

AEROTUNNEL

LEVERAGE
OUR TECH

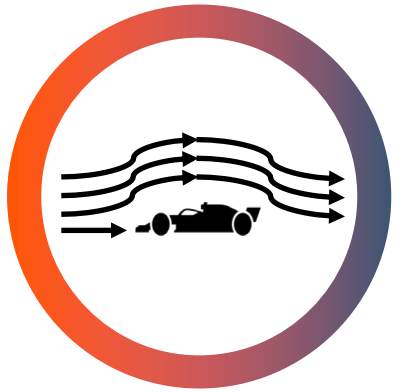
www.aerotunnel.it



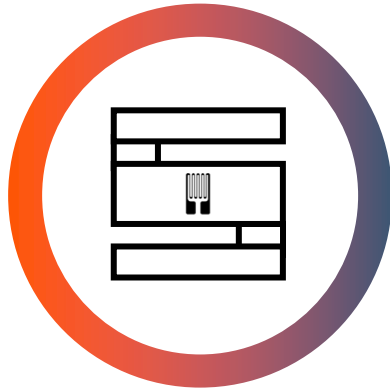
What is **AEROTUNNEL**?

A **closed-circuit wind tunnel** facility, located in Gorizia, Friuli Venezia Giulia - Italy

What do we offer?



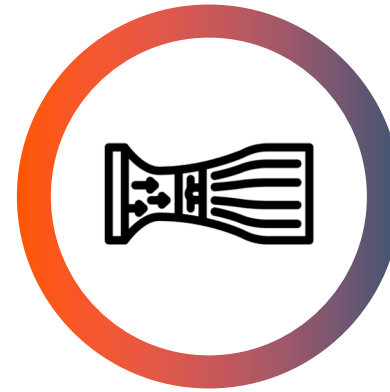
Aerodynamic
testing



Load cells
Design and
manufacturing



Balances
Design and
manufacturing



Wind tunnel
design and
manufacturing



Dedicated
software
development

AEROTUNNEL's test facility and core instrumentation has been entirely developed by its team of engineers and manufactured at ASSE's workshop.

HSTS

High Speed Test Section

Upper TS

Front area: 2,4 x 2,4 m

Length: 6 m

Max speed: 150 km/h

- Higher speed tests in real scale for sports (skiing, cycling, motorcycling) or scaled models (aeronautical and other industrial sectors)
- Equippable with a support mast with variable pitch and yaw angles to measure aerodynamic coefficients



LSTS

Low Speed Test Section



Lower TS

Front area: 7,0 x 2,4 m

Length: 10 m

Max speed: 50 km/h

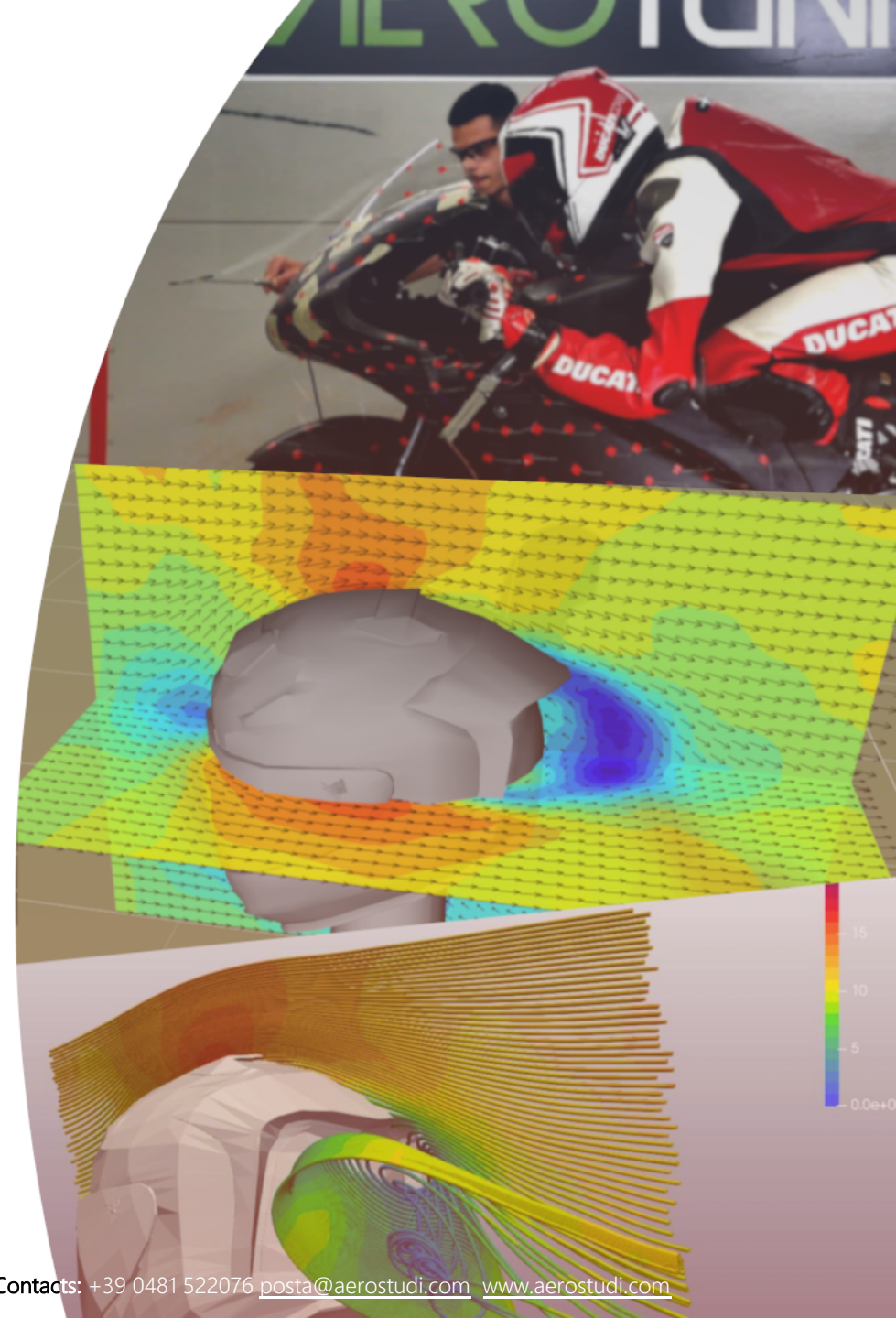
One of Italy's largest Atmospheric Boundary Layer wind tunnels

- Low speed tests on auto vehicles, ship models and buildings
- Built-in 360° rotation capability to expose the model to different yaw angles



Our testing equipment

- Internal/external 6DOF **balances**
- **Hot wire** anemometers
- **Pressure** probes
- **Pitot** tubes
- In-house designed and manufactured **force transducers**
- **Smoke** generator
- Bruel & Kjaer **phonometer with binaural microphones**
- Real time **3D flow measurement and visualization** tool



Test **data** and **videos**

Data acquisition

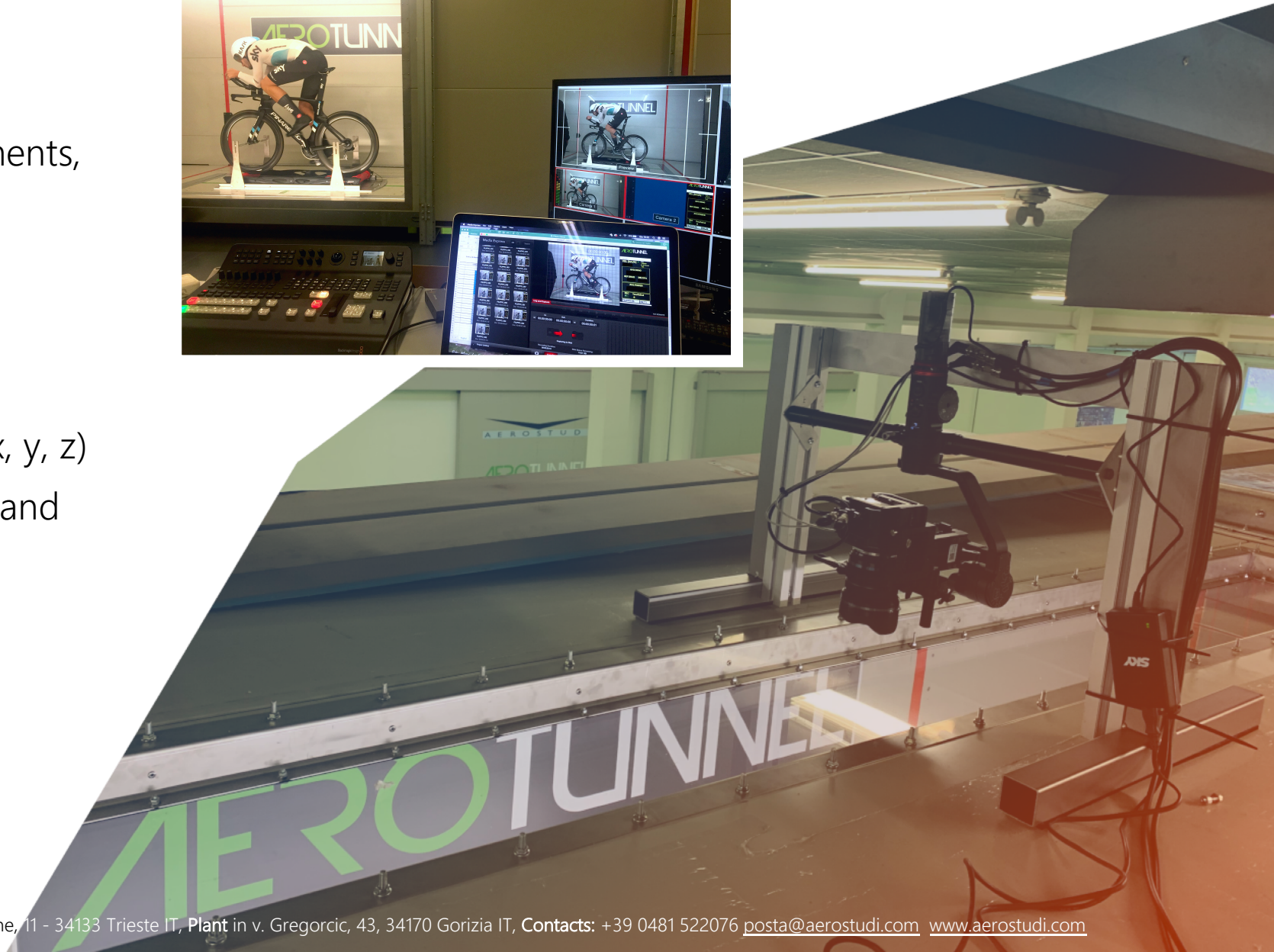
In-house software to configure instruments, acquire and record data.

Real time results

TV studio

3 Ultra HD (4k) TV cameras on 3 axis (x, y, z)

State of the art video console to show and record tests





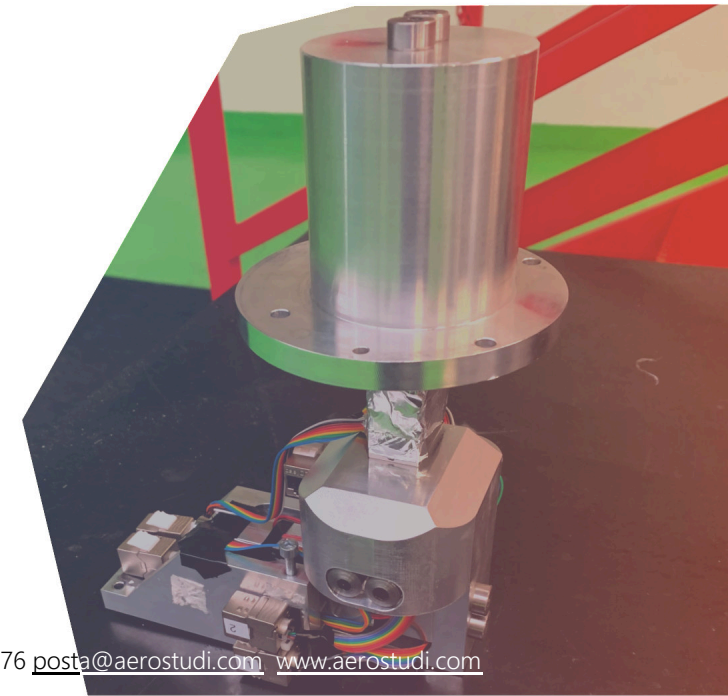
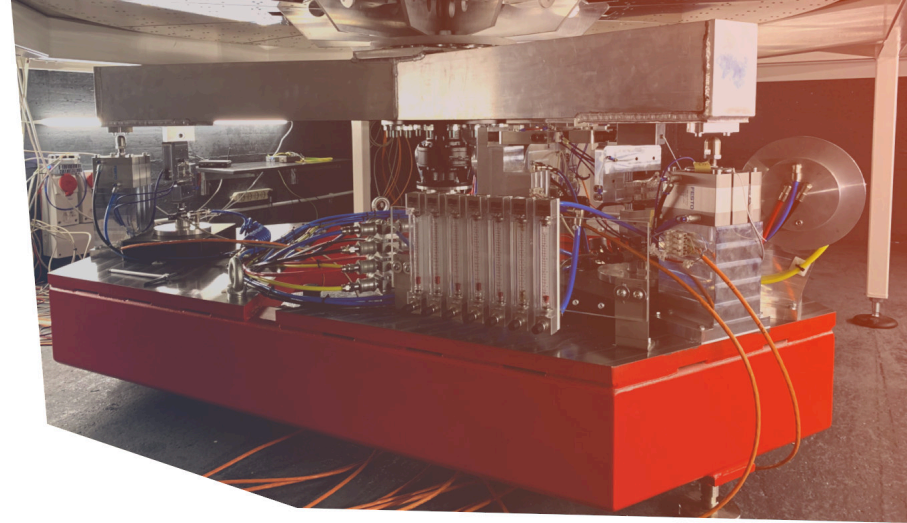
Our **load cells**

Internally developed force transducers: the core of AEROTUNNEL's balances

- Precision < 2 ‰ of full scale
- Specifically designed to meet customer's demands

Our balances

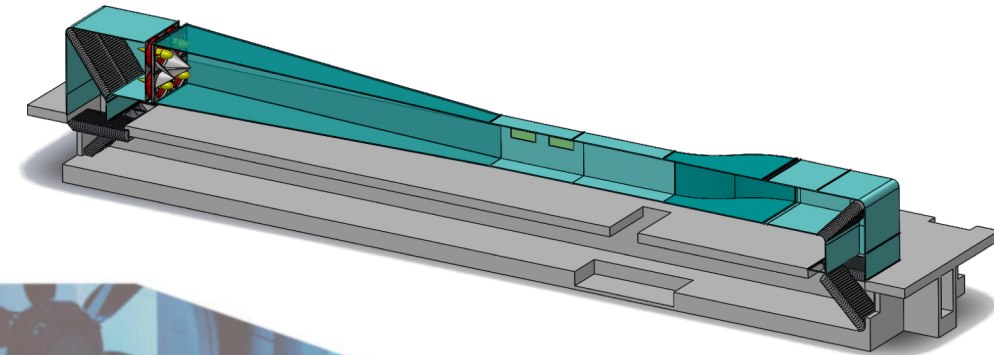
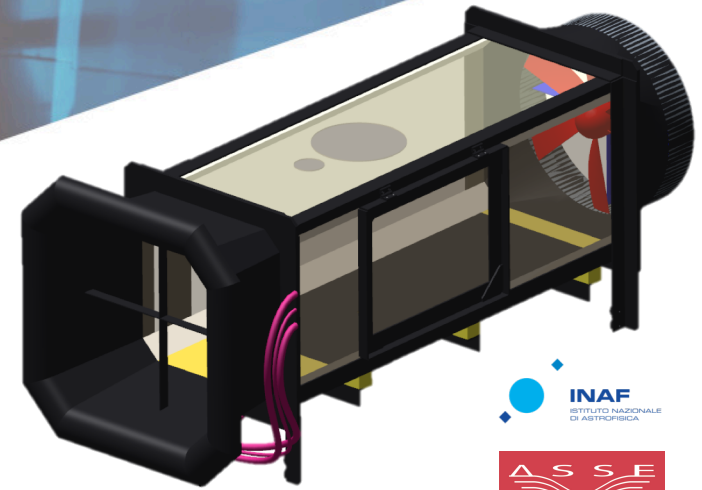
- 6DOF
- Can be used under control of a fully computerized data acquisition and model attitude control systems
- Continuously electronically controlled yaw angle: -360° to $+360^\circ$
- Continuously electronically controlled pitch angle with an additional mast on request
- Precision $< 2 \text{ ‰}$ of full scale
- Sensitivity on x and y axes $< 0,01 \text{ ‰}$ of the z load (we can measure 5 g drag force with a 500 kg load along z)
- Dimensions from $\text{Ø}300 \text{ mm}$ up to $\text{Ø}4000 \text{ mm}$ with loads from 10 kg up to 10.000 kg

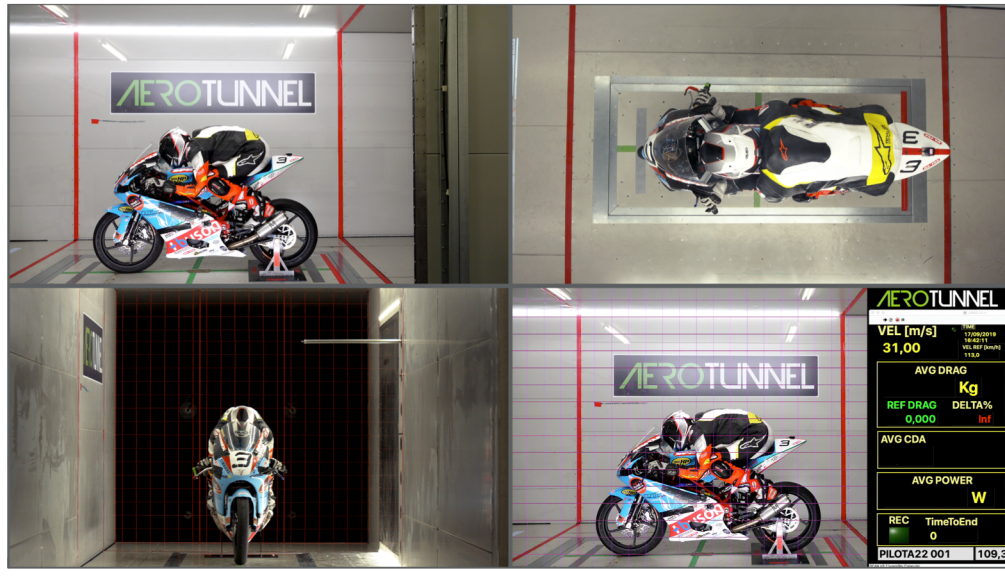


Wind tunnels design and manufacturing

We can build a custom balance for your wind tunnel, build a wind tunnel around a balance or design everything from scratch based on your requirements

- Open and closed loop
- Vertical and horizontal
- From little test sections for didactic purposes up to industrial scale
- Designed for any specific needs

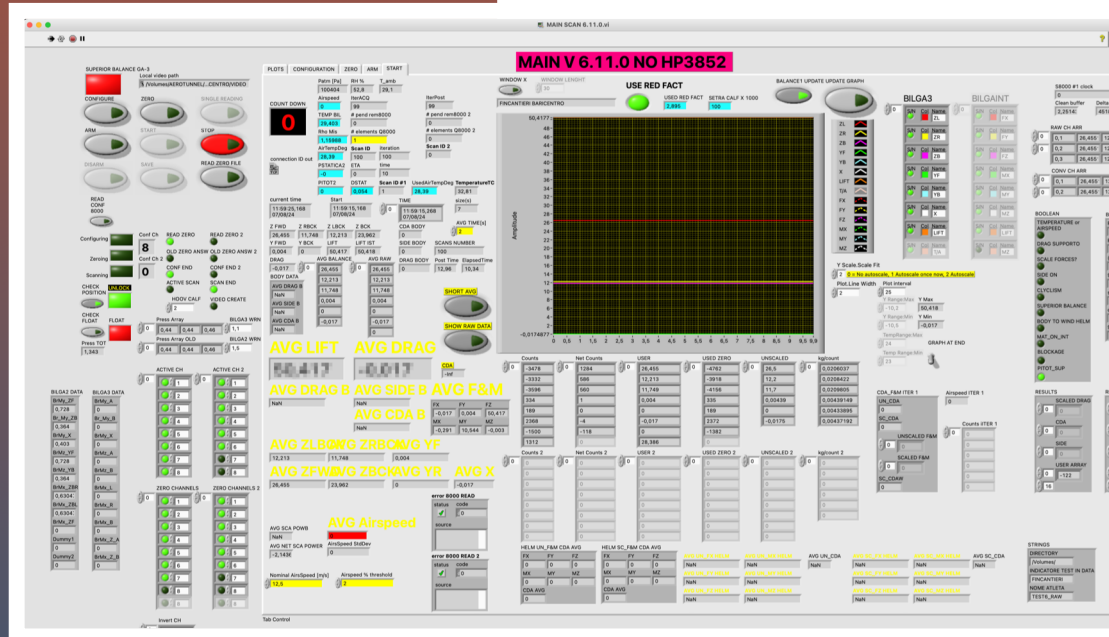




Software

Written, tested and validated by us for wind tunnel testing management

- Manages acquisition and video recording
- Few manual inputs required
- The operator's role is mainly to oversee the test, paying attention to possible anomalies





If you want to **know more...**

Follow us on **LinkedIn!**



AEROTUNNEL and **AEROSTUDI™** by **ASSE S.r.l.**

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