IFAR – International Forum for Aviation Research

Declaration Summit 2015

6 to 8 October 2015, NASA Ames Research Center in Moffett Field, California

The International Forum for Aviation Research (IFAR) is the world's only aviation research establishment network connecting government-supported agencies global aviation community. **The purpose of IFAR is to connect research organizations worldwide to enable the exchange of information in the field of aviation research, with the overall objective to identify areas for mutually beneficial collaboration.** In addition to its scientific and technical expertise, IFAR also promotes interactions among young aviation scientists and engineers. IFAR conducted its first summit in 2010, and was formally established by its Charter in 2011. There are currently 26 member nations representing five continents.

On the occasion of **the 6th annual IFAR Summit, the National Aeronautics and Space Administration (NASA) of the United States hosted 21 member organizations at Ames Research Center**, which is located in Moffett Field in California from 6 to 8 October 2015. In addition to discussing its technical collaborative activities, IFAR's sustainability, and IFAR's strategic plan, the Summit also included an **industry tour of Google's Project Wing drone-delivery program** and **a tour of Ames Research Center** (ARC). The tour of ARC included visits to NASA's airspace operation lab, future flight center, mini-hyper wall, and national full scale aerodynamics complex.

The 2015 Summit included the following highlights and accomplishments:

- IFAR members agreed to undertake several initiatives to ensure the **long term sustainability of IFAR**, based on its tradition of voluntary contributions of time and resources, and establishing operational mechanisms to enable sustainable operations by Summit 2017.

- Within the next months, the **IFAR Leadership team and the members** will **develop** a first draft on an **overall strategic work plan for the period until 2017 and beyond**. The Steering Committee will play the crucial role for communication and assistance. The Summit 2016 will consider the achievements and propose a long-term strategy.

- The principals from NASA, the Japan Aerospace Exploration Agency (JAXA), German Aerospace Center (DLR), and Netherlands Aerospace Center (NLR) signed a **letter regarding the future sustainability of the IFAR**. This letter outlines the contributions foreseen of each letter signatory from the 2015 Summit **to the end of 2017** time period.

- The Summit noted the positive relationship that has been developed between **IFAR and the International Council of the Aeronautical Sciences** (ICAS). Specifically, the well-established cooperation with ICAS is demonstrated through a guaranteed IFAR Plenary lecture at each ICAS Congress, IFAR`s opportunity to nominate an IFAR representative to serve on the ICAS Program Committee, and the establishment of an IFAR-ICAS Award which honors an individual who has made a significant contribution to aeronautical science within his/her doctoral thesis (PhD or equivalent).

- IFAR will expand its **international collaboration** with other organizations and partners to become, through IFAR´s expertise, an accepted organization and advisor in the international community. By Summit 2016 IFAR will identify potential regional and global partners where IFAR can contribute by its technical or conceptual expertise in and outside of aviation.

- The Summit approved the report of the **IFAR Steering Committee** and endorsed continuation its technical and operational work. It approved continuation of the proven leadership structure consisting of a Technical Co-Chair (2015 – 2017: JAXA as representative of Chair member state) and Operational Co-Chair (IFAR executive Secretary, DLR).

- JAXA reported the results of **Young Researchers Networking Working group**, and noted that all the tasks of its 2014-2015 work plan have been accomplished. As the highlight, NASA informed the Summit that four **IFAR Virtual Conferences** were successfully organized and included presenters from 6 IFAR member nations.

- The Summit approved the **IFARlink** report and adopted the terms of reference of the IFARlink working group. It was noted that IFARlink was used more broadly by the members in 2014-2015, facilitated by the complete restructuring of the website. IFARlink now has unique capabilities such **as a social network and discussion group board**, and existing functions such as the public literature data bases and the job market analysis have been updated.

- IFAR members want to continue to derive direct **benefit from their ongoing participation in and contribution to IFAR activities**. A successful collaboration either in initial mapping of potential future technologies or in specific technical projects of mutual interest has proven to be one of the most successful methods of engagement among IFAR members. Therefore IFAR will concentrate on future cooperation within the five focus areas as strategic direction. Specific activities proposed in other areas of common interest and mutual benefit may be discussed and accepted as well.

  The members of IFAR highlighted **Air Transportation Efficiency Working Group** as a model for IFAR cooperation. The Summit endorsed the continuation of this working group as outlined in the revised terms of reference, developing a global harmonized research plan to inform standards and recommended practices for future air transportation systems around the world. The working group participants are doing an excellent job of seeking to leverage experience and investments in complementary research by IFAR members, and creating a forum where research status and information can be readily exchanged.

  The Summit also endorsed continuation of the **Alternative Fuels Working Group**, continuing to provide data and analysis of alternative aviation fuel experiments to the technical community and identifying new opportunities for collaboration in this field.

  The Summit agreed to establish a new **Supersonic Aircraft Working Group** to address challenges associated with certification of supersonic civil aircraft, and encouraged members to continue **exploring opportunities to establish working groups related to aircraft noise, climate change and associated challenges for aircraft development, reducing the adverse impact of weather,**

challenges associated with operation of Unmanned Aerial Systems, and opportunities for vertical lift aircraft. The Summit supported continuation of the initiative to promote the exchange of information about **technical research capabilities** of IFAR members.

- Summit members considered opportunities to continue developing common views on the **Future of Aviation**, drawing on discussions at previous summits and experiences of existing members. Members agreed to continue developing an action plan and strategy, leveraging IFAR Café or similar formats, strategic discussions among members and inputs from Young IFAR researchers.

- 18 young researchers from six IFAR member countries participated in **the 3rd "Young Researchers Conference"** from 4 – 9 October, 2015, to exchange views on aviation's game changing technologies of the future. Young IFAR Researchers reported to the Summit and to the public via internet the results of their discussions. The Summit principals welcomed their presentation and the lively discussions that took place, recommended a target oriented integration of young IFAR researchers in the IFAR activities, and endorsed the continuation of IFAR Young Researchers Conference.

- The Chair of IFAR, **Jaiwon Shin, NASA**, handed over his position at the conclusion of the Summit to assume the position of **Past Chair**. **Kazuhiro Nakahashi of JAXA assumed the position of IFAR Chair** for the next two years. **Michel Peters** of NLR was unanimously elected to serve as the **new IFAR Vice-Chair**.

- The Summit greatly appreciated the **excellent leadership of the past IFAR Chair Jaiwon Shin, NASA,** who strongly encouraged scientific-technical collaboration of members in IFAR´s five Focus areas. He actively supported the multinational cooperation between IFAR members and very much shaped the current international standing of IFAR.

- The Summit highlighted the outstanding role of **Joachim Szodruch** as the visionary of IFAR and his contributions as first IFAR Chair and first Past Chair. The Summit awarded Professor Szodruch with the honorary title "**IFAR Founder**" which is a lifetime award.

- The **host of the next IFAR Summit will be the Korea Aerospace Research Institute**, and it will be organized in close cooperation with the ICAS Congress as the **7th IFAR Summit**. The Summit will be held from **27 to 29 September 2016**.

The results of the Summit 2015 as well as further information on IFAR area available at http://www.ifar.aero