

**ETTC 2015**

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# **C-Band for AIRBUS Telemetry : status and improvement**

# Airbus Telemetry context

15 aircrafts :

- A380
- A400M
- LR ( A340 A330)
- SA ( A320,A319,A321)
- A350-900

9 reception antenna

- Toulouse
  - Mediterranean see
  - Bordeaux
  - Saint-Nazaire
  - Tarbes
- 3 flights test simultaneously  
4 in the next future



# C-Band Telemetry frequency

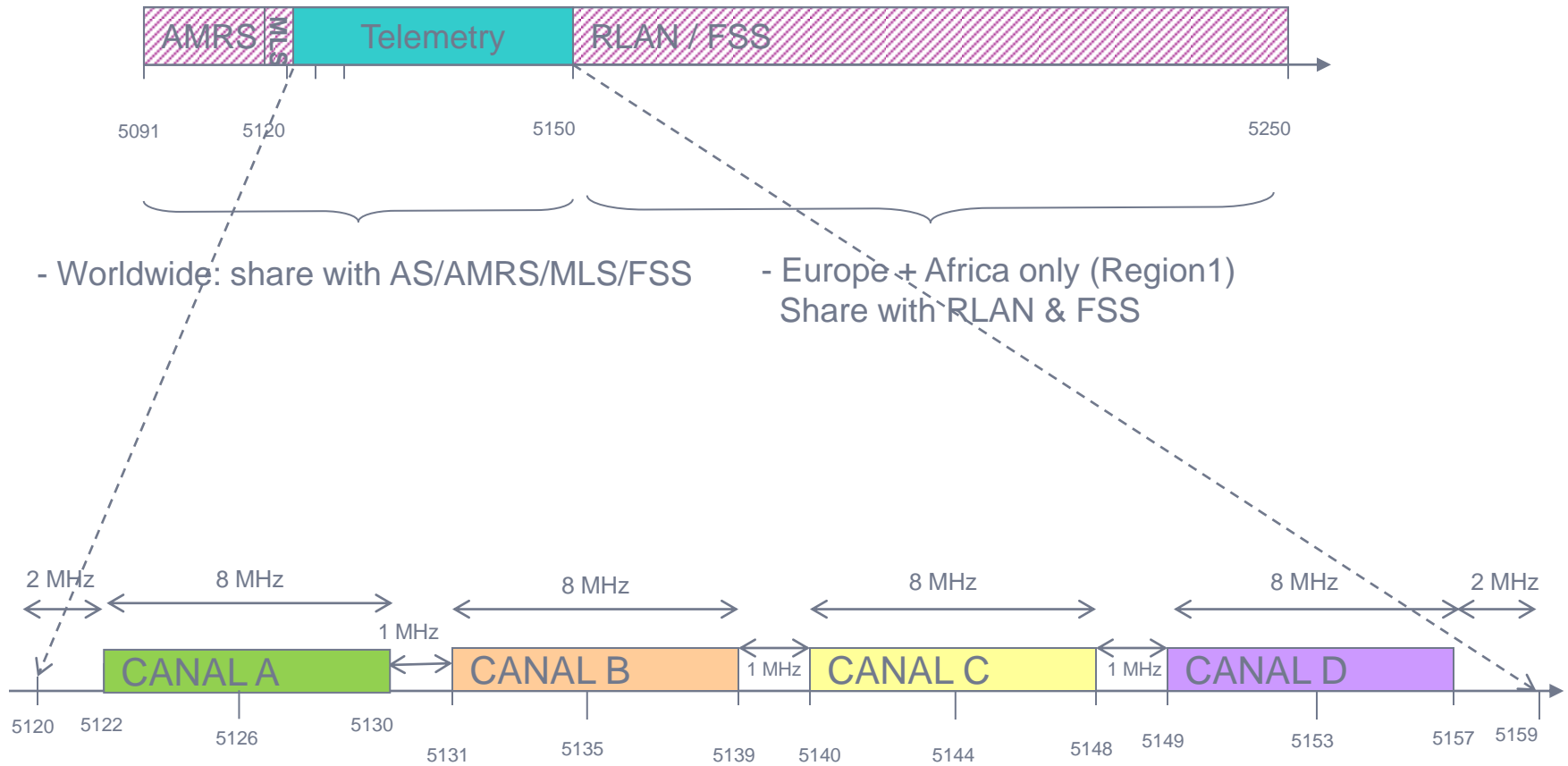
*Allocations for telemetry (flight test purpose and only downlink) :*



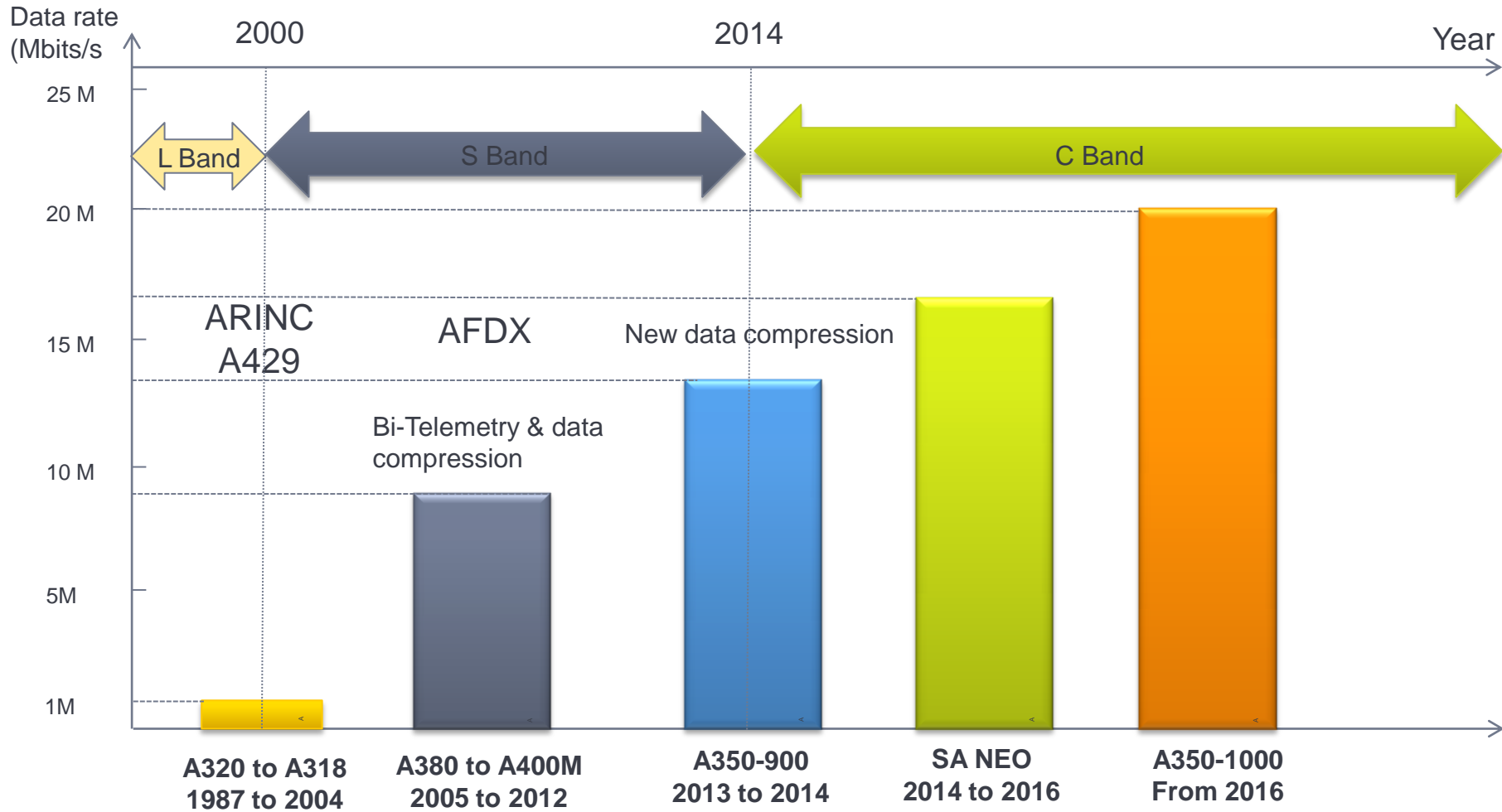
- ✓ Worldwide allocation
- ✓ All primary services
- ✓ FSS sharing possible
- ✓ AS and AMRS sharing feasible but strong constraints on telemetry

- ✓ Region 1 allocation (Europe/Africa/Brazil)
- ✓ All primary services
- ✓ FSS sharing possible
- ✓ RLAN sharing possible but some constraints on telemetry

# C-Band channels for AIRBUS Telemetry



# Frequency for AAIRBUS telemetry



## C Band achievements

- Same performance compared to S-Band Telemetry
  - Quality of transmission : QEF
  - Same Coverage area
  - Antenna tracking
  - Data repatriation from antenna to Telemetry center
- Operational reliability : **98,5 %**
  - Equal compared to S-Band Telemetry
- Data rate x 2,5 :
  - Answer to real need for 1<sup>st</sup> flight configuration
  - Possibility to increase video quality



# C Band achievements

From Jan 2014 to June 2015

- ✓ 943 tests followed up on C-Band
- ✓ 4092 hours
- ✓ On 12 different A/Cs



→ TC A350 end of September 2015

→ SA NEO : 1st Program full C-band telemetry

# What's next ?

## ✓ Continuous improvement :

- Reliability
- Answer new needs (wide band parameters more than 8000 samples/s, high video quality etc ...)



## ✓ Support ATR for Clean Sky 2 flight test campaign



## ✓ Mobile telemetry antenna

- Capacity to equip airport with reception means for specific tests follow-up :
  - Paris-Vatry
  - Perpignan



# Conclusion

- A long story and a human adventure
- Thanks to all the contributors !



- AIRBUS was the 1<sup>st</sup> user of C-Band for Telemetry in the world
- It's now our standard : we'll continue to improve it !

# Telemetry in the future ?

- Airbus must have a clear vision of the future :
  - Telemetry is mandatory to reach the objective of certification delay
  - Managing risks and opportunities
  - To anticipate regulation modification

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# Protect the C-Band !

