

IFAR – International Forum for Aviation Research

Declaration Summit 2013

24 - 28 August 2013, Moscow, Russian Federation

The International Forum for Aviation Research (IFAR) is the world's only aviation research establishment network connecting the government-supported aviation research community worldwide. **IFAR is a unique cooperative forum of high level representatives for exchange of views and promotion of collaboration among aviation research organisations in view of the increasing demands for aviation research on a global level.** IFAR aims to support its members in the implementation of their research aims. IFAR was founded in 2010, and formally established by a Charter in 2011. Currently 24 aviation research organizations are associated under the umbrella of IFAR.

On the occasion of the **International Aviation and Space Salon (MAKS) 2013, this year's and 4th "IFAR Summit 2013" was held in Moscow, Russian Federation from 24 until 28 August 2013.** Central AeroHydrodynamic Institute, TsAGI, hosted senior level representatives of 22 of the 24 IFAR participating organizations. **The main theme of the Summit and the accompanying events of IFAR in Moscow was the *Future of Aviation*.** In recognition of the value and importance of global exchanges and collaboration under the umbrella of IFAR, one new member applied for and was accepted to join IFAR during the Summit 2013.

The **IFAR Summit 2013** included the following highlights and accomplishments:

- IFAR members participated in the **"Aviation Technologies of the XXI Century (ASTECH)** international scientific symposium co-hosted by TsAGI on August 26 entitled **"Future of World Civil Aviation."** This symposium was attended by more than 200 people including representatives from Russian research institutions, industry, government, as well as the participants of IFAR Summit. Leaders of local research establishments and three IFAR member organizations presented their views on the challenges facing aviation and their activities in aeronautics technology research. In particular, representatives from Russia, Europe and the United States described their resulting national and regional aeronautics research and development strategic visions in light of these challenges. Members remarked that significant synergies and common elements were identified through these presentations, and encouraged further investigation of similarities and differences to inform future IFAR work.
- IFAR members **discussed the progress of technical collaboration in several areas** of significant importance to the global civil aviation community, including the impact of aviation on the environment and the use of alternative aviation fuels.
- Young researchers from six IFAR member countries participated in the **inaugural "Conference of Young Researchers"** from 25 – 26 August, 2013, to exchange views

on the social and scientific aspects of careers in the field of aeronautics research. Young IFAR Researchers reported to the Summit participants the results of their discussions, including their views on “the future of aviation”.

- During a visit to the Moscow Air Show (MAKS) on August 27, the **IFAR representatives met with the Prime Minister of the Russian Federation Dmitriy Medvedjev at the TsAGI exposition hall**. He was informed about the vision and main objectives of IFAR and its great potential for international cooperation in aviation research. They also discussed the importance of such collaboration in light of the global nature of the civil aviation sector and the economic importance of this sector. In addition, IFAR members toured MAKS and discussed recent innovations in aviation research with exhibitors.
- In a new session format, named “IFAR Cafe”, IFAR Members took the opportunity to **discuss five key questions regarding the future of aviation and mobility in the long term**, that is the next two generations of air transportation systems (n+2):
 - The regional developments they see in the future („short range“ mobility aspect, ground competition, etc.);
 - Whether the connection of certain world regions will change in nature;
 - The framework for mobility on a global scale;
 - Technological developments that support aviation (or possibly also pose a threat); and
 - The possible IFAR contribution towards the future development of air mobility.
- IFAR members **toured TsAGI technical facilities on August 28** to more fully understand TsAGI’s capabilities and objectives in the field of aeronautics research.

IFAR member organizations acknowledged significant progress in their collaboration since the last Summit 2012, including:

- IFAR Members established the **Working Group on IFARlink**, which developed a communication and database platform www.ifarlink.aero for use by IFAR Members only. IFARlink offers IFAR members a new tool for: the exchange of information and further improvement of technology databases in the fields of improvement of air transport efficiency related to climate change and noise; establishment of expert groups; collection of relevant literature, documents and PhD studies; and much more. In order to facilitate education and promotion of young IFAR scientists and engineers a data base of PhD researchers was introduced on the IFARlink platform.

- IFAR members established the **Alternative Aviation Fuels Working Group to consider opportunities to leverage experience and investments in complementary research by IFAR members and to create a forum where research status and information can be readily exchanged.** IFAR Members exchanged information on activities such as flight demonstrations to characterize the impact of biofuel on the environment, climate modeling and combustion research. The Working Group also organized a workshop in Washington, DC on July 18-19, 2013, with over 35 participants from member states, industry and universities.
- IFAR members **established a Steering Committee** to handle coordination and direction of technical, organisational and operational matters among IFAR members and to prepare for future IFAR Summits. The Steering Committee **developed a Best Practices document** to serve as the common understanding for operational practices within IFAR and as an instrument of interpretation of the IFAR Charter. This document was endorsed by IFAR members at the Summit 2013, with the understanding that the Steering Committee will further develop the document for consideration at IFAR Summit 2014.

During the IFAR Summit 2013, **IFAR members made the following decisions for future engagement:**

- **Over the next year, IFAR members will further refine the five focus areas** as defined during the Summit 2012:
 - Advance technologies and operational procedures to improve efficiency of air transportation and decrease the environmental impact of the aviation system.
 - Improve management of operations at and around airports to improve efficiency and environmental impact (e.g. noise).
 - Enable the use of alternative aviation fuels.
 - Increase air transportation system performance to safely enable projected growth in system operations.
 - Reduce the adverse impacts of weather on air traffic management decisions and operations.
- IFAR Members will continue their efforts to **identify areas of common interest and possible collaboration in the area of Noise**, under the leadership of ONERA, building on three topics identified over the last year for further examination by interested IFAR Members. Understanding of the importance of this theme for aviation, all members agreed to continue to consider their common interests in this area.
- IFAR Members will **further define topics of common interests in the field of Air Transport Efficiency related to Climate Change**, under the leadership of DLR. IFAR members will seek to focus discussions on specific topics such as possibly “*Climate Research*”.

- IFAR Members will **continue and intensify their cooperation through the Alternative Aviation Fuels Working Group**, under the leadership of NASA, to explore options for contributions to a joint flight research campaign to characterize the impact of alternative aviation fuels on the environment, as well as to consider additional opportunities for collaboration and information exchange.
- IFAR Members will **develop proposals for collaboration the topic “Enhancing air transportation system performance,”** under the leadership of CSIR-National Aerospace Laboratories (CSIR-NAL), India. Several Members expressed interest to participate in this activity.
- IFAR Task Force Exchange on Education and Promotion of Young Scientists and Engineers will continue their efforts to **develop and promote opportunities to support the education and careers of young scientists and engineers**, under the leadership of VKI. The Summit encouraged the Task Force to further identify and implement concrete activities for the young researchers on topics suggested from IFAR Members or other Expert Groups, e.g. stimulation of exchange visits of PhD researchers between IFAR members, stimulation of thematic workshops on PhD research topics of common interest, and eventually the possible establishment of joint PhD research projects between different IFAR Members. IFAR Members further decided to promote and encourage participation by young scientists and engineers in the activities proposed by the Task Force.
- IFAR Members agreed to **promote active use of IFARlink** within their organizations, and the IFAR Working Group will **further develop the tool in the next years according to the needs of IFAR Members**. This will support the development of an IFAR-wide PhD survey for exchange of experiences, stimulating communication and supporting co-operation among young IFAR researchers. An evaluation on the effectiveness of this PhD list will be given by the next IFAR Summit.
- IFAR welcomed the nomination of one **new member**: Vienna University of Technology, Working Group of Aviation, Austria, was accepted as new IFAR member by the Summit. Now IFAR connects worldwide 24 aviation research organizations with about 35,000 researchers in aviation.
- The founding Chair of IFAR, **Prof. J. Szodrich**, formerly of DLR, handed over his position at the conclusion of the Summit to assume the position of Past Chair. **Dr. J. Shin** of NASA assumed the position of IFAR Chair for the next two years. **Dr. K. Nakahashi** of JAXA was unanimously elected to serve as the new IFAR Vice-Chair.

The Summit acknowledged the establishment of the IFAR Leadership Team (consisting of Chair, Vice-Chair and Past Chair).

- The next **IFAR Summit will be hosted by the Chinese Aeronautical Establishment (CAE)**, China in conjunction with the Zhuhai Show, 8-12 November 2014. A conference with young specialists from IFAR members as well as an IFAR – Zhuhai Plenary Forum is planned to be held.
- IFAR Members thanked **Prof. J. Szodruch** in recognition his valuable contributions to IFAR during his tenure as IFAR Chair.

The results of the Summit 2013 as well as further information on IFAR are available at <http://www.ifar.aero> .

Annex

Participating IFAR member organisations

1. Aerospace, Aviation & Defence Knowledge Transfer Network (AAD KTN), United Kingdom
2. Aeronautics and Space Institute (IAE), Brazil
3. Budapest University of Technology and Economics (BME), Hungary
4. Central AeroHydrodynamic Institute (TsAGI), Russia
5. Centro Italiano Ricerche Aerospaziali (CIRA), Italy
6. Chinese Aeronautical Establishment (CAE), China
7. Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia
8. Czech VZLU-Aeronautical Research and Test Institute (VZLU), Czech Republic
9. French Aerospace Lab (ONERA), France
10. German Aerospace Center (DLR), Germany
11. CSIR-National Aerospace Laboratories (CSIR-NAL), India
12. Aerospace Portfolio – National Research Council (NRC), Canada
13. Japan Aerospace Exploration Agency (JAXA), Japan
14. Korea Aerospace Research Institute (KARI), Korea
15. Middle East Technical University (METU) Ankara, Turkey
16. National Aerospace Laboratory of the Netherlands (NLR), Netherlands
17. National Institute of Aerospace Research “Elie Carafoli” of Romania (INCAS), Romania
18. Polish Institute of Aviation (ILOT), Poland
19. Swedish Defence Research Agency (FOI), Sweden
20. U.S. National Aeronautics and Space Administration (NASA), USA
21. Technische Universitaet Wien/Vienna University of Technology (TU Vienna), Austria
22. Von Karman Institute for Fluid Dynamics (VKI), Belgium

IFAR members not present

23. National Institute of Aerospace Technology of Spain (INTA), Spain
24. Technical Research Centre of Finland (VTT), Finland

Moscow, 28 August 2013