

# The Role of Universities in the European Air Transport System

by

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EASN Workshop

in Brussels 12<sup>th</sup> April 2018



## Airbus is a European success story!

### In 2017: Airbus achieved:

Turnover: 66,6 b€

EBIT: 3,4 b€

Aircraft delivered in 2017: 718 a/c

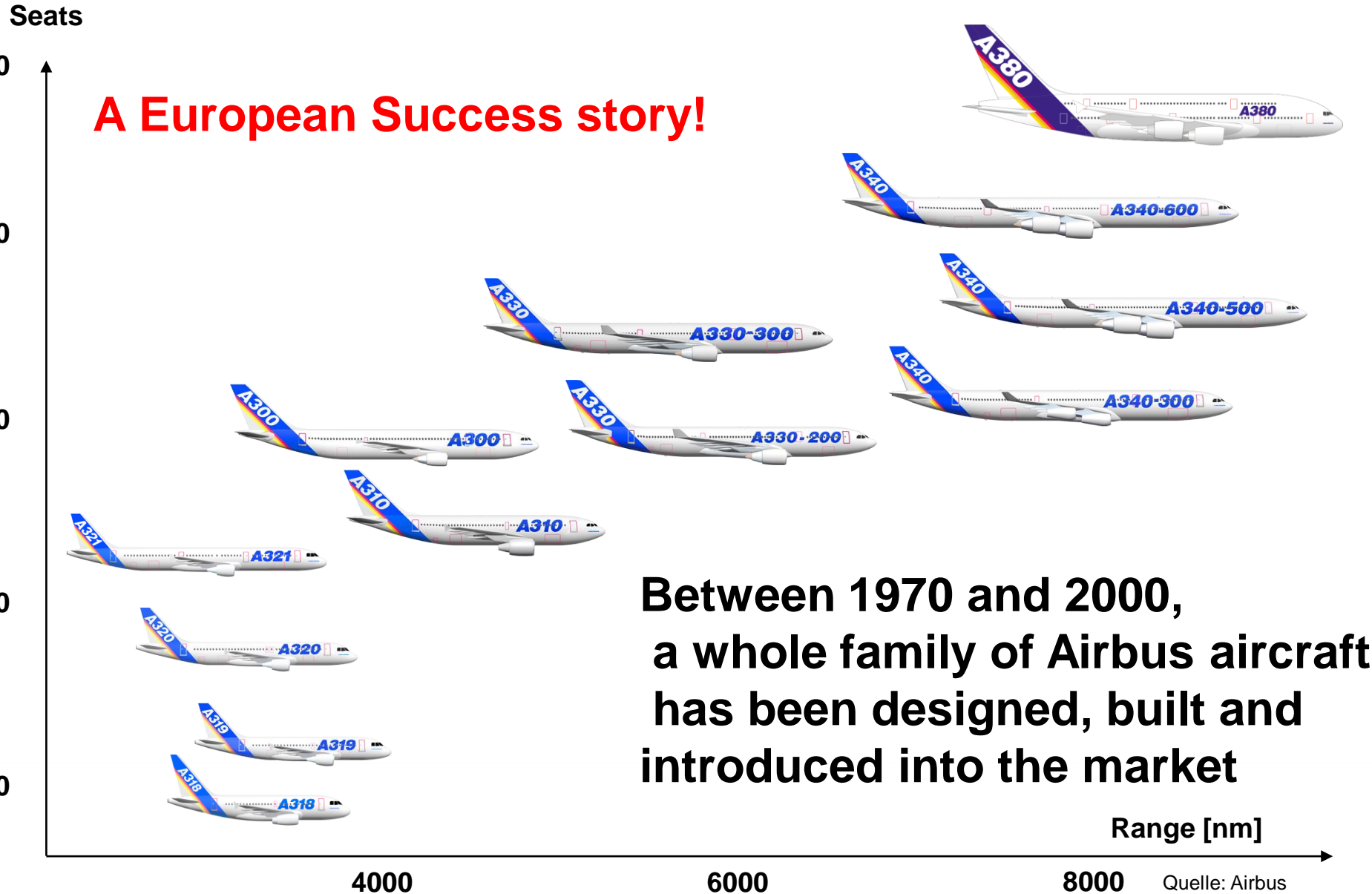
Backlog: 7.265

Orders in 2017: 1.109

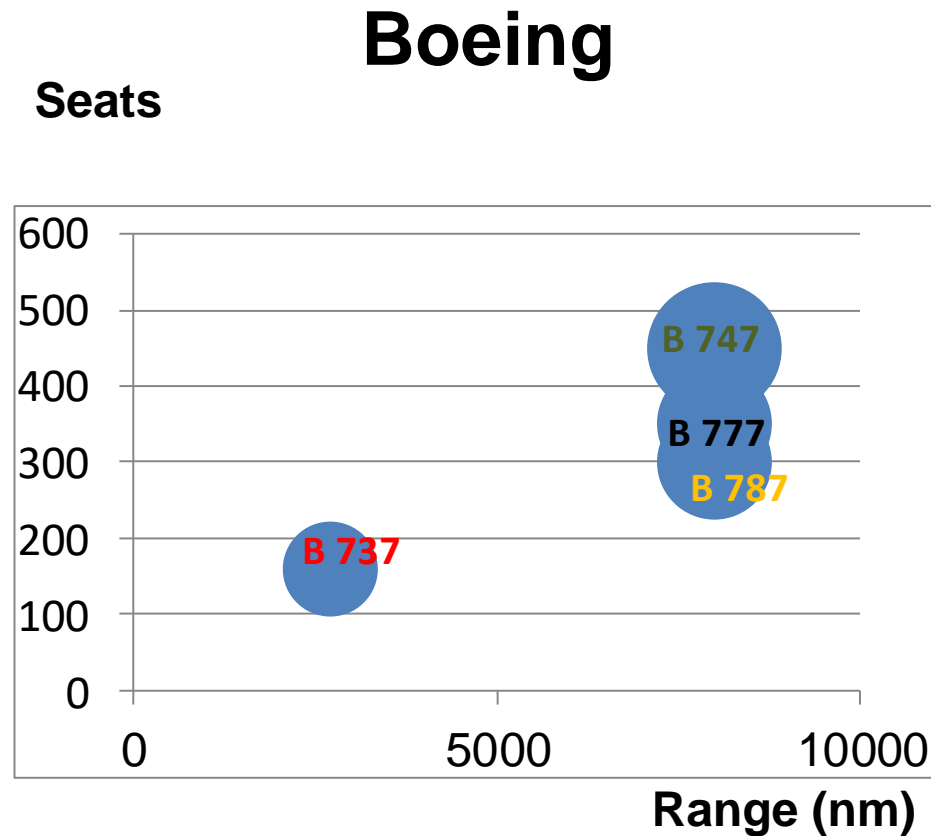
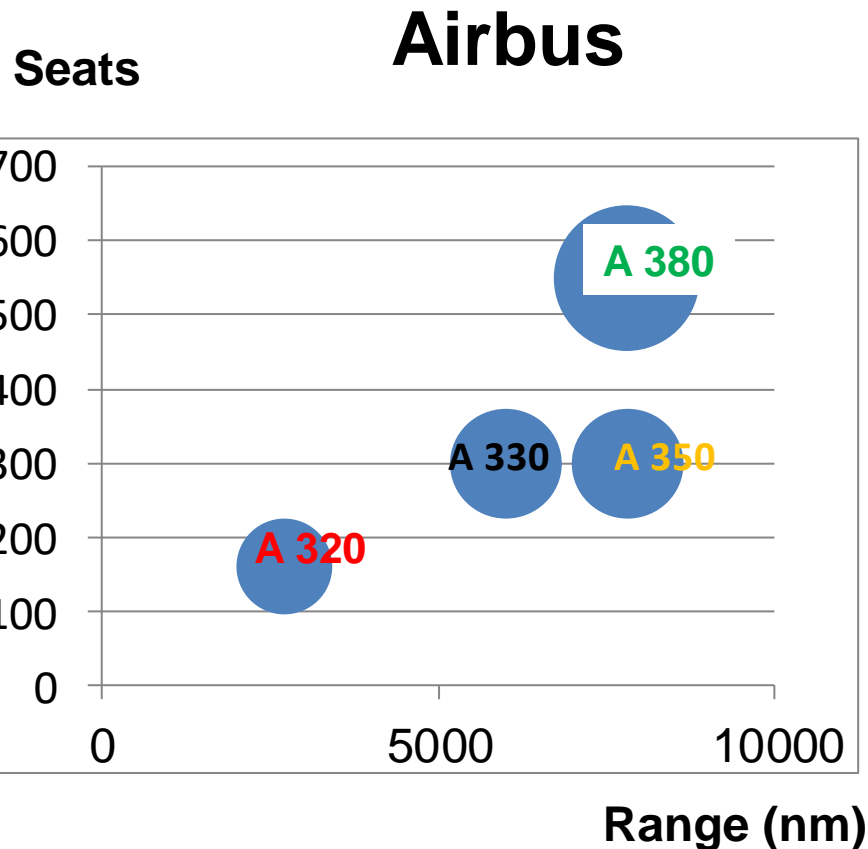
Employees: 129.442 (132 nationalities)

# Family Concept for Airbus

ARTS-DS



# Duopoly Airbus - Boeing



Today, The product portfolio from Airbus and Boeing is nearly equivalent!

A320 is similar to B737; A350 corresponds to B787!

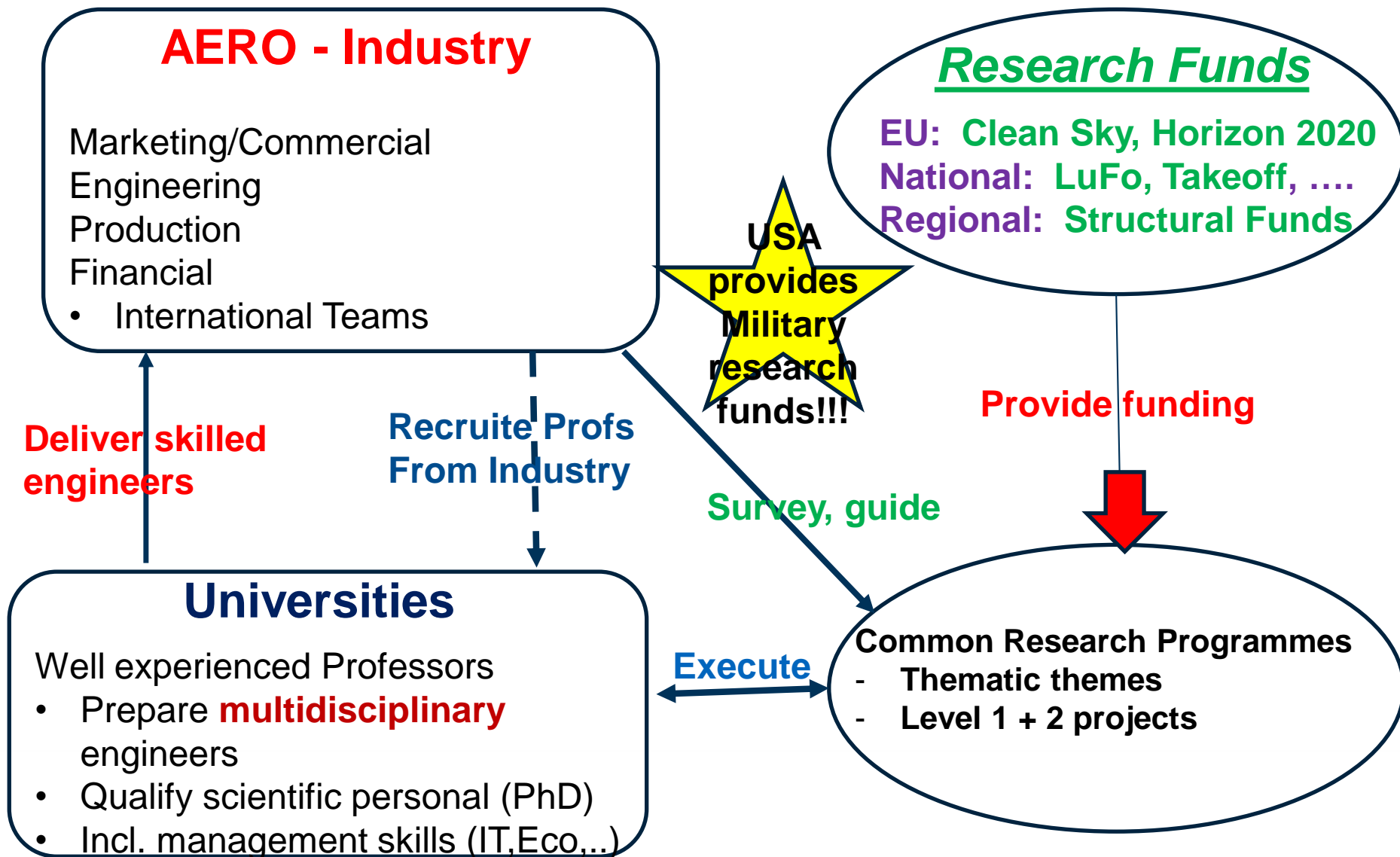
There is a market share of roughly **50 : 50**

**No new products are on the horizon!!**

## Role of Universities, seen from Industry

- Provide well educated young engineers and professionals
- Provide young professionals with latest Knowhow (latest IT knowledge, latest manufacturing technologies, everything focused on aeronautical needs)
- Provide not only engineering skills, but also economical knowledge, experience in programme management, soft skills!
- The young engineer have to be on the market, when industry needs them!

# Links between Industry and University *ARTS-DS*



## Academic education in 3 steps

<b>Bachelor</b>	can be done by academic staff
<b>Master</b>	will need industrial competences
<b>PhD</b>	will need research projects, in cooperation with industrial partners

**Conclusion:** Europe needs Professors in Aeronautics which have a good industrial background in order to provide the necessary competences from actual industrial technology levels to the education system.

Professors with good contacts to the industry, to enable cooperation between industry and academia and support and supervise the high level PhD studies, executed by the young researchers.

- Cooperation in R&T as fundamental requisit to provide young professionals.
- Common national and European research programs
  - EU, Horizons, CS2, ..
  - National R&T (LuFo, DTI, DGRC, ..Takeoff, ..)
- Recruitment of professors
  - Not a unique way in Europe, however not a real problem as long as the Professors have a sound industrial background.



## **TU Munich (DE) :**

- R. Gaffal: Model of Airport environmental impact (Airport Munich)
- A. Strohmayr: Scenario technics for air transport system (EADS military)
- A. Bauch: Virtual reality concepts for cabin design (Airbus DE Hamburg)
- T. Richter: Simulation of aircraft emergency evacuation scenarios (Airbus HH)
- B. Brückner: Aircraft maintenance strategies (SR Technics, Zurich)
- R. Egelhofer: A/C design for optimal range (in coop. with Airbus FR)

## **ISAE (TLS – FR)**

Cockpit function „Brake to vacate“ developed for A380

## **TU Braunschweig : (DE)**

Formation Flight and the drag reduction potential

## **Cranfield IoT (UK)**

tbd

## **TU Delft (NL):**

tbd

Author:

Title:

Industrial partner/sponsors:

Short summary:

Implementation: (IPR, application in industry, etc.)

Financial support: (EU, national, industry, Regional, ..)

EASN to provide a list of all relevant subjects  
(cooperation with industrial partners!)

All EASN partners to give inputs

Provide a Workshop for industrial partners to  
show the EASN competences to industrial partners  
in order to start new cooperations

- Industry will develop less new aircraft in future
- Industry will need new young engineers with high competences in case, new design concepts have to be realised!
- Industry will try to rely on Universities, to develop/qualify excellent young professionals

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**The European Aeronautical Industry is interested and needs EU supported research programmes (EU, National or regional Funds)**

**There is a need to involve the European Universities in these research programmes for qualification of young engineers**

**There is a need of close cooperation between industry, Research Centers and Universities.**

**There is a big hype today for digitalization!**

**Please be aware, an aircraft is a hardware product with very sophisticated functionalities**

A satellite image of Europe and surrounding regions, including parts of North Africa, the Middle East, and Iceland. The land is shown in shades of green and brown, while the oceans are dark blue. The text "Thank you for your attention!" is overlaid in white.

Thank you  
for your attention!