Identification of the installation/facility:

Country: Germany
Location (city): Köln
Name of the facility: DNW-KKK
Date of construction or of acquisition or of main refurbishment:
Owner: DNW
Contact point: H.B.Vos
Internet site: www.dnw.aero

Technical characteristics:

1 - Type of infrastructure

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

2 - Main technical characteristics

Closed circuit, continuous, low-speed wind tunnel with a closed wall test section.
Operation either at ambient temperature or cooled down by injection of liquid nitrogen.

Main features

Test section

- 2.4 m x 2.4 m closed-wall test section

Operating range

- $0 \leq Ma \leq 0.38$
- $Re_{0.1\sqrt{(S)}} \leq 9.5 \times 10^6$
- $100\ K \leq T \leq 300\ K$

Model support

- Sword with integrated roll support
- Half-model and surface vehicle support with under-floor balance
- Half-model support with tangential blowing at synchronized turntables

Auxiliary system

- Integrated optical traversing system

Typical tests

- 2D airfoil tests with high-lift and flow control devices (flaps, slats, vortex generators, trailing edge devices)
- Wind rotor blades
- Half-model tests of transport aircraft in high-lift configurations
- Surface vehicles (trains, trucks)
- Probe calibration, function and reliability tests

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

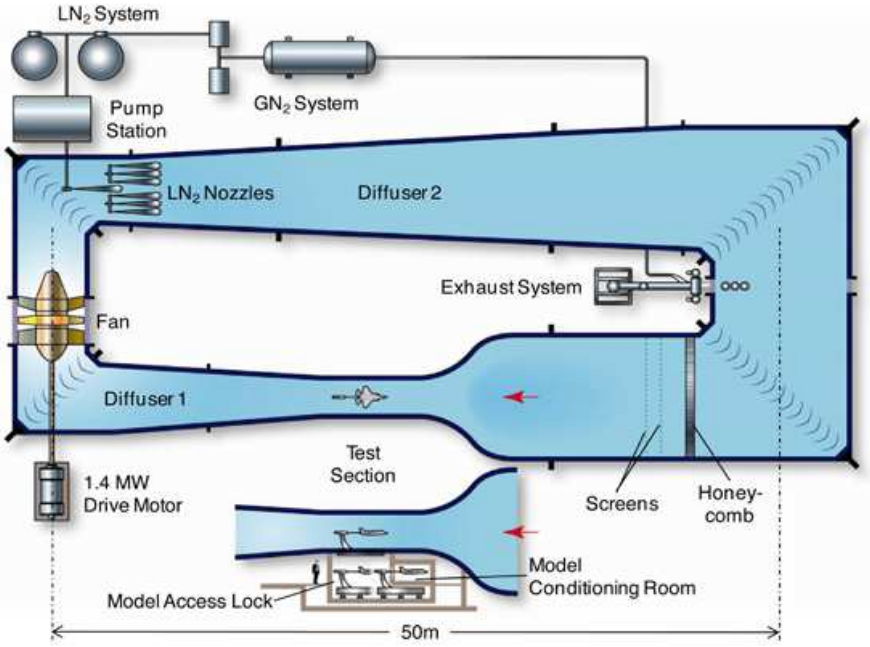
1. Flight Physics
    a. Aeronautical Propulsion Integration
    b. Airflow Control
    c. High Lift Devices
    d. External Noise Prediction
10. Innovative Concepts and Scenarios
    a. Unconventional configurations and new aircraft concepts

4 - Main (or specific) associated measurement techniques

Load measurement (strain gauge balances)
Pressure measurements (static and dynamic)
Particle Image Velocimetry (PIV)
Temperature Sensitive Paint (TSP)
Infrared Technique
CO_2 Sublimation technique
Acoustics (microphone arrays)

5 - Operational status
- Fully operational 800 hrs available per year

6 - Picture:



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

Support : national

Comments:

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

Georg Eitelberg, Director DNW,
7 December 2011