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## ABOUT ICARUS

**Title:** Aviation-driven Data Value Chain for Diversified Global and Local Operations  
**Total Cost:** 3,951,125 €  
**EC contribution:** 2,999,600 €  
**Project start:** 1st January 2018  
**Duration:** 36 months

### Contact

#### Project Coordinator:

Dr. Dimitris Alexandrou  
(UBITECH)

#### Technical Coordinator:

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(Suite5)

#### Scientific Coordinator:

Prof. George Pallis  
(UCY)

ICARUS aims to deliver a novel framework and architecture that leverages data, primary or secondarily related to the aviation domain, coming from diverse sources (data APIs, historical data, statistics, sensor / IoT data, weather data, and various other open data sources) to help companies and organisations directly or indirectly linked to aviation to simultaneously enhance their data reach, as well as share / trade their existing data sources and intelligence, to gain better insights into airplanes', airports' and passengers' quantified selves and contribute to improving their operations whether in real time or "offline" and increasing passengers' safety and satisfaction.

## THE INFORMATION CATALYST FOR AVIATION SERVICES

[WWW.ICARUS2020.EU](http://WWW.ICARUS2020.EU)



# ICARUS ADVANCEMENTS



ICARUS Kick-off Meeting on January 16<sup>th</sup>-17<sup>th</sup>, 2018 in Athens



ICARUS Data Meeting on March 13<sup>th</sup>, 2018 in Luton



ICARUS Plenary Meeting on May 8<sup>th</sup>-9<sup>th</sup>, 2018 in Nicosia



ICARUS Plenary Meeting on September 26<sup>th</sup>-28<sup>th</sup>, 2018 in Berlin

2018

Q1

- Domain Landscape Review and Data Value Chain Definition
- Plan for Dissemination, Communication and Stakeholder Engagement
- Project Website and Channels Setup

Q2

- The ICARUS Methodology and MVP
- Project Data Management Plan
- Initial Project Exploitation Plan
- Project Ethics Safeguarding Framework

Q3

- Data Management and Value Enrichment Methods
- Intuitive Analytics Algorithms and Data Policy Framework
- ICARUS Architecture, APIs Specifications WP3 and Technical and User Requirements

Q4

- Core Data Service Bundles and Value Added Services Designs
- ICARUS Demonstrators and Platform Evaluation Framework
- Demonstrators Execution Scenarios and Readiness Documentation

## Coming up...

2019

Q1

- Demonstrators Execution Scenarios and Readiness Documentation
- Updated ICARUS Methodology and MVP
- ICARUS Platform - Alpha Version - Mock-ups and Prototype

Q2

- Updated ICARUS Data Management, Analytics and Data Policy Methods
- Architecture, Core Data and Value Added Services Bundles Specifications-v2
- ICARUS Platform - Beta Version

Q3

- ICARUS Platform - Release 1
- Demonstrators Operation Evaluation and Feedback-v1

Q4





# AVIATION INDUSTRY HIGHLIGHT NEWS

## Big Data Analytics in Airline Industry! 5 Case Studies that prove their influence!

Big data has touched every part of your life, and the airline industry is not left behind. In fact, it has embraced big data in more ways than one. The aviation industry is full of data. But most of it is in an unorganized manner. Thanks to big data, of late, airlines are able to utilize the big data techniques in order to strengthen the customer value and relationship and thus increase customer loyalty.

<https://www.promptcloud.com/blog/five-interesting-use-cases-of-big-data-analytics-in-airline-industry/>



## Airlines use data to offer personalised service

Flight attendants are equipped with an app filled with passenger information, including where passengers have been and where they are going, using big data. Since airlines encourage as much personalisation as possible, a passenger may be asked whether their recent trip to Hawaii was pleasant the next time they ask for water.

<https://www.ft.com/content/f3a931be-47aa-11e8-8ae9-4b5ddcca99b3>



## IATA Global Passenger Survey 2018

Global Passenger Survey 2018 from IATA! For all latest findings on behaviors and preferences of passengers linked to their travel journey and experiences!

<https://www.iata.org/publications/store/Pages/global-passenger-survey.aspx>



## EC receives recommendations on improving air traffic in Europe

The recommendations target at the level of ambition to increase the punctuality of flights, encourage more efficient flight paths to reduce the environmental impact of air traffic and the cost of service provision to the benefit of airlines and passengers, while ensuring the highest safety standards.

[https://ec.europa.eu/transport/modes/air/news/2018-10-04-prb-report\\_en](https://ec.europa.eu/transport/modes/air/news/2018-10-04-prb-report_en)





# EVENTS



ICARUS in the Aviation Open Day on March 28<sup>th</sup>, 2018 in UCY



ICARUS in the APEX Exhibition in Hamburg Messe on April 10<sup>th</sup>-12<sup>th</sup>, 2018



ICARUS @Aviation Festival London on September 5<sup>th</sup>-7<sup>th</sup>, 2018



ICARUS at PACEdays on September 11<sup>th</sup>-12<sup>th</sup>, 2018



ICARUS attended the IATA Global Airport and Passenger Symposium, on October 2<sup>nd</sup>-4<sup>th</sup>, 2018



ICARUS @EBDVF 2018 on November 12<sup>th</sup>-14<sup>th</sup>, 2018

# About ICARUS

ICARUS aims to deliver a novel framework and architecture that leverages data, primary or secondarily related to the aviation domain, coming from diverse sources (data APIs, historical data, statistics, sensor / IoT data, weather data, and various other open data sources) to help companies and organisations whose operations are directly or indirectly linked to aviation (e.g. airports, airlines, IT aviation companies, aircraft equipment industries, extra-aviation service providers, tourist agencies, health and epidemics monitoring agencies, etc.) to simultaneously enhance their data reach, as well as share / trade their existing data sources and intelligence, in order to gain better insights into airplanes', airports' and passengers' quantified selves and contribute to improving their operations whether in real time or "offline" and increasing passengers' safety and satisfaction.

## Aviation Data Value Chain



ICARUS shall provide tangible access to one of the largest gold mines of data as aviation is often characterized with data generated by the ICARUS data value chain being classified into three core tiers:

- Data Tier 1: Primary Aviation Data consists of aircraft sensor data, scheduled route plans, airport traffic, fuel emissions, passenger data that pile up in heaps of data in every flight.
- Data Tier 2: Extra-Aviation Data features data collected by airport services providers, and aviation-related service providers.
- Data Tier 3: Aviation-derived Data contains data from other sectors that combined with aviation data from tiers 1 and 2 produce new derived data.

## ICARUS Demonstrators



Four (4) real-life demonstrator cases, driven by stakeholders of the Aviation value chain belonging at different levels and domains, and bringing on board different kinds of pan-EU data, have been selected as a first round of demonstrators in ICARUS.

The demonstrators will be built leveraging data from OAG, the leading global aviation data provider to the world's airlines, airports, government agencies, aircraft manufacturers, consultancies and travel related companies.

## ICARUS Differentiating Points



### A one-stop shop

for discovery of native-aviation, extra-aviation and derivative-aviation data assets



### A trusted analytics sandbox

to link and gain insights into private, confidential and external data



### A data brokerage platform

enabling new forms of data sharing based on P2P licensing schemes

## The Consortium



Co-funded by the European Commission.

Horizon 2020 - Grant #780792. ICT-14-2017: Big Data PPP: cross-sectorial and cross-lingual data integration and experimentation

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