



### Identification of the installation/facility:

Country: The Netherlands

Location (city): Amsterdam

Name of the facility: Flight Simulators:

- Helicopter Pilot Station (HPS);
- Multi UAS Supervisory Test bed (MUST);
- Generic Research Aircraft Cockpit Environment (GRACE).

Date of construction or of acquisition: start of realization: 1990

Owner: NLR

Contact point: [Harrie Bohnen](#) - Dept. Training, Simulation & Operator Performance

[Rob Ruigrok](#) - Dept. Cockpit & Flight Operations

Internet site: [HPS](#), [MUST](#), [GRACE](#)

### Technical characteristics:

#### 1 - Type of infrastructure

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

#### 2 - Main technical characteristics

See internet site.

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

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

**Aircraft Avionics, Systems & Equipment:** Cockpit Systems, Visualisation & Display Systems; Navigation/Flight management/Autoland; Sensors Integration; Communications Systems; Avionics Integration; Optics - Optronics - Lasers - Image processing and data fusion.

**Flight Mechanics - Performance:** Analytical.

**Integrated Design & Validation (methods & tools):** Simulator environments & Virtual reality; Autonomous operation; Development of synthetic environment & virtual reality tools; Aircraft Performance Assessment; Real Time Simulators.

**Human Factors:** Human Factors Integration, Man-Machine Interface; Human Information Processing; Human Performance Modelling & Enhancement; Human Survivability, Protection and Stress Effects.

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

Human-in-the-loop as well as Hardware-in-the-loop.

See also internet site.



5 - *Operational status*  
- Fully operational

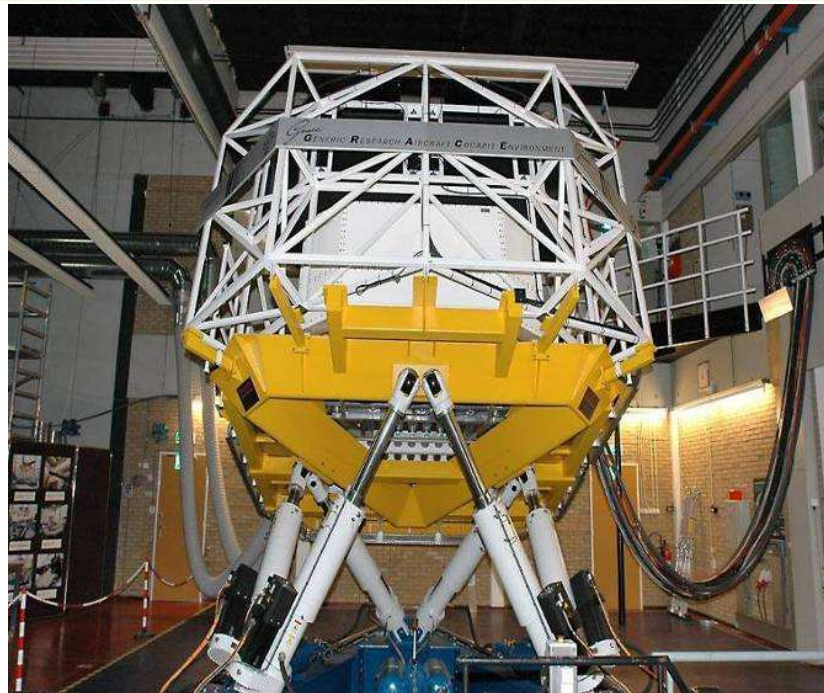
6 - *Picture*



*Helicopter Pilot Station (HPS) equipped with a hemispherical screen with view angles of 180 degrees horizontal and 70 degrees vertical. HPS is also equipped with an innovative research Helmet Mounted Display. HPS is a much-used simulator at NLR for simulation of many types of helicopters en operations such as helicopter-ship operations.*



*MUST: Multi UAS Supervisory Test bed*



*GRACE – Generic Research Aircraft Cockpit Environment*

**Financial elements:**

Replacement cost (M€uros)

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

**Practices concerning:**

Access policy: facilities are available to customers on a contract basis.

Support: regional, national, European, worldwide.

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

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