



International RFID Congress  
14<sup>th</sup> -15<sup>th</sup> September, 2010 – Toulouse – France

## STid Corporate Overview & RFID AERO Project

The RFID for aircraft configuration and maintenance management

Project leader :  **eurocopter**  
an EADS Company



Access



Vehicle



Assets

- Founded in 1996, STid is specialized in **contactless identification technologies using radio frequencies (RFID)**
- STid designs, produces and sells RFID equipments (Readers & Tags) dedicated to the traceability and security markets.

- **People identification**

- Leading provider of ID solutions for access management.
- More than 200 000 access control readers



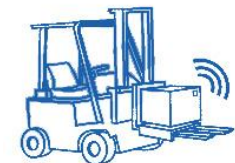
- **Automatic Vehicle Identification (AVI)**

- STid has developed the Teletag® patented solution to identify vehicles with a passive electronic tag (without battery).



- **Object identification**

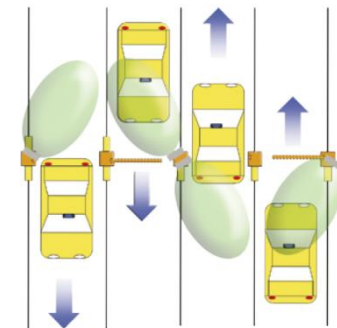
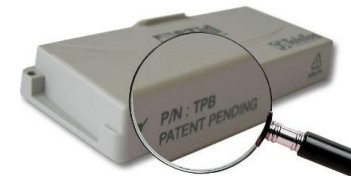
- Value-added products identification
- Cases & pallets tagging for logistics and traceability applications



- More than 200 000 readers in operation
- > 5 millions people identified with STid technologies
- #2 supplier of identification in the French Access Control market



- Automatic vehicle identification thanks to a tag installed behind the windscreen
- Applications
  - Access control
  - Tolls - Parking
  - Vehicle fleet management...
- Automatic Vehicle identification with passive tag
  - No battery
  - High performances
  - All kind of vehicles
  - Cost effective
- Patented technology
  - Unique performance/environment combination
- References
  - MMA
  - CRAM Marseille
  - Nice & Biarritz airports
  - City transportation bus deposits (Aix RDT13, St Quentin)
  - Private parkings(Gecina–Rueil)
  - Banks (CaisseEpargne)
  - TGI Paris (Justice )





**RFID for aircraft configuration and maintenance management**

- National FUI Project



- Project Leader



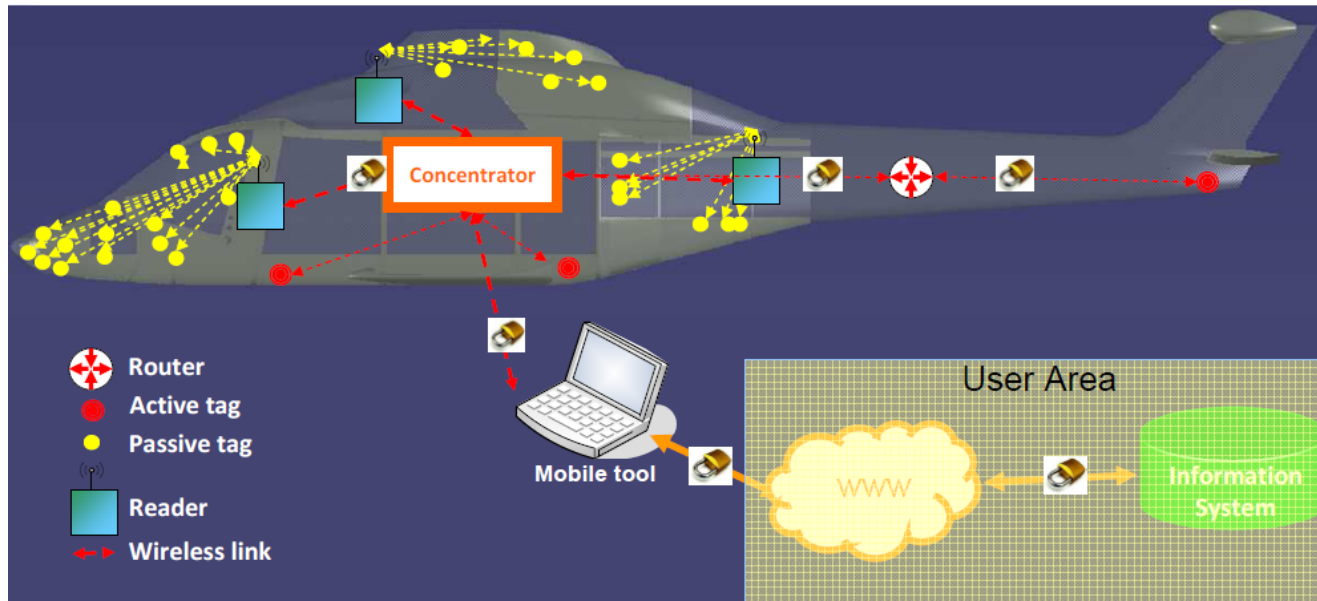
- Other Industrial Partners





## RFID AERO : *Concept all on-board*

- Tagging of parts (mechanics, avionics, dynamics)
- On-board readers and antenna coordinated through wireless meshed network
- Smart Data concentrator to manage readers and communications with ground
- Secure electronic data transfer and authentication signature

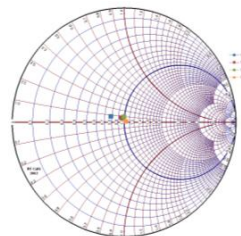
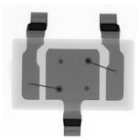
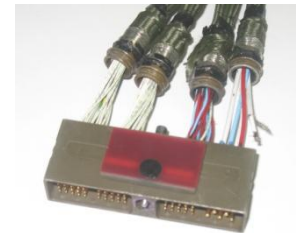
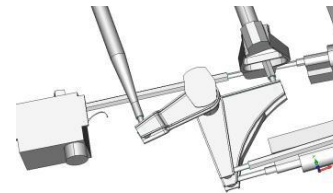
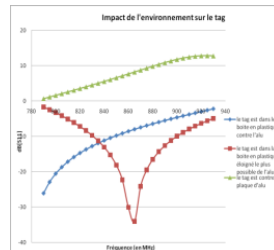
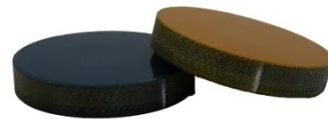


## Radio Frequency Identification in the Ultra High Frequency band, for on-metal objects in harsh environments

Optimized ratio performance/size/weight/very high performance on-metal surface

Patented technology

Harsh environments



## UHF RFID Rugged On-Metal Small Tags / Harsh environments – Datasheet

**Description:** Specific UHF RFID tag solution for on-metal objects and harsh environment.  
Composite of epoxy resin hardened with fiberglass, for high temperature cycles and flame resistance.  
Made for small metal objects with weight and thickness constraints

**Application:** Metallic objects identification  
Aeronautic – Rail – Automotive  
Confined & harsh environment (t , pressure, humidity...) industrial applications

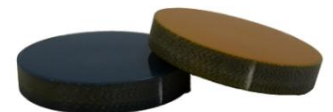
**Physical properties:** RFID passive tag  
850-950 MHz, compatible for readers in ETSI 302-208 & FCC Part15

**Conformity:** EPC Class 1 GEN 2 / ISO18000-6C / ISO15962  
ATA Spec.2000 chapter 9.5 in low memory format

**Form factor:** On-metal tag (FR4) – Color option (black, green, red, blue, yellow, white)  
50 mm \* 20 mm \* 4.8 mm / 35 mm \* 25 mm \* 4.8 mm / 30 mm \* 30 mm \* 4.8 mm / 37 mm \* 6.5 mm \* 3.2 mm (L \* W \* T)  
30 mm x 4.8 mm (D \* T)

**Weight:** 3g to 10g

**Patent pending.**



## UHF RFID Rugged On-Metal Small Tags / Harsh environments – Datasheet

**Performances/environment requirements :** SAE AS5678 and DO160 Rev.E

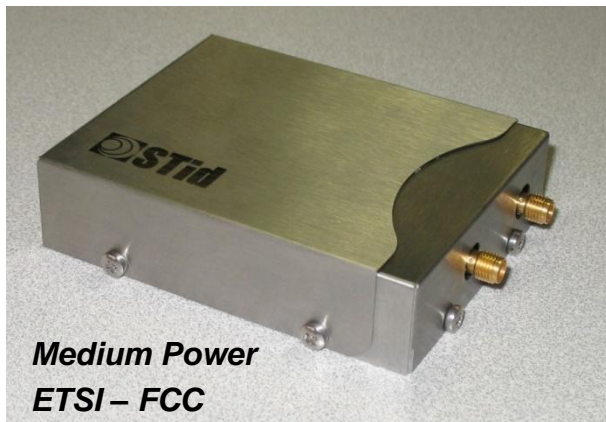
**Reliability:** tests with CTS climatic chamber  
*Endurance t : 4H to 6H at +200 C / Operating t : -45 C to +85 C / Heat shock and fast fluctuations*  
Pressure: ongoing tests with criteria > 10 bars  
IP68 - Liquid resistance: water, detergents, alcohols, oils, petrol, gas  
Flame resistant (self-extinguishing)

**Fixation :** Adhesive 3M 9473 or bi-component glue

**Performances:** Reading distance up to **2.5 meters** on metal surface  
*tests with Stid readers in free outdoor environment*  
*on galvanized steel, stainless steel, titanium, aluminum, composite*

Tags in production step & on-going tests in real conditions:





**Medium Power**  
**ETSI – FCC**

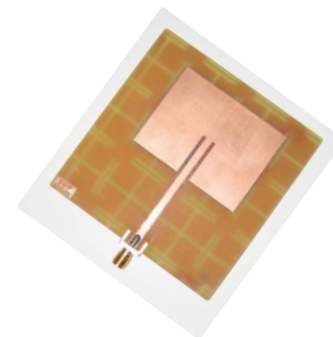
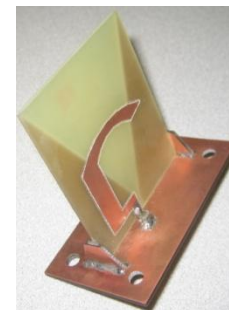


**Low-High temperature cycle tests**

*Security mechanism for integrity and authentication with tags*  
*Security mechanism for authentication and confidentiality with host*



**Full Power**  
**ETSI – FCC**



**High performance antennas with reduced area**  
**Large frequency band ETSI & FCC**  
**Network antenna system**

**Large zoning with optimum number of readers and antennas**  
**→ reduced weight / easy integration**

*Thanks for your attention,*

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