



QUESTIONNAIRE

In the frame of the AirTN FP7 ERA-Net project, it is proposed to make a survey of all European civil aeronautic facilities and to introduce them in a “wiki” like web site. The result will be a unique inventory of all relevant research facilities which will be accessible to the European Commission and ACARE stakeholders.

The practices with respect of access, investments and support will help to upgrade existing key facilities, to avoid duplication for future facilities and to identify the domains where European community has a lack of facilities.

Identification of the installation/facility:

Country:	Austria
Location (city):	Vienna
Name of the facility:	Climatic Wind Tunnel Vienna
Date of construction:	2003
Owner:	RTA Rail Tec Arsenal Fahrzeugversuchsanlage GmbH
Contact point:	Hermann Ferschitz Tel.: +43 1 256 8081 -301 hermann.ferschitz@rta.eu
Internet site:	www.rta.eu

Technical characteristics:

1 - Type of infrastructure

Wind tunnel	<input checked="" type="checkbox"/>
Propulsion bench	<input 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 checked="" type="checkbox"/>

Climatic Wind Tunnel
Icing Wind Tunnel

2 - Main technical characteristics

- IWT - Icing Wind Tunnel

(adaptable cross section for icing tests: 16,1 and 8,75m²;
temperature range -2 to -30°C; LWC 0,3 to 3 g/m³ at 10 m/s; 0,1 to 0,8 g/m³ at 80 m/s (droplet size range 20 to 40 µm); Wind speed 10 to 80m/s; no altitude simulation
Specially built for cloud simulation and icing certification tests for engines of up to 1800 HP.



Outlook: in the case of higher LWC requirements additional nozzles can be placed on request; for super large droplet requirements (SLD) design investigations are in progress

- **LWT - Large Climatic Wind Tunnel**

(length: 100m x width 5m x height 6m), max. wind speed 300kph

Any weather conditions can be produced at the push of a button - temperatures from -45°C up to +60°C, humidity up to 98%, intense solar radiation, snow, rain and ice.

- **SWT - Small Climatic Wind Tunnel**

(length: 33,8m x width 5m x height 6m), max. wind speed 120kph

Any weather conditions can be produced at the push of a button - temperatures from -45°C up to +60°C, humidity up to 98%, intense solar radiation, snow, rain. Suitable for cold start tests on engines and complete systems as e.g. helicopters

3 - Research domains which can be addressed (refer to ACARE taxonomy

<http://www.acare4europe.com/sites/acare4europe.org/files/document/ASD-Annex-final-211004-out-asd.pdf>)

All climate related aircraft issues. Airport handling e.g. de-icing methods

4 - Main (or specific) associated measurement techniques

- Icing certification tests for engines
- Cold starting tests on aircraft engines
- Air conditioning of cockpit and cabin
- Testing of components under extreme temperatures and solar radiation
- Icing tests and flow analyses of aircraft engines and wings

5 - Operational status

- Fully operational (7 days/week, 24h/day)

6 - Picture

See : <http://www.rta.eu/en/press-events/picture-gallery>



Financial elements:

Replacement cost (M€uros)

Less than 10



AirTN
Air Transport Net



- | | |
|---------------|-------------------------------------|
| 10 to 30 | <input type="checkbox"/> |
| 30 to 60 | <input type="checkbox"/> |
| 60 to 100 | <input checked="" type="checkbox"/> |
| More than 100 | <input type="checkbox"/> |

Practices concerning:

As an accredited test laboratory and internationally recognised expert in climatic testing, Rail Tec Arsenal offers its' testing service to all paying customers without limitation under the same contractual conditions.

Non-disclosure of any sensible data as a matter of course; Special secrecy handling for prototypes available;

Comments:

Origin of information ('signature'): Katharina Wagner, 10.11.2014