



# RFID & USAGES EUROCOPTER

**CNRFID**

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# Civil Missions



Flying without limit...





# After Sales Services



2 819 Customers operating 10 929 Helicopters in 147 countries

85% owned less than 5 aircrafts



# Business Objectives



Consolidate a **global unified view on data** management including RFID.



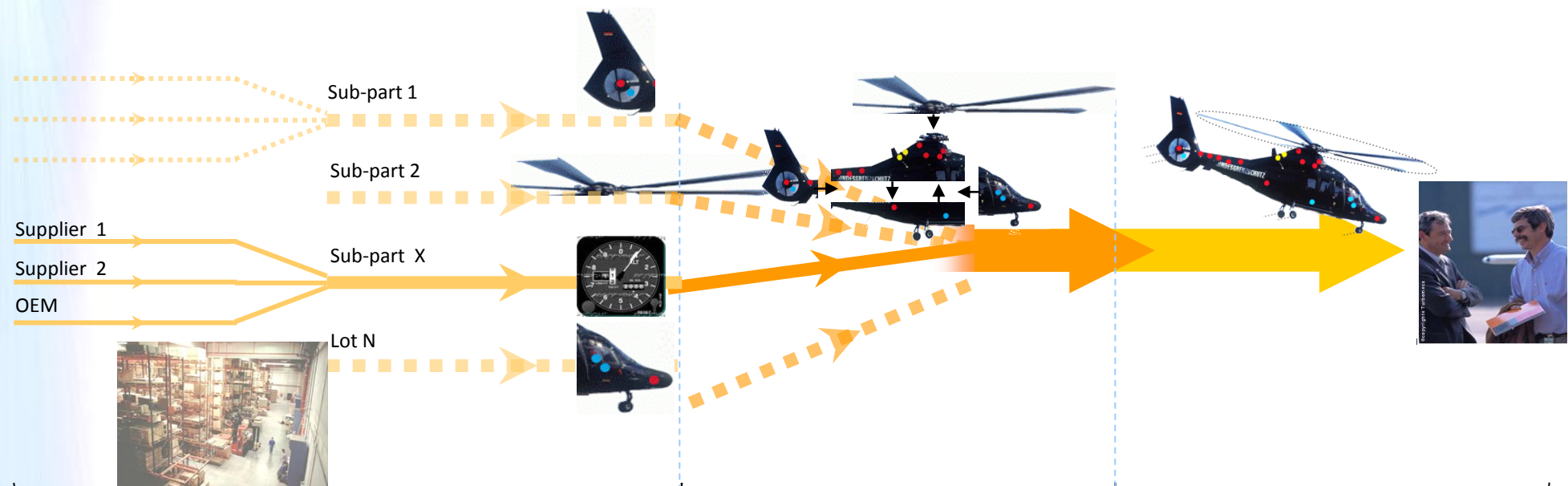
**Minimize disruption** to customer operations for maintenance and logistics



Identify the “**Best value**” for the new processes and services.



# After sale operations



## SUPPLY LOGISTICS

- Tracking part
- Logistic & inventory management
- Anticounterfeight

## REPAIR & OVERHAUL

- Tracking defect and repair task
- Update A/C configuration

## AIRWORTHINESS

- Data governance
- History
- Compliancy



# Business requirements



1.



*Flying without limit*

## On the parking area

2.



*Check-up post-mission*



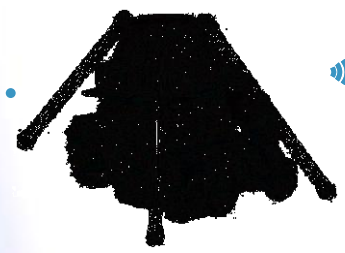
- ✓ **Read ID** for **all** items of aircraft configuration
- ✓ **Write** back usages and maintenance data **on fews** o counters in fly times, cycles, exceedance, events...

3.



## In the workshop

3'.



- ✓ **Read or writte** during the MRO operations directly on items **anywhere**



# RFID for aircraft configuration and maintenance management



RFID AERO Project – FUI



Leader



énergie atomique . énergies alternatives



# RFID Aero Concept

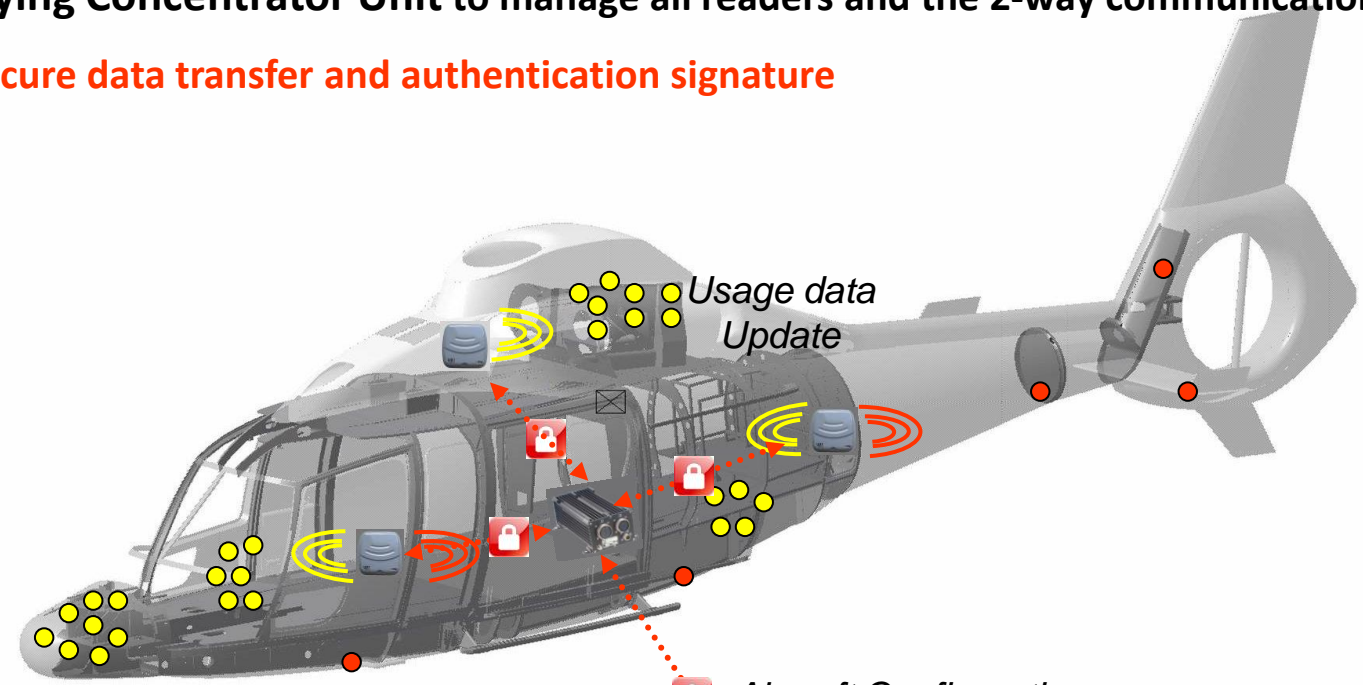


Flying Tags on parts (mechanical, avionics, dynamics)

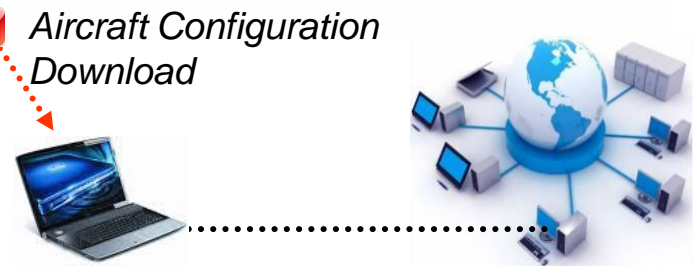
Flying Readers coordinated with wireless Network

Flying Concentrator Unit to manage all readers and the 2-way communication with ground

Secure data transfer and authentication signature



	Reader / Antenna		Wireless connection
	Data Concentrator		Mesh network
	Passive Tag		Active Tag



Mobile Station

User Area



# Project Architecture



Business Objectives



Quality Assurance Process

Auto-ID Application



E-logcard Application



# Innovation Drivers

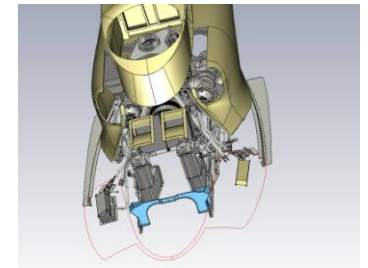
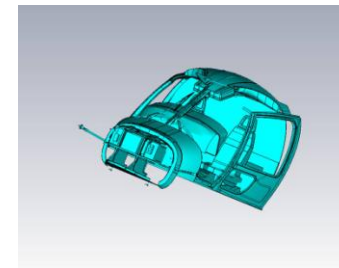


- Full embedded system on helicopter
  - UHF and actives tags, readers, antenna, data concentrator
  - Zigbee wireless network
- World wide Interoperability – Adaptive readers (FCC/ETSI) depending on domestic regulation area.
- Optimization of RF Performance (tags, readers and antenna) in very harsh environment
  - Rugged material, size and weight reduction,
  - Read/Write reliability, distance,
  - Metal and confined area...

**Demo Available**



- Standardization of data model - Compliance with ATA Spec 2000.
- Authentication / Encryption / Communication security
- Use of 3D Helicopter model for electromagnetic simulation
  - Support to system (readers, antenna, tags) location





# Timing Project



## ■ 2009

- State of the Art, Requirements and specifications
- System Architecture

## ■ 2010

- Technology development and prototype
- Passive / Active Tags
- Readers
- Data concentrator
- Secured Mesh Network

## ■ 2011

- Integration and demonstration on helicopter
- Dolphin N4

# Non mature topics



## Aeronautical specific constraints

- EASA/FAA certification



## Operational process change : means and organization

- Impact analysis : Direct Maintenance Cost



## Shared value in Ecosystem :

- OEM, MRO centers, Logistics, Operators,...



Thank you for your attention  
***Questions***

