Innovation Airport – a TU Delft-wide initiative

Creating world-class airports in collaboration with industry partners

Innovation Airport is a TU Delft-wide initiative, aimed at creating and developing innovative (concepts for) world-class airports in close collaboration with industry partners. Innovation Airport has the potential to enable a large societal and economic impact and contributes to solutions in the field of mobility, smart cities, international air transport safety and security, aviation’s impact on the environment and others.

Future Travel Challenges

As in the past decades, the coming years expect a continuous growth in travel demand. The number of passengers per year is expected to increase from 3.1 billion in 2012 to 6.4 billion passengers in 2030. This presents various challenges, such as congestion and capacity issues, and an increase in noise and emissions. To overcome these hurdles and to achieve the aviation goals set forth by the European Union, changes to the current way of travelling are required, and new concepts and innovations need to be embraced. Airports are the key to innovation in air transport, which is why this is the focus of the Innovation Airport initiative.

Our Mission

The Innovation Airport initiative facilitates and endeavours towards two main goals:
- Stimulate co-operation and networking between scientific entities and the industry, focusing on innovation in airports, such as ‘Living Lab’ initiatives;
- Conduct research around the subject of airport development using a ‘system approach’, including the broadest range of insights and disciplines (e.g. landside, terminal, airside) relevant for future airports.

Goals

To fulfil the mission, multiple goals are envisoned for the development phase in 2017:
1. Lay out an airport research program, consisting of ambitious, innovative and inter-disciplinary research projects;
2. Establish living Lab(s) to test, pilot and validate new ideas and concepts;
3. Facilitate a cooperation and networking platform, with a wide pool of stakeholders and (international) industry partners;
4. Provide a support structure to enable smooth co-operation between scientific bodies and industry.

See: ‘Flight Path 2050 – Europe’s vision for aviation’
Our Design Approach
The design approach of the Innovation Airport initiative is based on six principles:
1. **Outside-in**: driven by societal and business challenges;
2. **Inclusive**: include all 8 TUD faculties and relevant national and international stakeholders;
3. **International**: initiate the project in The Netherlands, but readily involve partners from the EU, and finally international;
4. **Interdisciplinary**: combine multiple (academic) disciplines for advanced problem solving;
5. **Practical**: deliver readily applicable and tested solutions;
6. **Efficient**: leverage existing projects, assets and partners.

World-class Airports
The Research Program (containing the actual research projects) is driven by an outside-in approach, reasoning from societal and business challenges. To create world-class airports, three high-level goals and nine airport objectives need to be fulfilled:

**Benefits**
The businesses that join in the Innovation Airport program will leverage their investment by delivering innovative solutions to airports worldwide. The general benefits of joining in and contributing to Innovation Airport are based on the access to state-of-the-art knowledge and technology, access to a pool of potential expert employees, economies of scale for research and development, options for leveraging investments by shared funding and (EU) subsidies, and easier cooperation.

**Timeline**
The Innovation Airport Initiative has three broad phases:
1. **Feasibility phase (completed in 2016)** – assess the feasibility of the Innovation Airport initiative
2. **Development phase (2017)** – establish the four components and start first research projects
3. **Implementation phase (from 2018)** – execute full program in production mode

During the feasibility phase, stakeholders from the Dutch aviation industry stated a strong interest in the Innovation Airport Initiatives. For 2017, further development of the Innovation Airport Program is planned, with accelerator workshops, conferences and knowledge sharing events.

**Activities Plan 2017**
- **Develop the objectives into research programmes with partners**
- **Develop the ideas into project proposals with Expert Area team**
- **Develop Living Labs-concept into a real RTHA-TUD lab with sponsors**

**Contact Info**
When you are keen to receive more information about the Innovation Airport Initiative or its activities, please contact the Innovation Airport Team:

- **Program Officer**: Elise Bavelaar (M.E.Bavelaar@tudelft.nl)
- **Scientific Lead**: Richard Curran (R.Curran@tudelft.nl)
- **Business Lead**: Bernard de Groot (B.A.T.deGroot@tudelft.nl)

**Delft University of Technology**
Faculty of Aerospace Engineering
Kluyverweg 1
2629 HS Delft
The Netherlands

**Website**: innovationairport.tudelft.nl