



# **CELTIC-NEXT**

## **Innovate UK Summer**

### **Briefing**

20<sup>th</sup> August 2019, London

**Pitch of the Project Proposal**

## **5G Air to Ground Connectivity**

# **AIRBUS**

Jean-Christophe Schiel / Airbus Defence and Space  
Jean-Christophe.Schiel@airbus.com



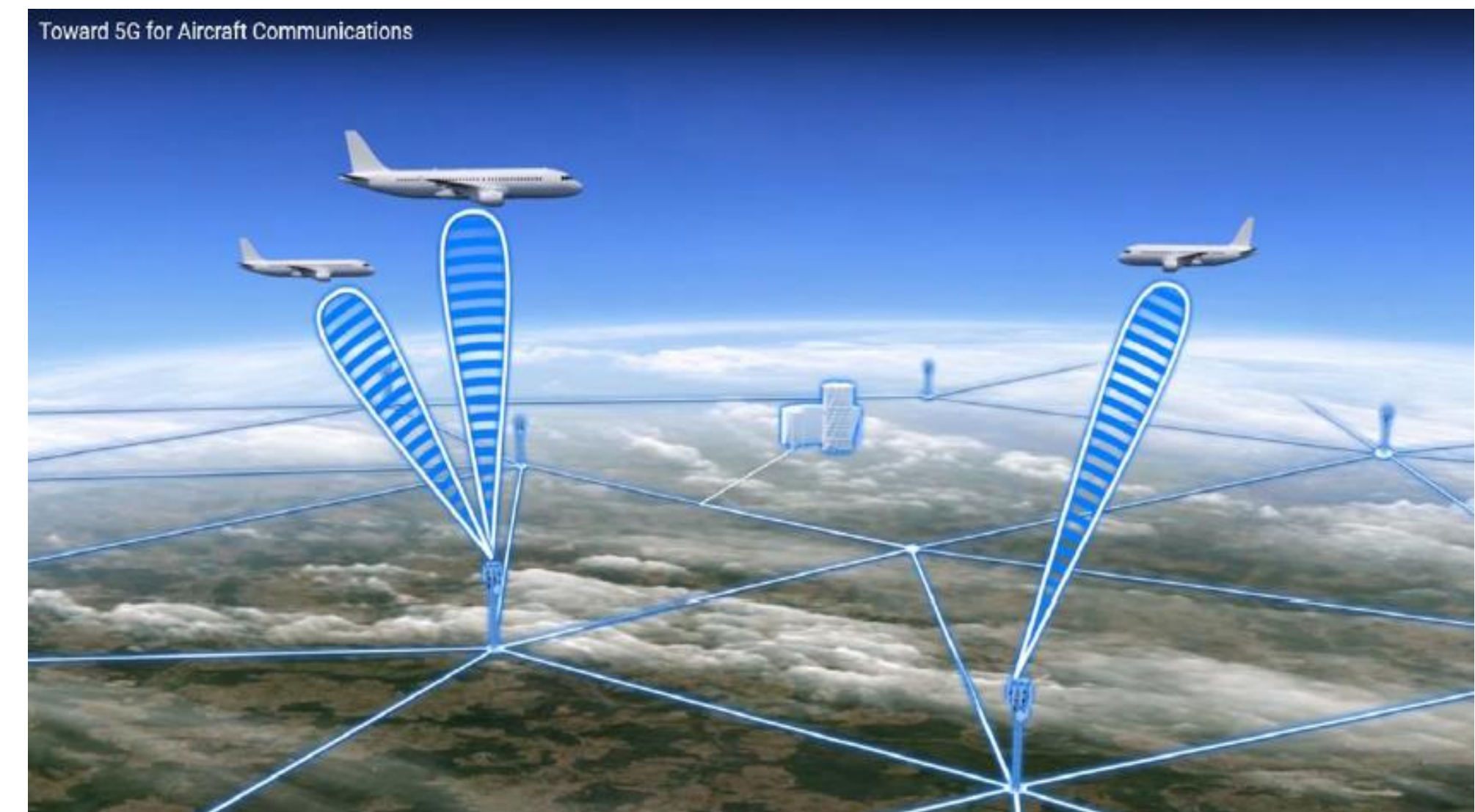
# Teaser

- Growing demand for ubiquitous broadband connectivity for all type of flying platform → 5G Air to Ground Connectivity:
  - Commercial aircrafts are usually using the satellite communication to offer connectivity to the passengers
    - Currently €€€ but it is improving (LEO satellites)
    - Still the only solution when flying above the oceans → natural complement of LEO satellites
  - The idea is then to add Air-to-Ground-connections when available to offer more connectivity at a lower cost and to benefit from the 5G technology.



# Proposal Introduction (1)

- *The idea is to connect an aircraft like a 5G user on the Ground*
- *But an aircraft is NOT a conventional user*
- *Altitude: 10000ft-40000ft @ up to 1000km/h*
  - *Modifications*
    - *on the 5G Airborne SDR modem*
    - *On the Base Stations*
    - *On the antennas*
    - *On some protocols (handover ...)*



- *It needs Flight Certification or at least the minimal requirements the fly in an aircraft: EMC, environmental, fire & explosion proof etc ... for a prototype*

# Proposal Introduction (2)

- *Expected benefits:*
  - *Higher data rates*
  - *Low latency*
  - *Cheaper*
  - *Good service availability in dense areas*
  - *Worldwide standard*
- *Challenge and Weakness:*
  - *Doppler, latency, base station hand over*
  - *Can't cover the oceans and the low density areas (TBC)*
  - *Radio or system prototype prepared for flight test*

*Project Duration could be 36 months*

*Project outcome: ideally a demonstrator with a prototype of a modem with flight tests (dependant of Airbus internal funding)*



# Partners



CELTIC-NEXT

Next Generation Telecommunications

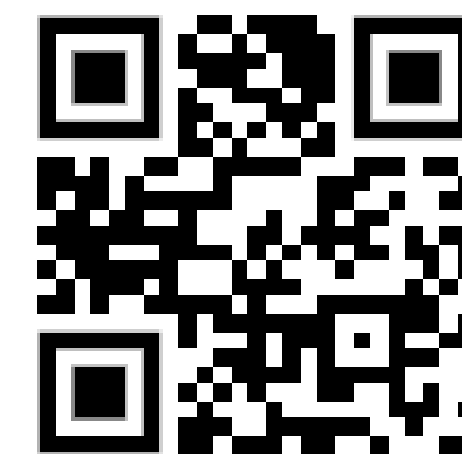
- No Consortium for the*
- Profiles and type of partners*
- *Telco operator / Service provider*
  - *Telecommunication equipment manufacturer*
  - *5G Base station*
  - *Airborne Antenna*
  - *SDR flight certifiable Modem side*
- Overall system view*
- for*

# Contact Info



**For more information and for interest to participate please contact:**

Jean-Christophe Schiel  
Airbus Defence and Space  
[Jean-Christophe.Schiel@airbus.com](mailto:Jean-Christophe.Schiel@airbus.com)  
Phone: +33 6 73 69 38 38  
1 Bld Jean Moulin  
78990 Elancourt  
France  
[www.airbus.com](http://www.airbus.com)



**Presentation available via:**

# Join the follow-up Telco

## 11 September 10-10.30 CET

**Meeting number (access code):** 955 745 706

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