Innovationspreis der Deutschen Luftfahrt
Luftfahrt ist Innovation.
Berlin, 2017
The Federal Ministry of Economics and Energy (BMWi) holds, in person of the minister of economy Brigitte Zypries, coordinator of the federal government for the aerospace industry, the patronage of the price since the foundation of IDL.

The goal of the aeronautical research of the German Aerospace Centre e.V. (DLR) is to strengthen the competitiveness of the national and European aviation and air transportation industry and to meet the requirements of politics and society.

The Center of Applied Aerospace Science GmbH (ZAL) is the technological research and development network of the civil aviation industry. ZAL focuses on the integration and industrialization of aviation technologies.

The German Aerospace Industries Association e.V. (BDLI) represents over 230 members interests of an industry, which has become, due to international technology leadership and worldwide success, a significant driver of the German economy.

Bitkom represents more than 2,400 companies in the digital economy, thereof around 1,600 direct members. Bitkom campaigns particularly for an innovative economic policy, a modernization of the educational system and a future-oriented network policy.

The German Aviation Association e.V. (BDL) was founded in 2010 as a joint representation of interests of the German aviation industry. Members of the association are airline companies, airports, the German air traffic control and further service providers of the German air transportation.

P3 engineers and consultants operate worldwide, e.g. in the automotive, aviation, telecommunications and energy sector. Solutions, innovation and transformation are provided by a combination of knowledge, experience and creativity.
Partners of IDL | Innovation drivers of German aviation

Accenture | High performance. Delivered.
IDL Innomap points out the most promising and interesting IDL applications on an interactive map of Germany and offers an overview of current developments in the German aviation industry. Innovations are sorted by location and described by a short text.

IDL Innomap is integrated and continuously updated at our homepage www.idl.aero.

By clicking on various pins information about the projects, inventors and companies are shown.
Price categories of IDL | Illustrating aviation

The German Aviation Innovation Award (IDL) actively encourages the innovative strength of companies and start-ups in the context of aviation, digitalization and digital economy and gives innovators an own platform for their ideas. In this way a new and common understanding shall be developed and supported of how and where new innovations in the aviation sector will be developed in the future.

Customer Journey
Innovations affecting the whole passenger process of travelling—from booking a flight to leaving the destinations airport. Focusing on the special needs of a passenger, Customer Journey awards everything imaginable that positively influences the journey. Considering the increasing numbers of passengers, the category gets more and more relevant.

Reduction of emissions
Innovations striving for sustainability and the reduction of emissions like noise, carbon dioxide and air pollutants. Driven by an increasing social awareness and the need for reduction, every segment of the aviation industry can realize an important impact and change.

Flying outside the box
A special category picking up innovations from the sectors of autonomous and unmanned air vehicles as well as new possibilities of uplifts and engines. The future of mobility will be significantly influenced by inventors and engineers bridging the way to new developments and expanding aviation by a new facet.

Digitalization
Innovations in the fields of development, product, maintenance, repair and operations. Digitalization is simultaneously a challenge and a gift for the future. The category honors concepts presenting solutions for a digitalized value-chain and furthermore how they can be implemented and relevant for other branches as well.
The evaluation and selection of the finalists occurs in a multi-stage procedure. First, the submitted documents will be evaluated by the jury with a standardized evaluation matrix according to the criteria newness, ascertainment, credibility, usefulness, market relevance, practicability and introductory effort. This results in a ranking of the best submissions. The ranking will be discussed and evaluated in a jury meeting. Afterwards the finalists will be chosen. In a final step the winners will be determined by vote. Members of the jury have to abstain from votes for their own companies or subsidiaries.
The Finalists | German Aviation Innovation Award

The quantity of highly qualitative applications made the selection process even more complicated. The quality becomes especially clear by the field of finalists. During a first step of the jury process the finalists were determined by experts of the IDL-Jury:

*The order is not analog to any placement.*

Jetlite - jetlite® – comfort to lighten jetlag
More than 60% of passengers suffer under the negative consequences of jetlag. Jetlite offers holistic and algorithm-based solutions to increase passengers comfort during long-distances flights. To achieve this, jetlite focuses on 1) chronobiological effective lighting in the cabin, at airports as well as app-based and personalized pre- and post-flight. 2) Nutritional concepts for in-flight catering and airports and 3) personalized configurations for passengers including recommendations for sleep, lighting and nutrition.
Lufthansa Technik / Diehl Comfort Modules – Galley-Bar-Module

The Galley-Bar-Module is a new product innovation providing operators an additional versatile, flexible and passenger friendly utilization of the galley area. Most of today’s galleys and entrance areas are reserved for crew members only. The new developed Module is extractable and allows a simple integration in a double trolley compartment within the existing galley space envelope. It offers a work top that can be used as a welcome desk during boarding and as a bar counter, a self-service station and/or a duty-free shop during service breaks. In addition, the module significantly increases the limited work deck surface for meal and beverage preparation. The bar module can easily be integrated in all existing galleys with focus on twin aisle aircraft and entrance areas without loss of revenue space.

HAVE IT BACK
Simply Foundtastic®

Neosulting – Have it Back

Have it Back is the first search engine for lost and found items and the biggest digital lost and found service in the world. More than 5 million items by privates, businesses or authorities out of 196 countries are gathered in one pool. Moreover Have it Back offers a cloud software and an application which can be useful for aviation companies. It covers administration, automatic matching of lost items and customer requests, logistics and payment. Furthermore the newest update provides image recognition for registered items.
By combining the advantages of three well-known flying concepts (balloon, copter and aircraft) and simultaneously erasing the disadvantages, Hybrid Airplane creates a completely new flying vehicle. H-aero will be used for observation-, research- and communication operations. By using helium for a static uplift heavy objects can be lifted with a minimal energy input. The most important customer benefits are long flight durations (24/7) as well as safety and sustainability aspects. Larger scaling will enable manned flights in the future.
Artificial Intelligence and Big Data are making progress and thereby offer new possibilities of semi or fully-supported IT decision-making. In this specific area they are achieving the level of human decision-making and sometimes even exceed. The combination of computing power (for handling Big Data and extracting results) and human expertise, creativity and experience, especially for uncommon situations, improves the overall quality of decision-making, resulting in benefits for economy, ecology and humans.

Premium AEROTEC – Flowers for the fuselage

The technology of metallic 3D-printing for industrial operations is getting more and more relevant. In 2017 Premium AEROTEC will integrate the first bionically inspired structural components in the serial production of the Airbus A350 XWB. By using this new approach a focus on the most necessary parts, a better power flow optimization as well as a significant material- and weight reduction are realized. Last-named factor totals up to 64% less weight in comparison with conventional components. This allows the A350-fleet saving 875 tons of CO2 over the next 30 years. Additionally two components are replaced by one, leading to less assemblage and more efficient processes.

Universität zu Köln / Jettainer – Human-Machine-Symbiosis

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Flying outside the box

COOPER COPTER

Cooper Copter – Drone Thruster CMO T4

Uncovered drone rotors contain a massive risk of injury for humans and machines. This often prohibits operations in closed rooms. Drone Thruster CMO T4 is an electrical ducted fan that makes drones secure and moreover stable and easier to fly. The problem of an increasing inertia at thrust changes is balanced with an additional airflow management and engine-contr-ols(CMO-Box). In the future, drones can operate safely in closed rooms. Furthermore Drone Thruster is compatible for hybrid drones with swivelling rotors. It is also possible to add CMO T4 on regular drones.
Wingcopter – Wingcopter

Wingcopter is a powerful and universally usable vertical take-off and landing drone (VTOL). By combining a multicopter and a fixed-wing airplane, wingcopter offers faster and longer distance flights. A swiveling rotor allows to use the advantages of both configurations. Within seconds fan-configurations of multicopter and fixed-wing can be changed smooth and secure. In the current version, wingcopter has a wingspan of 178cm, a maximum speed of 150 km/h, 2 hours flight time or a range of 100 km.

FlyNex – Flynex

Drones promise economic growth and a huge potential for many applications. Drone operations are hard to scale, due to a complex aviation framework and a total different value chain companies face once they start working with drones. FlyNex empowers companies to use the potential of drones and manage all the operations across the value chain safe, effective and compliant. Planning, execution and analytics are combined in one place to enable the economic expansion of ground based business applications into the sky.
Aero Enterprise - Aerial quality assurance

Aero Enterprise offers full-service solutions for aerial quality assurance, especially on vertical-standing industry objects, e.g. wind turbines. The quality assurance package includes a self-developed „Sensocopter“, a mobile ground control, a client-based analytics software and a database. Collected information are getting gps and object referenced and can be displayed in 3D. The digital recording of current-states allows an objective measurement of damage. Using these information makes it possible to compare old and new data for change management issues.
InFactory Solutions – Sensor and data analytics for digital factories

InFactory strives for the next steps towards a digital factory and supports companies by the automation of process steps and optimization with data analytics. Therefore InFactory develops and sells sensor and visualization systems that automatically inspects, records and displays the production. Consequently, this saves time and money and increases quality, compared to manual inspections. Additionally InFactory offers software solutions to help customers optimizing production steps with newly generated quality numbers. This presents possibilities to analyze error trends and adjust machine settings to the production situation.

Airbus Operations – Printed Electrics

Printed Electrics faces challenges of the electrification of aircrafts, like complexity, weight and costs with precisely printed electrics. Therefore customization efforts for the electric and electronic installation are reduced to a minimum. Electric circuits and electronic functionalities like wifi antennas, RFID, OLED lighting and sensors can be printed. Moreover the customer-driven process can be changed until the last second and a batch size of one is realized.
Award ceremony

The German Aviation Innovation Award IDL was awarded on June 29th 2017 in Berlin. The audience included high-level representatives of politics, economy and science, as well as the finalists and winners of the price categories. The evening was opened with a welcoming speech from the parliamentary state secretary at the federal ministry of economies and energy, Dirk Wiese. Afterwards the winners were honored: the winner of the price category “Reduction of emissions” was honored by Dieter Janecek, spokesman of economic policy of the Alliance 90/The Greens and MdB; the winner of the price category “Flying outside the box” by Volker Thum, managing director of the German Aerospace Industries Association; the winner of the price category “customer journey” by Norbert Barthle, parliamentary state secretary at the federal ministry of traffic and digital infrastructure and the winner of the price category “industry 4.0” by Catrin Hinkel, managing director of Accenture Germany GmbH. Furthermore interviews were conducted with the jury chairman Prof. Rolf Henke, DLR executive board member responsible for aeronautics, about the jury and the tasks of the research work in Germany and as well with Mrs. Hinkel and Mr. Prof. Dr. Thomas Prefi, founder of P3 Group GmbH, about the challenges of digitalization. We would like to thank all our guests for the great communicative event. We are looking forward to upcoming events.
With the concept of jetlag reduction, Jetlite picks up the core of the customer journey: Making travels more comfortable and offering individual solutions. Jetlite convinces with a highly scientific approach and was often tested and proven. The project pursues a comprehensive approach, which not only includes a lighting concept, but also a nutritional concept. The technology can also be applied in other means of transport, which underlines how important progress and development in the aviation industry are for other industries.
Premium AEROTEC with “flowers for the aircraft fuselage” shows, that bionically inspired and by a 3D Printer manufactured parts can already go into mass production. The proof lies in the production of Airbus 350 XWB. The jury is especially convinced by the reduction of weight, which amounts 64% in comparison to previous parts, and by the positive sign for the usage and exploiting of 3D printing potentials.
Wingcopter represents pioneer and inventive talent at its best. For several years they have worked on a 90 degree pivotable engine in a garage and finalized and installed these trials in airworthy models. With the combination of the advantages of a fixed-wing and a copter, proven concepts of aviation have been combined and present a new approach of flying outside the box. Furthermore Wingcopter convinced the jury with a high range and speed, which makes versatile applications possible.
Winner | Digitalization

Printed Electrics by Airbus Operations convinced the jury with the approach to replace the classic form of a cable and the resulting disruptive potential. The printing and installation of electric circuits and electronic functionalities can have significant consequences for the whole aviation industry. Especially the possibilities of the individual configuration, the encounter of the factors complexity and costs and as well the reduction of weight and improvement of maintenance procedures offering significant improvements.
Organizers and speakers | IDL 2017

f.l.t.r.: Dr. Joachim Bühler, Member of the Management Board Politics & Economy, Bitkom e.V., Prof. Rolf Henke, Member of the Executive Board, DLR, Dieter Janecek, Member of the Bundestag(MdB), Spokesman for economic affairs Bündnis 90/Die Grünen, Catrin Hinkel, Managing Director Accenture Germany, Dirk Wiese, MdB, Parliamentary State Secretary(PSStS), Federal Ministry of Economic Affairs and Energy, Norbert Barthle, MdB, PStS Federal Ministry of Transport and Digital Infrastructure, Volker Thum, CEO, BDLI, Prof. Dr. Thomas Prefi, Founder and Managing Director P3 group GmbH.
We would like to thank all supporters and especially for all applicants for the great concepts, which have been submitted.

If you are not among the price winners this year, you maybe will convince the jury next year. We would be delighted about a renewed participation, because innovation never stops!

#IDL2018
Luftfahrt ist Innovation.

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