

## The IAT's main missions

### Industrial services:

The Institut aerotechnique, given his century's worth expertise in aerodynamics, has various means of studying all kind of replicas (real size or small) under various speed. The services the IAT provides go not only from designing to instrumenting replica but also from carrying out to analyzing wind tunnel testing.

Some of the devices used by the IAT are:

- Wind tunnel balances with multicomponent axis to measure steady and unsteady load acting
- Ground movement simulating device (42 m/s) to imitate ground effect
- Wakes scanning tomography
- Installation to characterize aeronautics' replicas
- Simulating the sun (1.20kW/m<sup>2</sup>)
- Chassis dynamometer to simulate the road
- Hot air blower to keep temperature at a constant of 55°C
- Dynamometer whose energy is dissipated by a vehicle engine
- Particle Image Velocimetry (PIV) by stereoscopy
- Selectable water spray bar to study the wiping efficiency and the stain removing ability of a windscreen wiper
- ...

### Applied research:

The IAT undertakes various studies on steady and unsteady aerodynamics, and aero elasticity on its own behalf and on behalf of his clients on national or international projects.

A few examples would be:

Active delamination control by a pulse jet system  
Passive air flow control by a vortex generator  
Aeroacoustics Spatial scale/scale effects  
Various noise emission  
The passing of vehicles  
Hollow noises and their controls  
Modelling the atmospheric boundary layer  
Turbulence grids  
...

<https://iat-en.cnam.fr/the-iat-s-main-missions-1302848.kjsp?RH=1639387493884>