

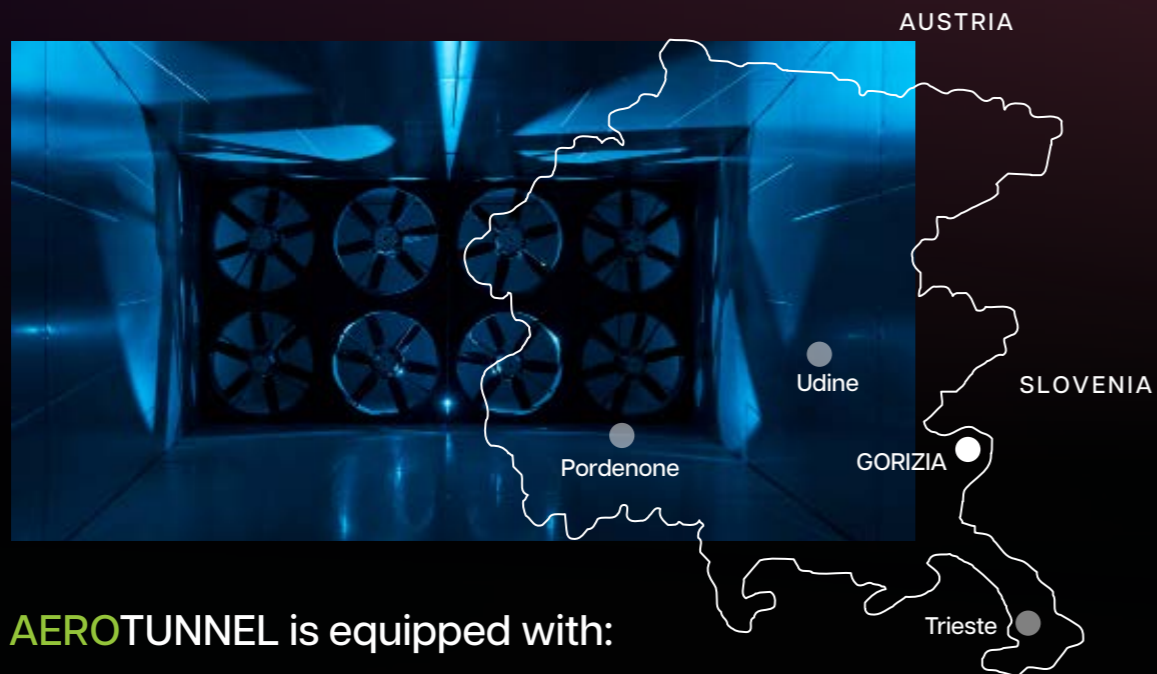
AEROTUNNEL

LEVERAGE
OUR TECH

www.aerotunnel.it

What is **AEROTUNNEL?**

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



AEROTUNNEL is equipped with:

- Internal/external 6DOF balances
- Hot wire anemometers
- Pressure probes
- Pitot tubes
- In-house designed and manufactured force transducers
- Smoke generator
- Bruel & Kjaer Phonometer
- Real Time 3D Flow Measurement and Visualization Tool

AEROTUNNEL's test facility and core instrumentation has been entirely developed by AEROSTUDI's team of engineers.

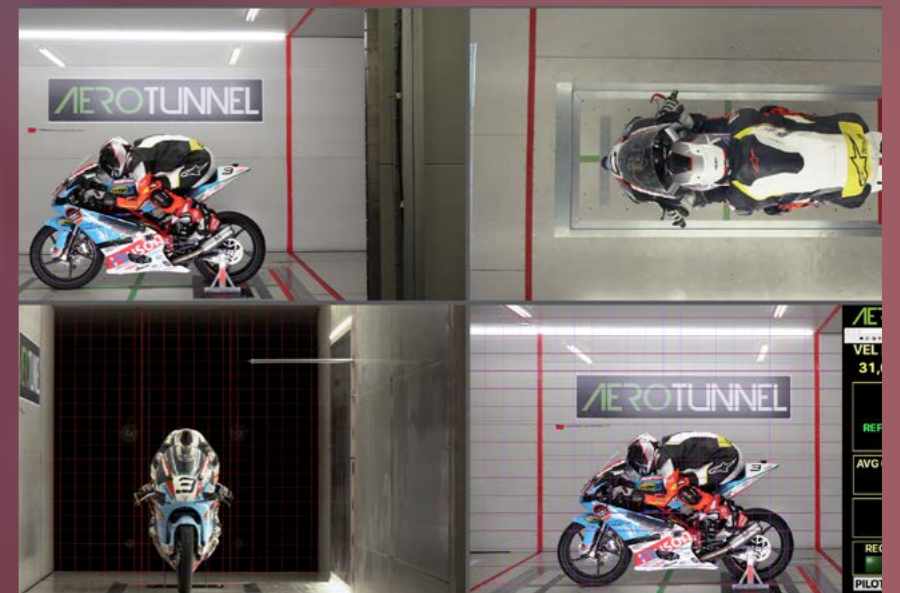
We can design and manufacture wind tunnels and instrumentation based on customers specifications.

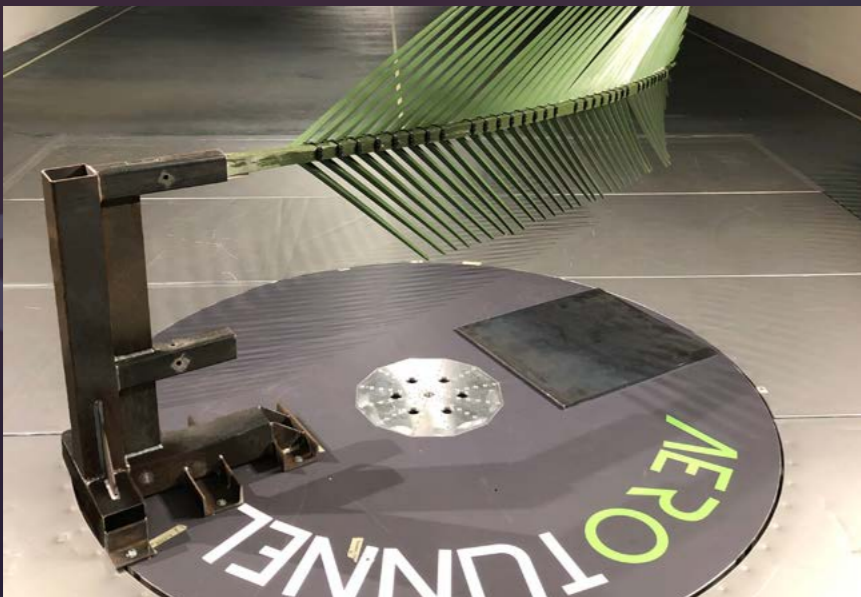
HSTS

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

Test data and videos

Data acquisition:

In-house software to configure instruments, acquire and record data, results are in real time

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



Wind tunnels

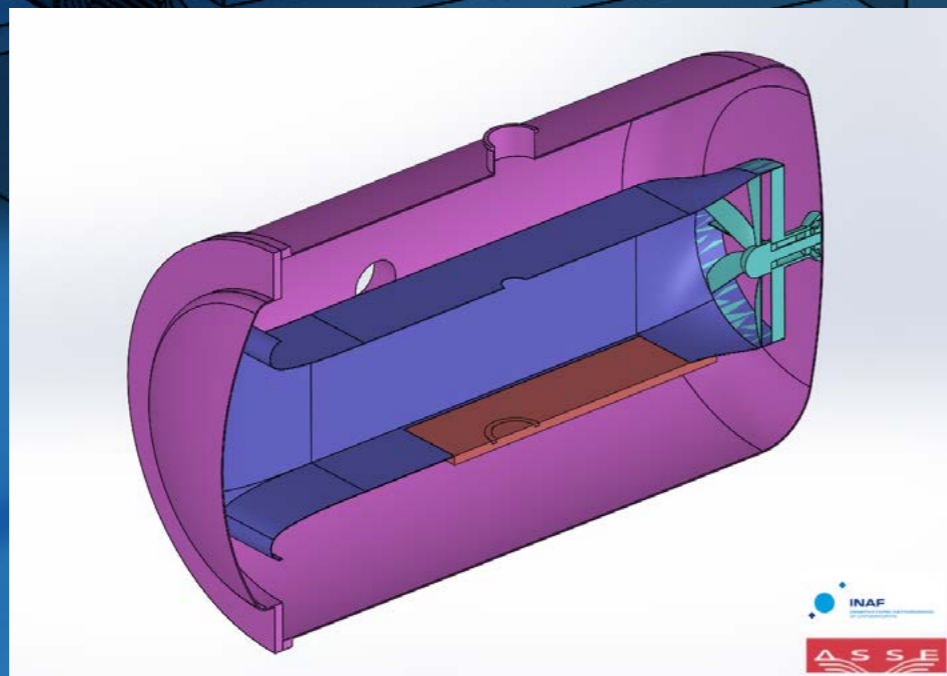
Open and closed
Vertical and horizontal loops

From little test sections for didactic purposes up
to industrial scale

Designed for any specific needs



Example: test rig for aerodynamic noise measurement



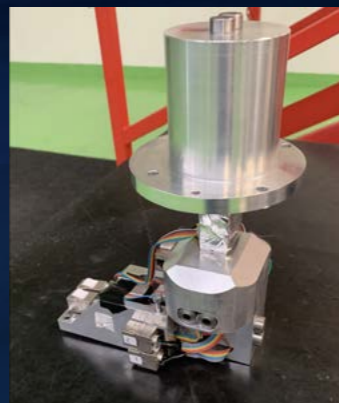
Preliminary
Design of a Wind
Tunnel in an
Isobaric Chamber
(INAF Naples)

Balances

6 DOF force balances

We can build a custom balance for your wind tunnel or build a wind tunnel around a balance

- 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 $< 2\%$ of FS
- Sensitivity on x and y axes $< 0,01\%$ of the z load (we can measure 5 g drag force with a 500 kg load along z)
- Dimensions from $\varnothing 300$ mm up to $\varnothing 4000$ mm, with FS loads from 10 kg up to 10.000 kg



Load cells and components

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

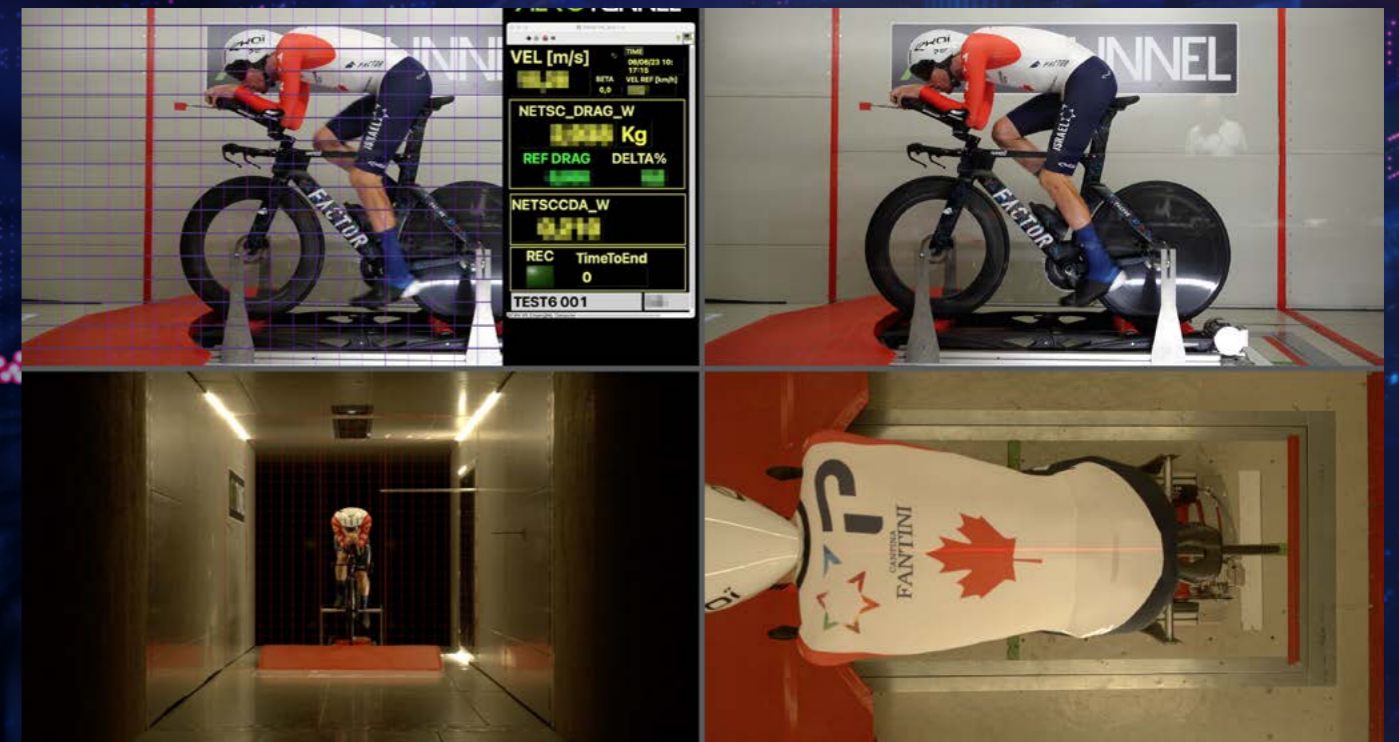
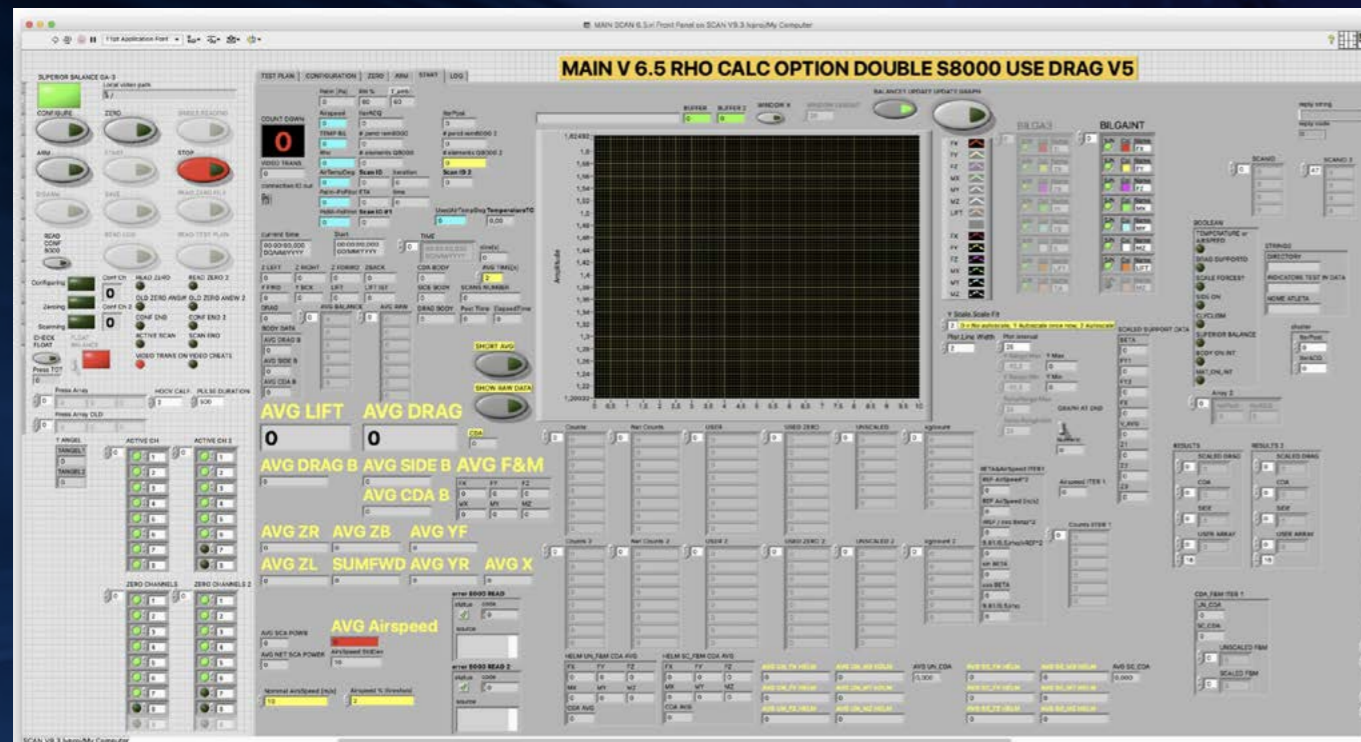
- Precision better than 2% of full scale
- Specifically designed to meet customer's demands



Software

Written, tested and validated
by AEROSTUDI 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





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