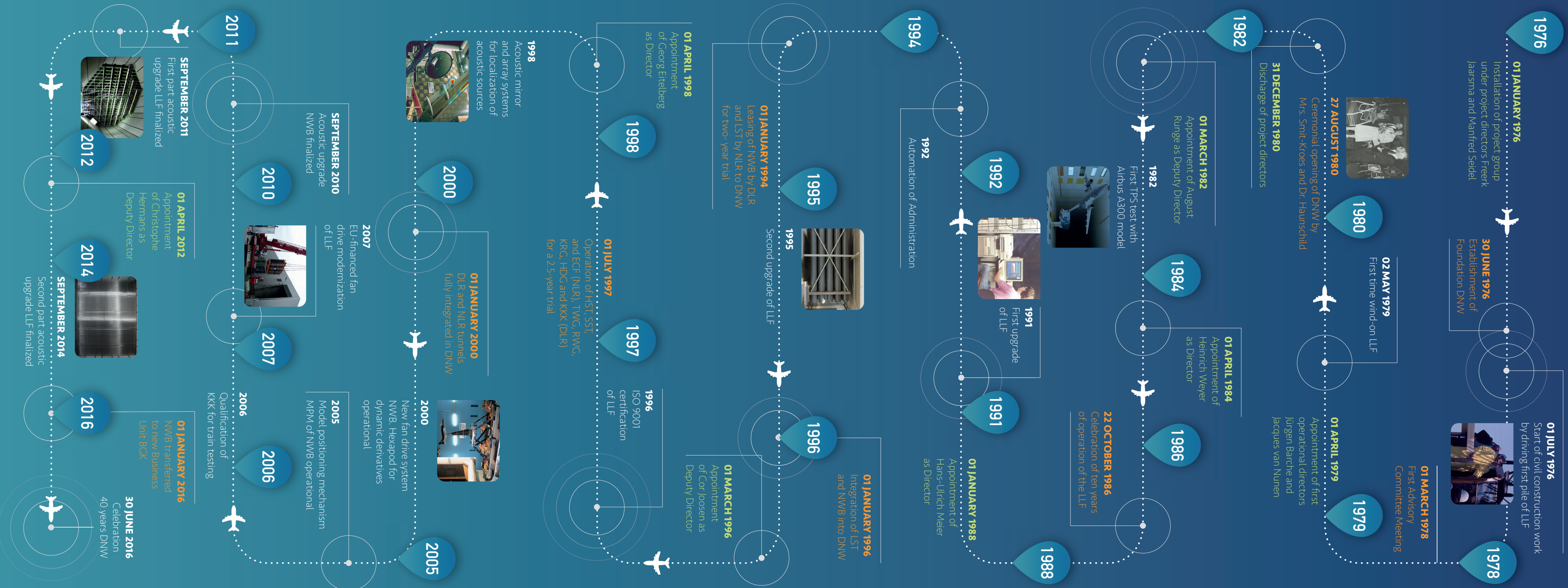


1976 - 2016

40 YEARS GERMAN - DUTCH WIND TUNNELS

- from European cooperation to global leadership -





German-Dutch Wind Tunnels

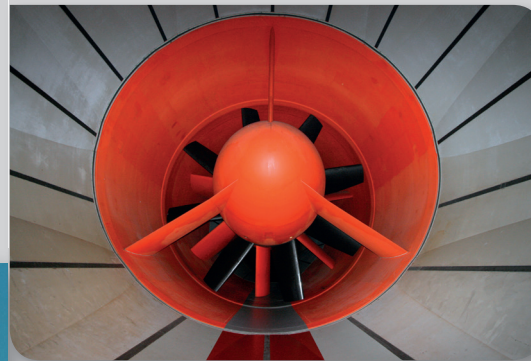
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On the 30th of June 1976 the Duits-Nederlandse Windtunnel / Deutsch-Niederländischer Windkanal (German-Dutch wind tunnel DNW) was established as a foundation, only two years after first contacts between the two parent institutes, the Netherlands and German Aerospace Centers NLR and DLR. This milestone, achieved with the support of the German and the Netherlands governments, marks the start of the first joint venture in Europe operating a large aeronautical facility: a European collaboration 'avant-la-lettre'.



The collaboration has been a continuous success. It started with the building and then operating the Large Low-speed Facility LLF in 1981; today the foundation DNW is responsible for the operation of eleven wind tunnels on five sites.

With support of NLR and DLR, DNW has served automotive (especially in its early years), aerospace industry and the European

research community with advanced experimental services. The Airbus transport aircraft (from A300 to A380, A400M), Embraer E-jet family, Eurofighter and F35 fighter aircraft and NH90 helicopter programs, to name a few, would not have been commercial successes without the high quality and efficient testing in DNW facilities.

GLOBAL LEADERSHIP IN WIND TUNNEL TESTING

DNW is one of Europe's most advanced and specialized organizations for wind tunnel testing. DNW's eleven wind tunnels include subsonic, transonic and supersonic facilities, and provide experimental aerodynamic simulation capabilities to the user community at large.

DNW is a non-profit foundation under Dutch law with headquarters in Marknesse in the Netherlands. Its tunnels are situated in a number of locations in the Netherlands and Germany: Marknesse, Amsterdam, Braunschweig, Göttingen and Köln.

DNW operates its own large, low-speed facility and the aeronautical wind tunnels of DLR and NLR. DNW provides solutions for the experimental simulation requirements of aerodynamic research and development projects. These projects can originate in the research community (universities, research establishments or research consortia) or in the course of industrial development of new products. Most of the industrial development projects are

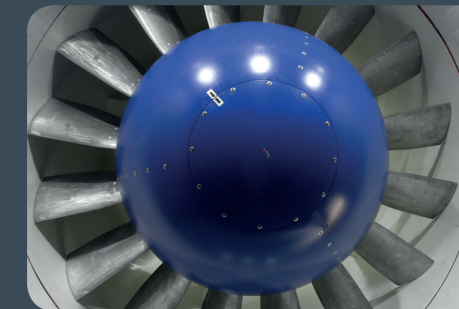
conducted by the aeronautical industry, but the automotive, civil engineering, shipbuilding and sports industries have also benefited from DNW's capabilities.

THE HISTORY BEHIND IT

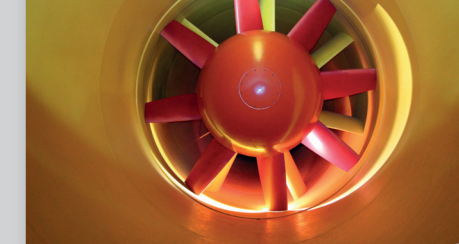
In the early seventies of the last century, both NLR and DLR, . . . were planning to develop a large atmospheric low-speed wind tunnel (the plans were identified as Low Speed wind Tunnel LST 8x6 and Grosser Unterschall-Kanal GUK, respectively). In December 1973, a first exchange of plans took place during a meeting between DLR and NLR.

In September 1974 Prof. Jordan (DFVLR) approached Prof. Gerlach (NLR) at the International Astronautical Congress IAC in Amsterdam with the idea to combine the two projects. Two months later Prof. Gerlach responded by inviting DFVLR to join the NLR large low-speed LST 6x8 project, that just had started. This initiative was supported by a letter of the Netherlands minister of Transport and Public Works, Mr. Westerterp, to his German colleague minister Matthöfer (Bundesministerium für Forschung und Technologie), who responded positively, leading to a bilateral discussion at government level in May 1975.

At this meeting a Technical Working Group was established and tasked to assess the feasibility of developing one facility that would meet the technical requirements of

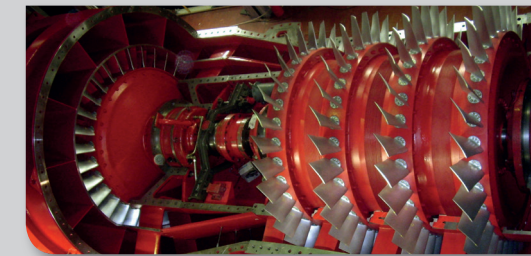


the two partners featuring multiple test sections with high flow quality. For this purpose the NLR pilot wind tunnel PLST



8x6 was modified to accommodate two additional test sections (6x6 and 9.5x9.5).

The NLR board, in August 1975, conditionally agreed to proceed with the cooperative project based on the principles of parity both in funding and operation: the wind tunnel construction should be led by an NLR engineer and the facility was to be located in the Northeastpolder (NL). At the third governmental meeting in September that year, DFVLR agreed to these conditions and put forward a draft agreement for further negotiation in the months to follow. The new foundation was supposed to conduct wind tunnel tests on contract (profit basis) in support of aeronautical projects in Germany, the Netherlands and other countries, making maximum practical use of facilities and capabilities of DFVLR and NLR.



Progress on verifying the technical feasibility of the wind tunnel concept and refining the collaboration principles was good, leading to a first preliminary DNW board meeting in February 1976. There it was decided to assign personnel to a project group becoming responsible for the actual construction of the facility. After signing the cooperation agreement between DFVLR and NLR (on the 28th of June) and the foundation act (on the 30th of June), the first pole for DNW was driven into the ground by the ministers Matthöfer and Westerterp on the first of July 1976. On that day the DNW board held its first formal meeting.

Celebration of 40 Years Foundation DNW

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