NVvL Nieuwsbrief 2024-9

Bericht van de voorzitter

Op 19 september hield Jan-Willem van Doorn zijn lezing onder meer over de laatste stand van zaken rond het Scaled Flight Testing project, waarin het NLR participeert. Zo'n 25 aanwezigen hebben in het auditorium van het NLR een buitengewoon informatieve avond gehad, vooral omdat Jan-Willem veel interessants had te melden geïllustreerd met spectaculaire beelden.

In de vorige nieuwsbrief is melding gemaakt van het instellen van een commissie die zich gaat buigen over de nota 'NVvL, het roer moet om' en over de reacties die de nota onder de leden heeft opgeleverd. Voor die commissie geeft het dagelijks bestuur een opdracht opgesteld. In september en oktober zijn drie commissieleden aangezocht en die zich bereid hebben verklaard zich over de problematiek te buigen. Voorzitter is het bestuurslid namens de LVNL, Jurgen van Avermaete. De beide overige leden zijn Hans Jansen en Mark Ommert. De commissie is op 31 oktober geïnstalleerd en direct met zijn werk begonnen.

De voorbereidingen voor het symposium 'Technical challenges of innovative aircraft concepts', dat NVvL samen met KIVI Aerospace Engineering organiseert op 21 november, zijn in volle gang. Bijzonderheden daarover leest u in deze nieuwsbrief maar ook op onze website www.nvvl.eu Aanmelding voor deelname aan dit gratis symposium is nog steeds mogelijk via de website van KIVI Aerospace vermeld in beide agenda's.

Met foto van Mark

Symposium Technical challenges of innovative aircraft concepts

This symposium, organised by the NVvL (Dutch Society for Aerospace Engineering) and KIVI Aerospace, highlights the current challenges that accompany innovation within aerospace. We have set up a program with lectures by speakers from various directions within the Aerospace Industry. The program includes a warm buffet dinner and we will conclude the evening with networking and drinks, which offers plenty opportunity to discuss the inspiring presentations of the evening!

Some practical information:

- The lectures and presentations will be in **English**.
- Cost participation (also online): **free**
- The **detailed program** can be found below. Additional information on the speakers and lectures will be supplemented over time.
- Participation to the buffet **dinner is optiona**l. During registration for this element, dietary wishes can be indicated. Cost of the dinner is € 10,- to be paid in advance.
- The **location** of the Symposium is at the KIVI building in The Hague (Prinsessegracht 23), which is located at just 7 minutes walking distance from Den Haag CS railway station and tram 9 stops just at our doorstep. Paid parking is possible in the Q-Park Malieveld or parking garage Museumkwartier, both located at walking distance from the KIVI building.
- It is possible to follow the event through **online participation**; the lectures will be livestreamed. When you choose this option during registration, a link to the online platform will be provided to you in the week leading up to the event.
- Organisation email: ae@kivi.nl

Introduction to the Lectures and Speakers

Lecture 1: Electric Flying with the E9X

Battery powered aviation is often seen as an application only feasible for short distance and small aircraft. Recent studies however have shown that this is scalable to a much larger scope than was initially thought. During this presentation we will deepdive into some design principles and misconceptions around large electrical aircraft. We will discuss the role that these aicraft can play to bring the aerospace industry towards "net zero", and the technical challenges that will need to be overcome to get there.

Biography Reynard de Vries

Reynard de Vries is co-founder at Elysian Aircraft, where he leads the design- and engineering activities. His background lies in predesign and aerodynamics of hybrid-electrical aircraft. He acquired a BSc in Aerospace Engineering at the Technical University of Madrid and MSc and PhD accreditation at the TU Delft, where he is still closely involved as a guest-researcher. Reynard is active in several work groups, focussed on aircraft electrification in both the US and Europe, teaches courses on aircraft design and propellor aerodynamics.

Lecture 2 - David Chin, President Royal Aeronautical Society, Keeping the Aerospace Sector Globally Connected, Sustainable and Secured for 2025 and beyond

Lecture 3 - Henno Gemmink, Lead Flight Test Engineer Airbus Helicopters

Lecture 4 - Preliminary assessment of Hydrogen-Powered Supersonic Aviation

Commercial aviation is on the edge of a major leap in terms of technical revolution. In fact, considering the need of de-carbonizing its own infrastructure and operation, several vehicle concepts are being explored in the field of subsonic aviation, mainly looking at hydrogen technologies as well as Sustainable Aviation Fuels (SAF). On the other hand, advancements in the field of high-speed aviation seem to be on track to enable the comeback of supersonic travel by 2030, indeed facing many challenges. This is seen as a counterintuitive development, being often recognized as an inefficient and pollutant transport mean, especially in an historical context where conventional aviation is striving to improve its footprint on the environment. Of course, the concept of operation of the former Concorde heritage shall be enhanced with a more effective vehicle design and a more efficient operational paradigm, with improvements on cost effectiveness and sustainability. Even if the first proposed concepts appear to be focused on the exploitation of SAF, the use of hydrogen is indeed fascinating because of the advantages in terms of propellant consumption and CO2 emissions reduction, even if posing some additional challenges in the design process. New approaches to the preliminary design of such kind of aircraft, encompassing both technical analyses and sustainability studies are thus crucial to evaluate the feasibility of the concept and to potentially sketch the aviation of the future.

Biography Davide Ferretto

Davide Ferretto is Assistant Professor of aircraft on-board systems at the Department of Mechanical and Aerospace Engineering of Politecnico di Torino, Italy. He received the Ph.D. degree in Aerospace Engineering from the same university in 2020, with a dissertation entitled “Innovative Model- Based Systems Engineering approach for the design of hypersonic transportation systems”. His research activities include the design of aerospace systems as well as the systems engineering methods and tools. He is currently focusing on high-speed aviation and, notably, on the conceptual design of

supersonic and hypersonic aircraft aimed at passengers transportation, as well as on the environmental and economic assessment of these kinds of configurations.

Agenda

datum	onderwerp	plaats	Spreker
Donderdag 21 november 2024 16.45 – ca. 22.00 uur incl. buffet à € 10,- Aanmelden via de website: https://nvvl.eu kies voor agenda en van daar doorlinken naar de kivi website, of eventueel per email aan ae@kivi.nl	Symposium: **Technical challenges of innovative aircraft concepts** *Gezamenlijk georganiseerd door KIVI AE en NVvL*	KIVI-gebouw Den Haag Prinsessegracht 23, 2514 AP Den Haag	Diverse sprekers (zie boven)