



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: Test Facility for Constructions and Materials

Country: The Netherlands
 Location (city): Flevopolder
 Name of the facility: Test Facility for Constructions and Materials
 Date of construction or of acquisition: start of realization: 1910
 Owner: NLR
 Contact point: Paul Arendsen - Dept. Structures Testing & Evaluation
 Internet site: [Test Facility for Constructions and Materials](#)

Technical characteristics:

1 - Type of infrastructure

- Wind tunnel
- Propulsion bench
- Structures facility
- Material facility
- Simulator (ex. Flight simulator, tower, ...)
- Flight test bed (aircraft, embedded facilities, ...)
- Supercomputers
- Other

2 - Main technical characteristics

Coupon and allowables testing

Static, fatigue and damage tolerance testing according to international standards or customer specifications. Material evaluation and qualification programs.

Certification testing

Load spectrum generation, rig design, testing and inspections of aircraft parts like moveables up to full wings or tails.

Failure analysis

Materials, failure and corrosion analysis, metallurgical services and forensic engineering.

Environmental testing

Testing of materials and systems under various environmental conditions. High/low temperature, humidity, salt spray, decompression, altitude and waterproofness testing.

Non destructive inspection

Fully automated C-scan, Eddy current, ultrasound, dye penetrant and magnetic inspection.

Measuring, control and calibration

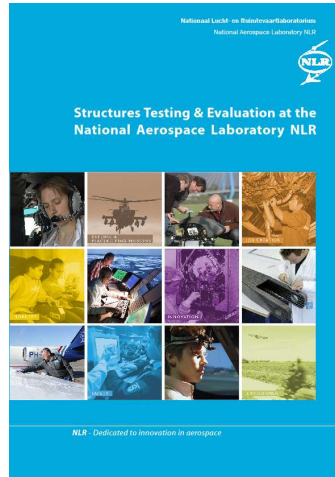
Calibration of test machines or equipment, measuring and control technology.



Test article manufacturing

Manufacture of coupons and complex test articles from metals, ceramics and composites.

For more details, see the internet site, where also the following brochure can be downloaded.



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

<http://www.acare4europe.com/docs/ASD-Annex-final-211004-out-asd.pdf>)

Aerostructures: Metallic Materials & basic processes; Composite Materials & basic processes; Manufacturing and Assembling Technologies; Smart Materials and Structures.

4 - Main (or specific) associated measurement techniques

All techniques customary in the activity areas mentioned above.
For more details, see the internet site and the brochure.

5 - Operational status

- Fully operational (with a staff of 30 technical skilled and qualified persons)



6 - Picture



Test set-up for the testing of fuselage panels

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, and some vouchers

Support: independent non-profit foundation

Origin of information ('signature'): author and date

Paul Arendsen - Dept. Manager Structures Testing & Evaluation

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