8 WED	MAR 9 THU
-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------

ID: 231 **DRONE**

From: AREU 1

To: AREU 2

Departure Date: 03/03/2023 12:16

Status: Creato

ACCEPT

12:16

DRONE TRANSPORT

REQUEST NEW TRANSPORT

Departure Date: 2023-3-3

Departure Time: 12:16

SELECT HOSPITALS

Starting Location: AREU 1

Ending Location: AREU 2

CANCEL SEND

Home Minilysis

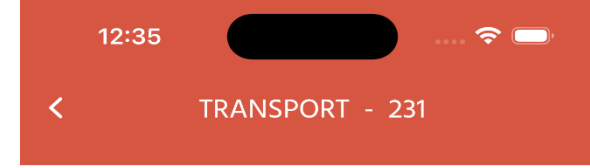
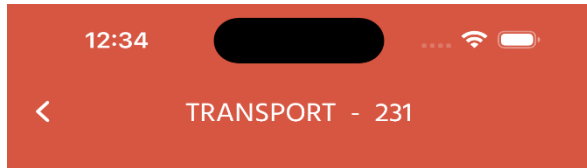
Home Minilysis



Procedura di ricezione



Addetto alla ricezione



- 1 CONFIRM SMART CAPSULE IS ARRIVED
Press the button to confirm and authorize Capsule opening

CONFIRM

CONTINUE CANCEL
- 2 OPEN SMART CAPSULE
- 3 CONFIRM

- 1 CONFIRM SMART CAPSULE IS ARRIVED
- 2 OPEN SMART CAPSULE
Open capsule and check payload and data.

OPEN

CONTINUE CANCEL
- 3 CONFIRM

- 1 CONFIRM SMART CAPSULE IS ARRIVED
- 2 OPEN SMART CAPSULE
- 3 CONFIRM
Confirm payload and data check?

CONTINUE CANCEL



Procedura autorizzativa



Responsabile autorizzativo

3



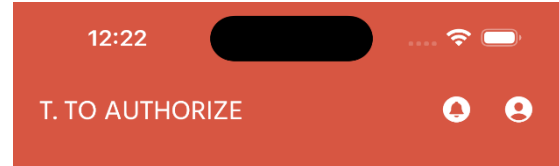
Live Monitoring

To Accept

To Authorize

To Send

To Receive



MAR	MAR	MAR	MAR	MAR	MAR	MAR
3	4	5	6	7	8	9
FRI	SAT	SUN	MON	TUE	WED	TH

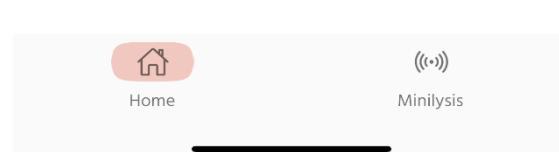
ID: 231 **DRONE**

From: AREU 1

From: AREU 2

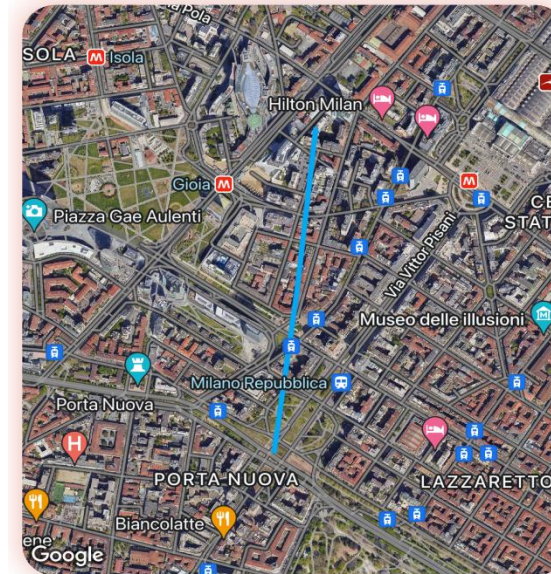
Departure Date: 03/03/2023 12:16

Status: Accettato



Status: Accettato

Departure Date: 03/03/2023 12:16



REFUSE

AUTHORIZE



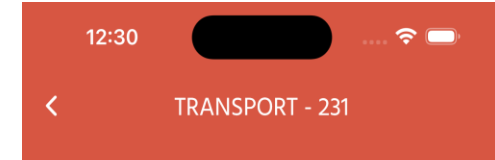
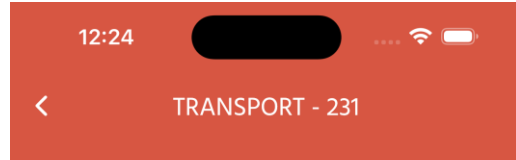
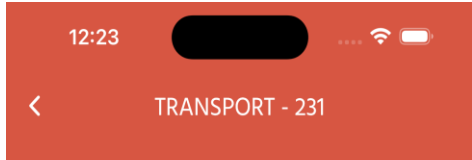
AUTORIZZA



Procedura di caricamento ed invio



Addetto all'invio



1 WEATHER CHECK

2 TURN ON THE SMART CAPSULE

Wait until the display shows CAPSULE CONNECTED message

CONTINUE

CANCEL

3 SELECT SMART CAPSULE

4 INSERT PAYLOAD DATA

5 CONFIRM



1 WEATHER CHECK

2 TURN ON THE SMART CAPSULE

3 SELECT SMART CAPSULE

Capsula 1

CONTINUE

CANCEL

4 INSERT PAYLOAD DATA

5 CONFIRM



1 CAPSULE BLE CONNECTION

Stay within 10 meters of the capsule and start the Bluetooth connection

CONNECT

Status: -

CONTINUE

CANCEL

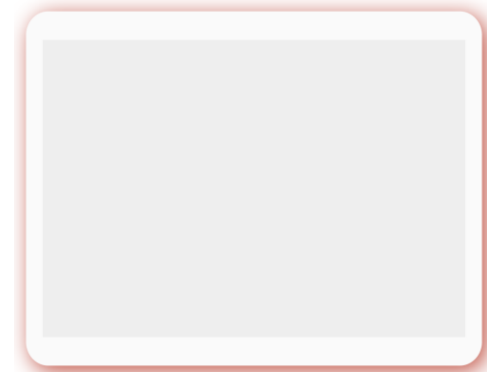
2 VIEW PRE-FLIGHT PARAMETERS

3 CONFIRM

TAKEOFF ALLOWED

Sign and press the Finalize and takeoff button

FINALIZE AND TAKEOFF



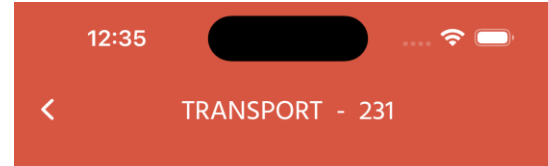
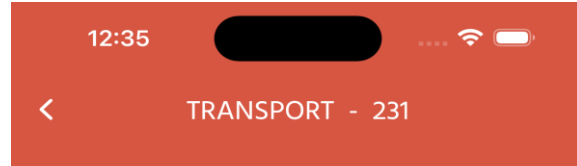
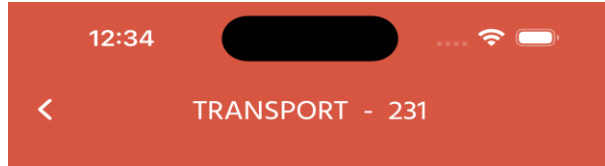


Procedura di ricezione



5

Addetto alla ricezione



1 CONFIRM SMART CAPSULE IS ARRIVED
Press the button to confirm and authorize
Capsule opening

CONFIRM

CONTINUE CANCEL

2 OPEN SMART CAPSULE

3 CONFIRM

1 CONFIRM SMART CAPSULE IS ARRIVED

2 OPEN SMART CAPSULE
Open capsule and check payload and data.

OPEN

CONTINUE CANCEL

3 CONFIRM

1 CONFIRM SMART CAPSULE IS ARRIVED

2 OPEN SMART CAPSULE

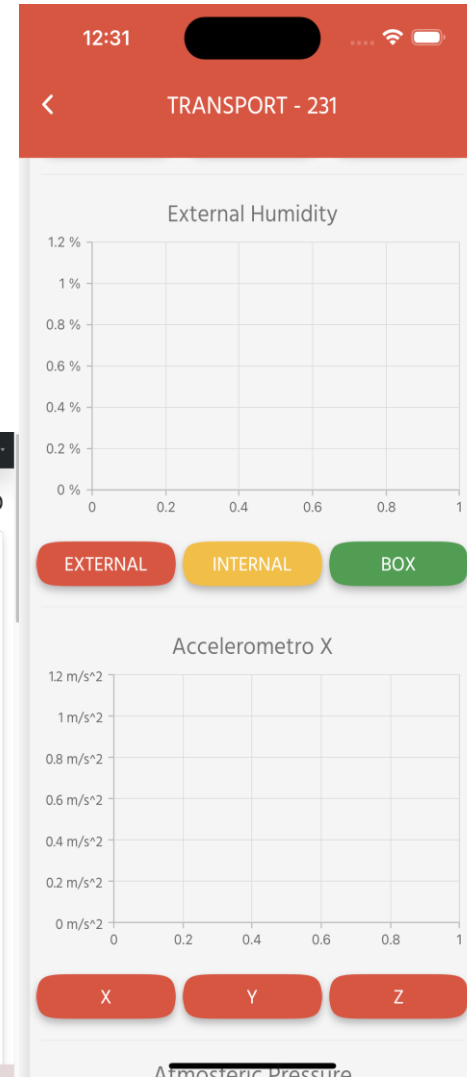
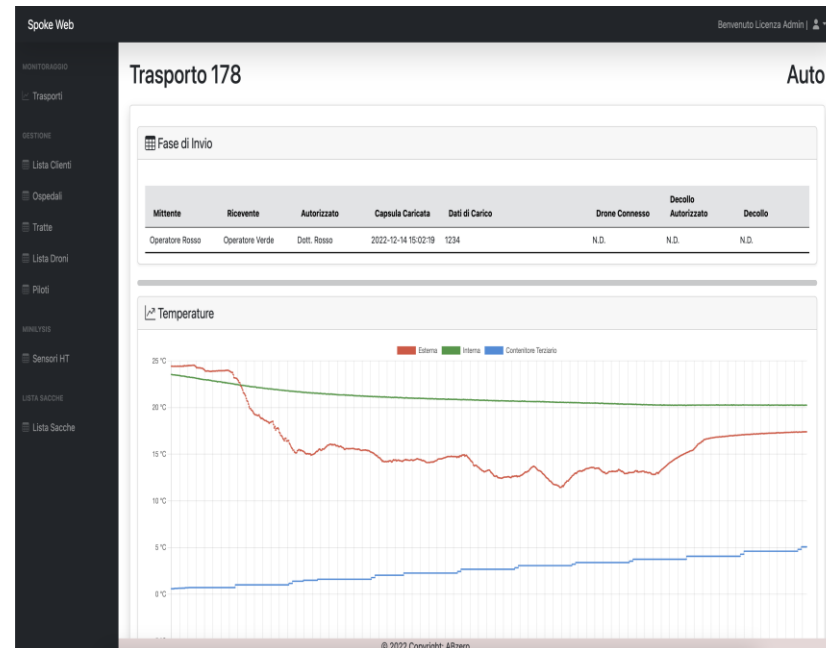
3 CONFIRM
Confirm payload and data check?

CONTINUE CANCEL



Monitoraggio del trasporto

- Temperatura (misurazione e mantenimento passivo): interna, esterna, terziario
- Umidità relativa
- Emolisi del sangue
- pH
- Stato della batteria



12:36

MINILYSIS SENSORS

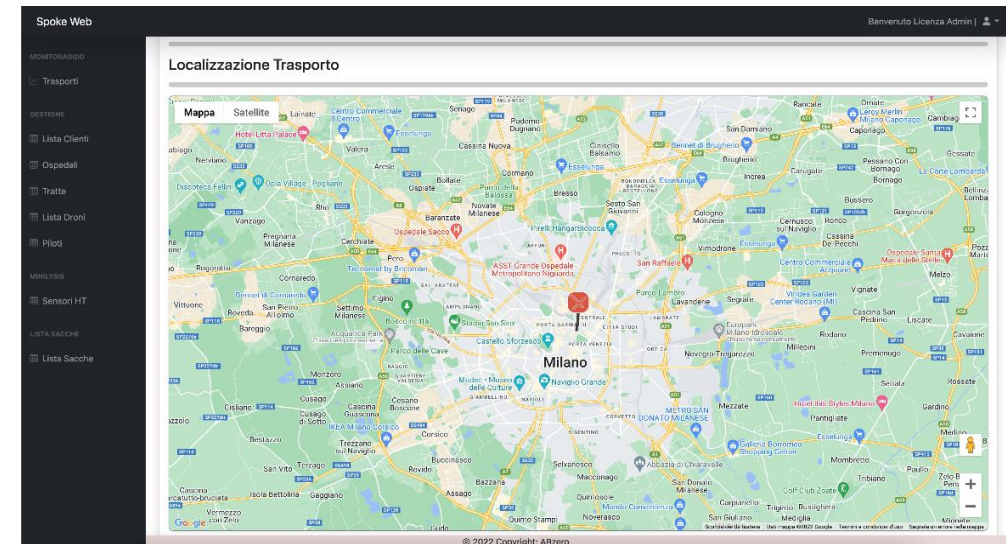
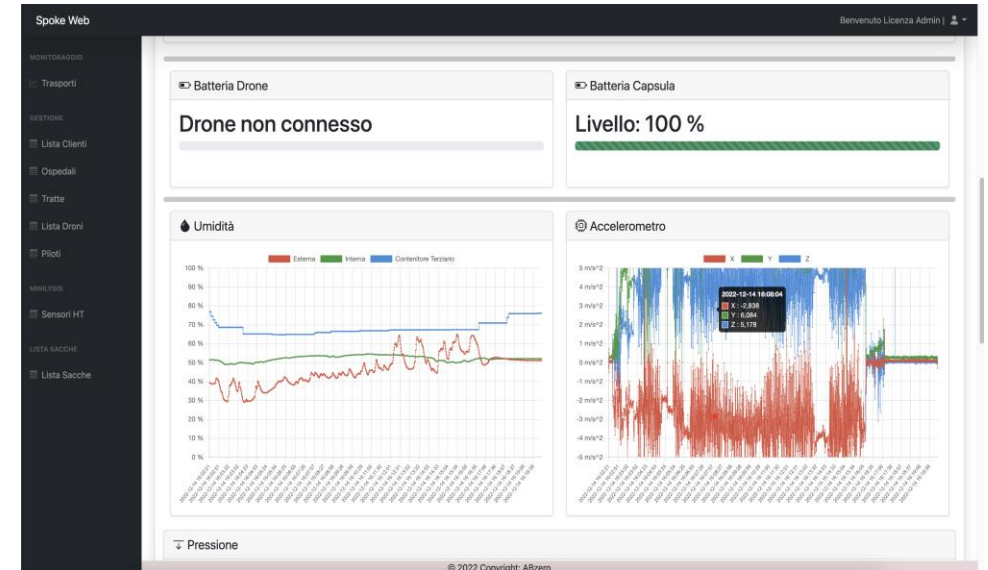
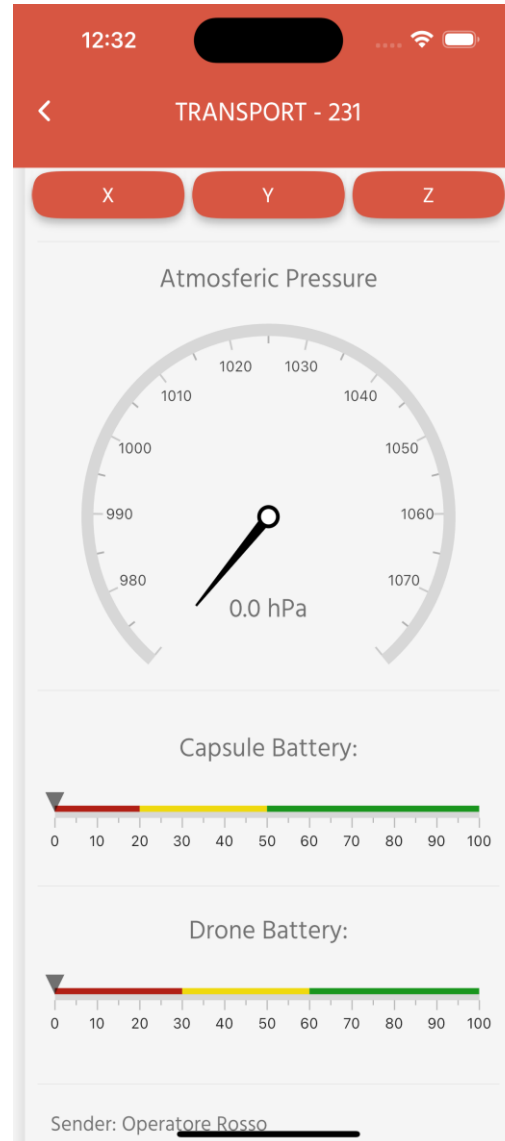
- Live Monitor Sensor
- Associate Sensor
- Terminate Association

Home Minilysis



Monitoraggio del volo

- Parametri e monitoraggio del drone
- Controllo attivo della rotta
- Monitoraggio intelligente degli ostacoli
- Video Streaming
- Accelerometro
- Geolocalizzazione del trasporto



Traction

4 Servizi sperimentali attivati (Modello A)

- Ospedale San Raffaele - Milano
- Città della Salute e della Scienza - Torino
- CTTCM - Malaga, Spagna

1 Servizio continuativo attivato (Modello A)

- Ospedale di Livorno - Toscana

1 Servizio attivato (Modello B)

- Operatore logistico trasporto sangue, Servizio di Emergenza Isole Eolie



Servicio Andaluz de Salud
CONSEJERÍA DE SALUD



> **40** LOI (2 contratti in pre-firma)

4 versioni di prodotto

5 Brevetti approvati



Milano, Torino, Livorno, Malaga, Sicilia



Ospedale San Raffaele e droni: innovazione per trasporto biomedicale e sicurezza con FF2020

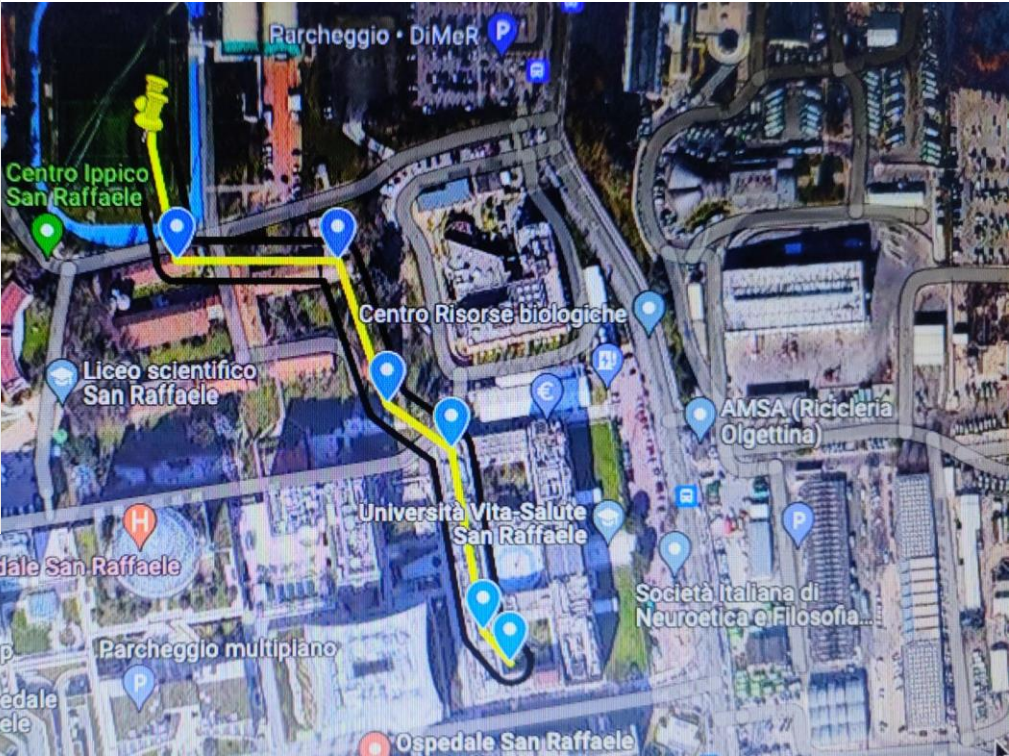
0 [Danilo Scarato](#) 2023-03-30



Contratto sperimentale Ospedale San Raffaele, Milano

Ospedale San Raffaele e droni: innovazione per trasporto biomedicale e sicurezza con FF2020

0 Danilo Scarato 2023-03-30



Attività a Malaga, Spagna



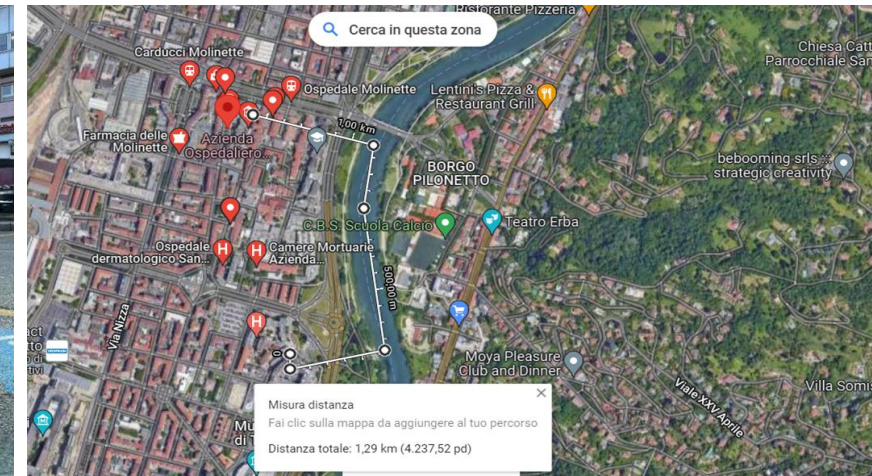
Servicio Andaluz de Salud
CONSEJERÍA DE SALUD

Grazie al programma europeo Horizon 2020 ABzero ha dimostrato in ambiente ospedaliero, presso un ospedale di Malaga, la facilità d'uso attraverso una breve formazione del personale sull'uso intuitivo del sistema.



Sperimentazione e follow up Citta' della Salute - Torino

Nell'ambito di CTE Next e con il finanziamento del Comune di Torino, ABzero ha dimostrato la fattibilità dell'utilizzo del sistema nelle aree urbane.



Studio pilota servizio ASL Toscana Nord Ovest, Livorno

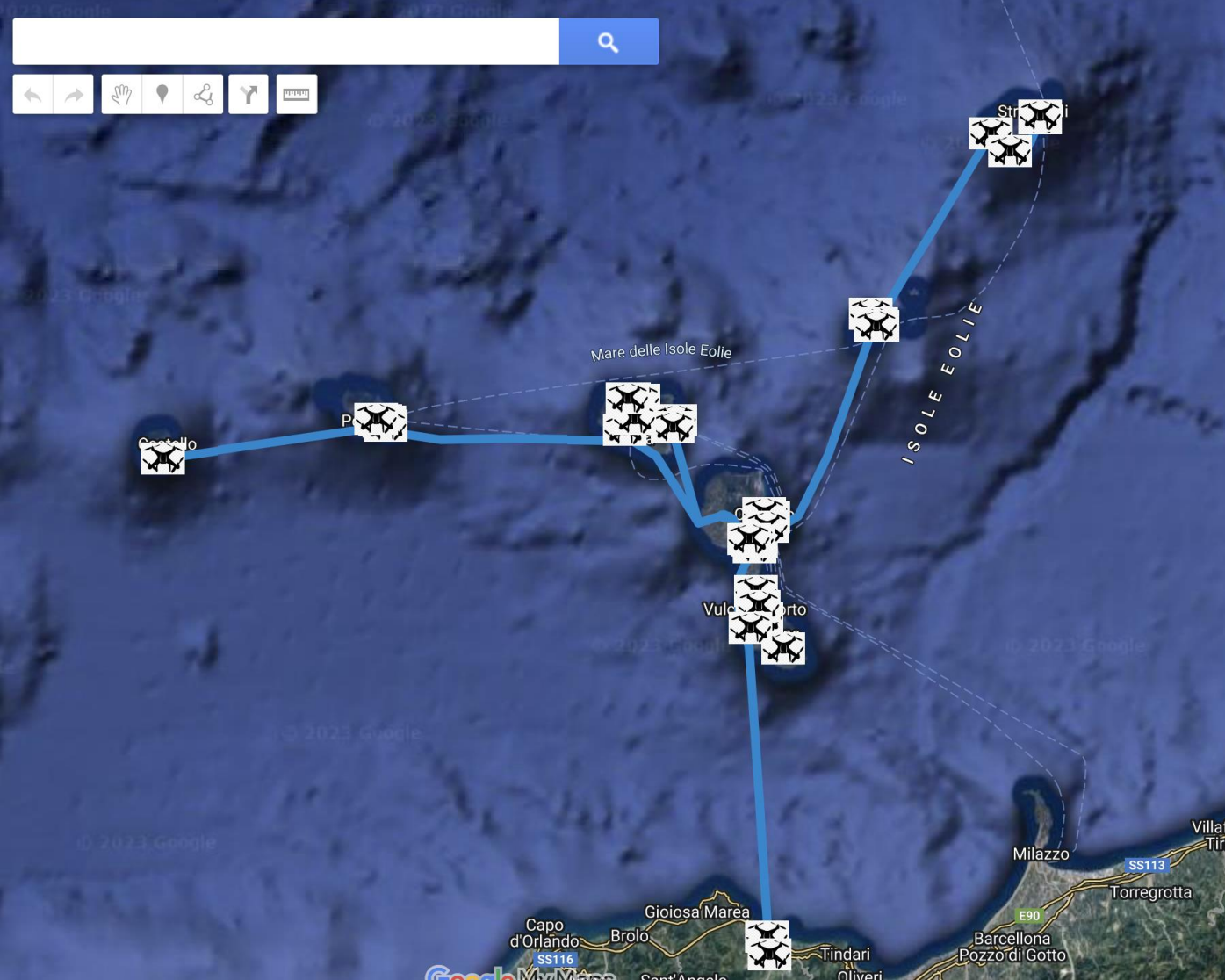


**PIANO PER LA
TRANSIZIONE AL
DIGITALE**

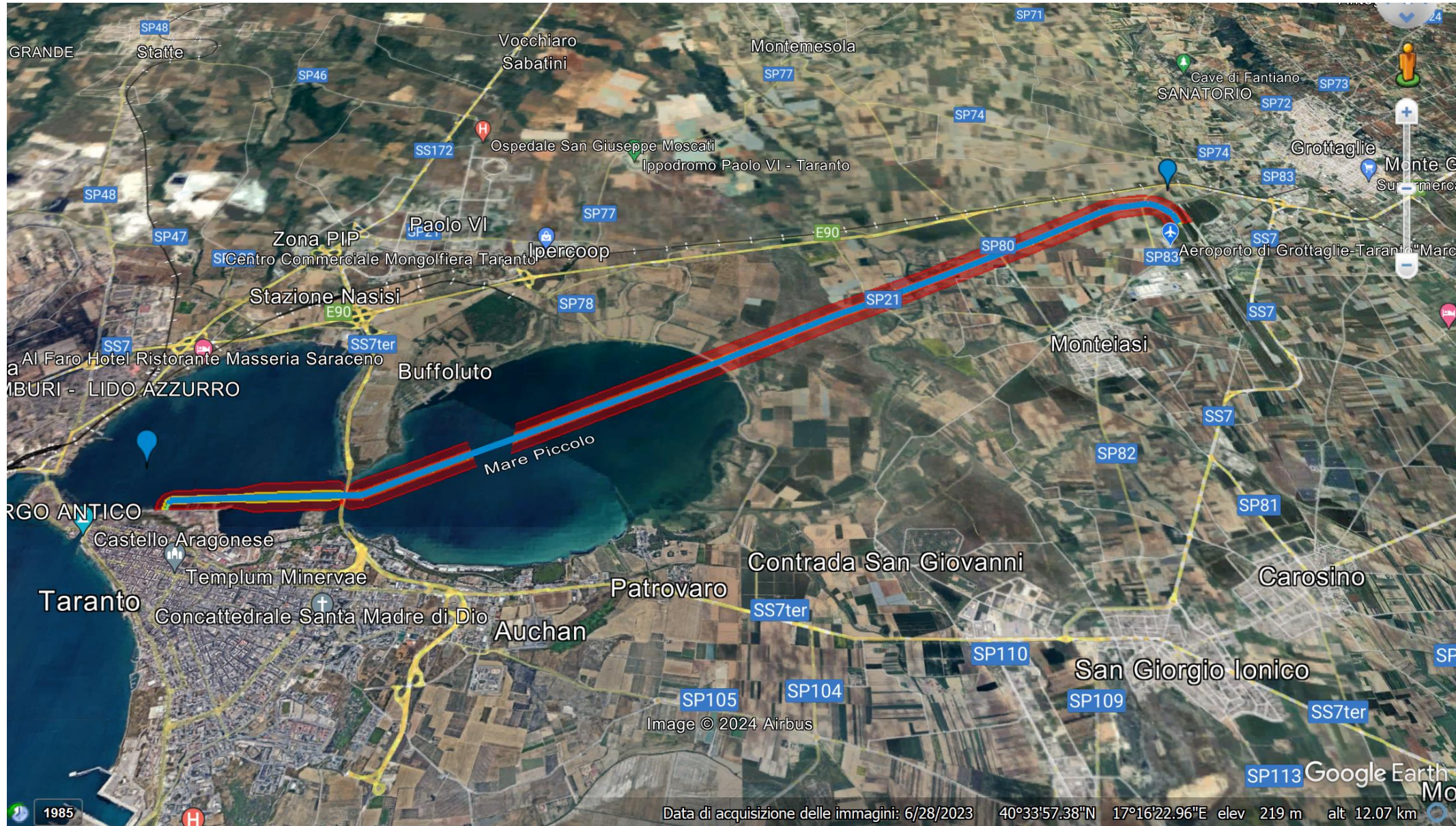
2020-2022

RTD : Ing. Alessandro Iala

Servizio di emergenza Isole Eolie, Sicilia



Attività Grottaglie Distretto Tecnologico Aerospaziale



Team



GIUSEPPE TORTORA
Founder & CEO

PhD in Medical Robotics, previous
experience in medical startup



DONATELLO AMICONE
CTO

PhD engineer with experience in
startup



SERGIO ZAMBONI
business developer & CFO



ALBERTO MARCI
software developer



DENIS BUSCAINO
software developer



ANNALISA BUSCEMI
Communication & project
manager



MARTA VIALE
Sustainability manager &
administration



GIOVANNI CIRONE
Operations manager



FLAVIO PICCIOLO
System manager



ROSANNA ZAZA
Funding & Strategy
manager



ACHILLE CIANCI
Commercial agent



Advisors & mentors



FABRIZIO NIGLIO
Medical doctor
Director Immunoematology Pisa -
Livorno



ALESSIO GIUSTI
Expert Drone Pilot



CINZIA COLOMBARI



ALFREDO FAGOTTI





Giuseppe Tortora
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info@abzero.it



@abzerox



**WE ARE BREAKING
DISTANCES
TO SAVE LIVES**