



## Identification of the installation/facility :

Country: Belgium  
Location (city): Rhode-Saint-Genèse  
Name of the facility: Isentropic Light Piston Cascade tunnel CT-3  
Date of construction or of acquisition or of main refurbishment: 1990  
Owner: von Karman Institute for Fluid Dynamics (VKI)  
Contact point: Tony ARTS  
Internet site: [www.vki.ac.be](http://www.vki.ac.be)

## Technical characteristics:

### 1 - Type of infrastructure

Wind tunnel	<input type="checkbox"/>
Propulsion bench	<input checked="" type="checkbox"/>
Structures facility	<input type="checkbox"/>
Material facility	<input type="checkbox"/>
Simulator (ex. Flight simulator, tower, ...)	<input type="checkbox"/>
Flight test bed (aircraft, embedded facilities, ...)	<input type="checkbox"/>
Supercomputers	<input type="checkbox"/>
Other	<input type="checkbox"/>

### 2 - Main technical characteristics

Variable Mach (low subsonic to supersonic) and Reynolds (take-off to cruise) number  $1 \frac{1}{2}$  turbine stage. Aero-thermal performance determination, rotor/stator and rotor/rotor interaction (possibly time resolved). Aero-engine similarity conditions, including film cooling. Short duration facility (< 1 sec).

### 3 - Research domains which can be addressed (refer to ACARE taxonomy <http://www.acare4europe.com/docs/ASD-Annex-final-211004-out-asd.pdf>)

### 4 - Main (or specific) associated measurement techniques

On wall and traversing pneumatic pressure probes (total, static, directional). Hot wire anemometry. Fast response pressure probes. Thermocouples. Wall heat flux thin films. Flow visualization

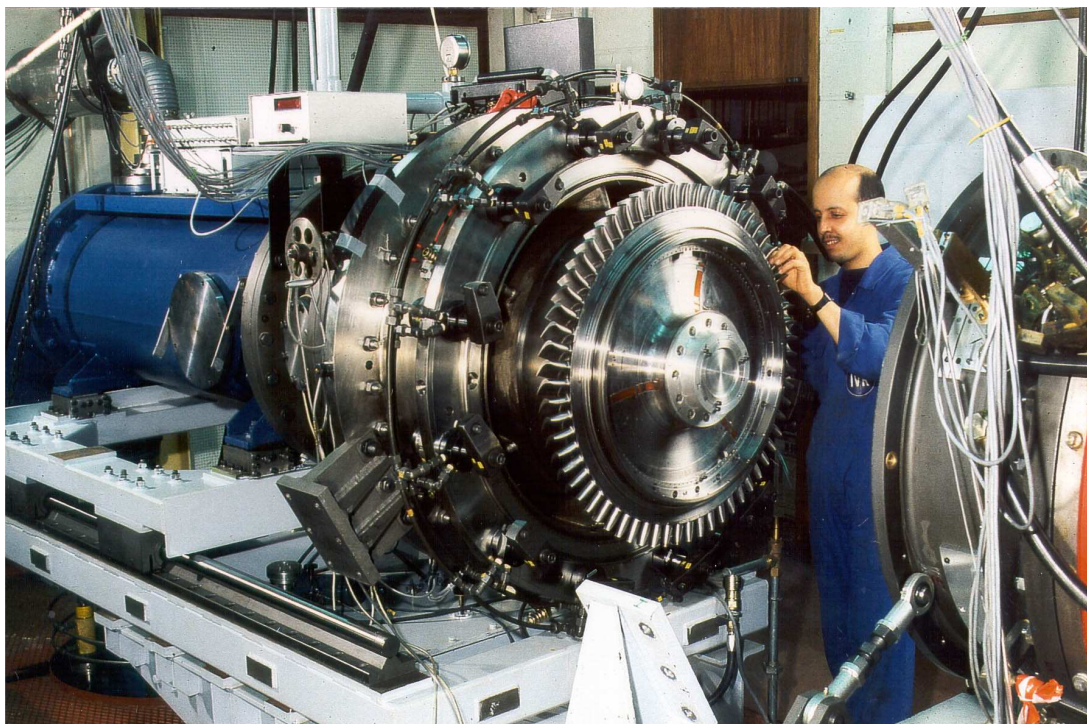
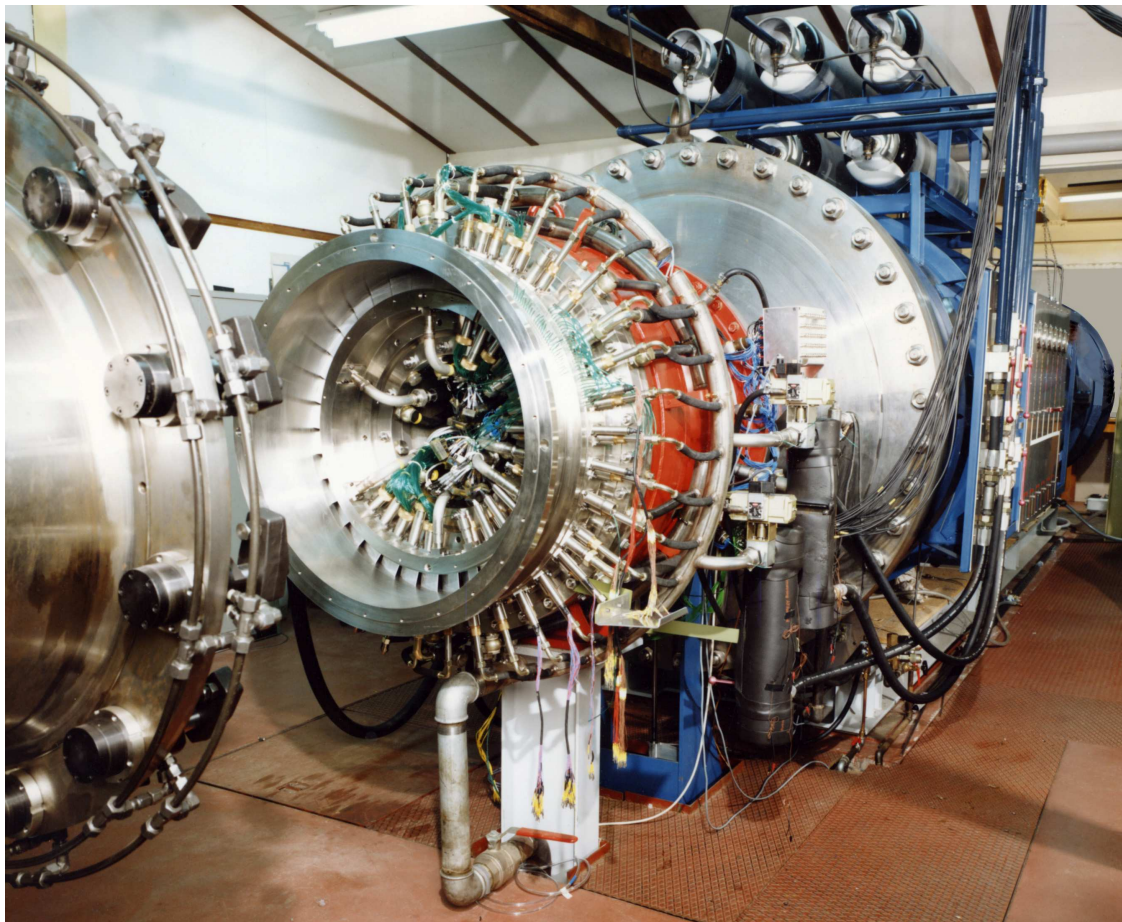
### 5 - Operational status

- Fully operational

### 6 - Pictures:



AirTN  
Air Transport Net





**Financial elements:**

Replacement cost (M€uros)

Less than 10

10 to 30

30 to 60

60 to 100

More than 100

**Practices concerning:**

Access policy (contract, voucher, free access for research, etc...)  
contract

Support (regional, national, European, private, ...)  
Public/Private

**Comments:**

**Origin of information** ('signature'): author and date Tony Arts 21/12/2012