Identification of the installation/facility:

Country: the Netherlands
Location (city): Marknesse
Name of the facility: DNW-LST
Date of construction or of acquisition or of main refurbishment: 1986
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

Continuous, atmospheric, low-speed wind tunnel with exchangeable test sections

Main features

Test section
- 3.0 m x 2.25 m with turntables in top and bottom wall for 2D testing
- 3.0 m x 2.25 m with overhead balance for 3D testing

Operating range
- $0 \leq V \leq 80$ m/s

Model support
- Six-component overhead balance with wire suspension on strut for 3D models
- Sting support for models with internal balances
- Wall support for (half) models

Auxiliary systems
- Compressed air supply with a capacity of 5 kg/s continuously at 80 bar
- Remotely controlled y-z traversing system
- Vacuum system
- Ground board for simulation of ground effects

- Tangential blowing for test section boundary layer re-energizing
- Microphone wall array

Typical tests
- Two- and three-dimensional model testing
- Ground effect simulation
- Dynamic measurements like vibrations or unsteady pressures
- Turbofan propulsion simulators (TPS) and turbine air motors for propellers
- Engine simulation
- Propeller testing
- Acoustic measurements
- Environmental tests mainly on models of ships, trucks and building structures
- Air exhaust simulation with compressed air
- Air intake surveys

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
2. Aerostructures
    a. Helicopter Acoustics
    b. Noise reduction
    c. Acoustic Measurements and Test Technology
3. Propulsion
    a. Performance (Nacelle/Thrust reverser/nozzle design)

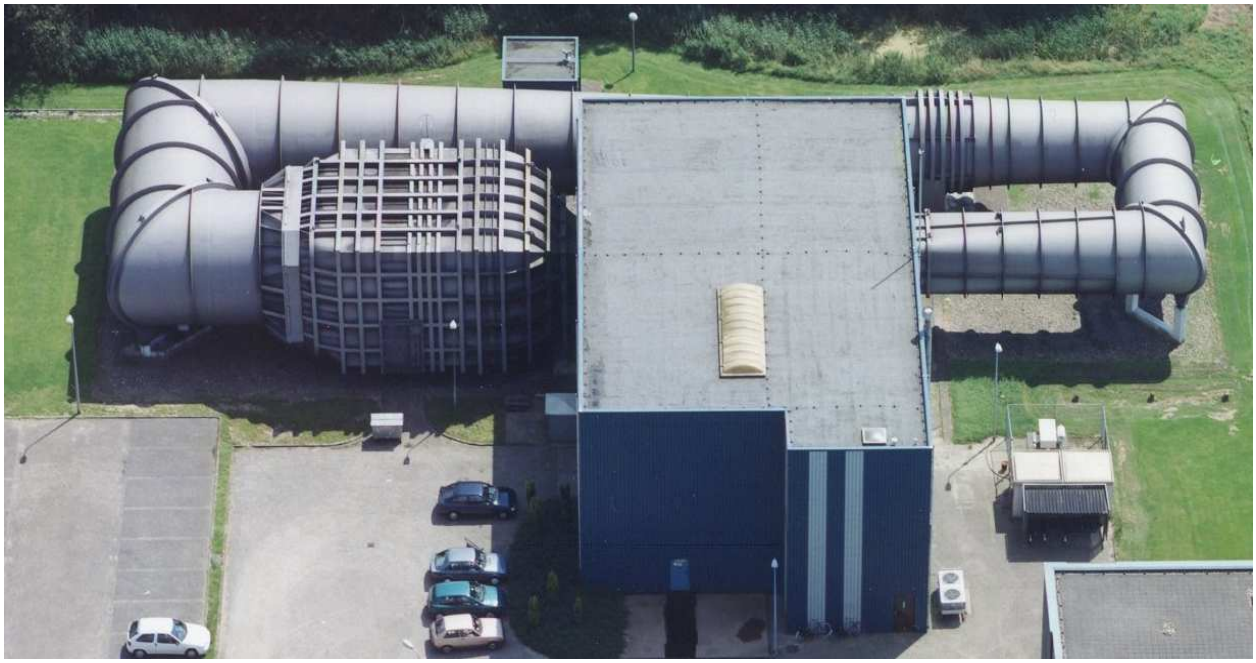
10. Innovative Concepts and Scenarios
    a. Unconventional configurations and new aircraft concepts

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

Load measurement (strain gauge balances)
Pressure measurements (static and dynamic)
Particle Image Velocimetry (PIV)
Stereo Pattern Recognition (SPR)
Acoustics (microphone arrays)

5 - Operational status
- Fully operational 1200 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:
For propulsion integration, the engine simulator calibration facility is available on site.

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

Georg Eitelberg, Director DNW,
7 December 2011