Real Time Data Provision (links to AMDAR)

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Real Time Transmission to serve monitoring and forecasting systems

$$dp = -\rho g\, dz = -\rho\, d\Phi$$

$$\frac{\partial T}{\partial t} =$$

EUMETNET
EUROPEAN METEOROLOGICAL SERVICES NETWORK

Atmosphere Monitoring Service

Copernicus
Europe's eyes on Earth

Real time : within 3 hours (*real* real time)

Useful for remote sensing data qualification, monitoring and control, towards assimilation.

Target main user : ECMWF and its partners, involved in Copernicus Atmosphere

A classical data flow relying on existing operational infrastructures (AMDAR)
RTTU → Satellite telecom operator → Eumetnet E-ADAS → WMO Information System

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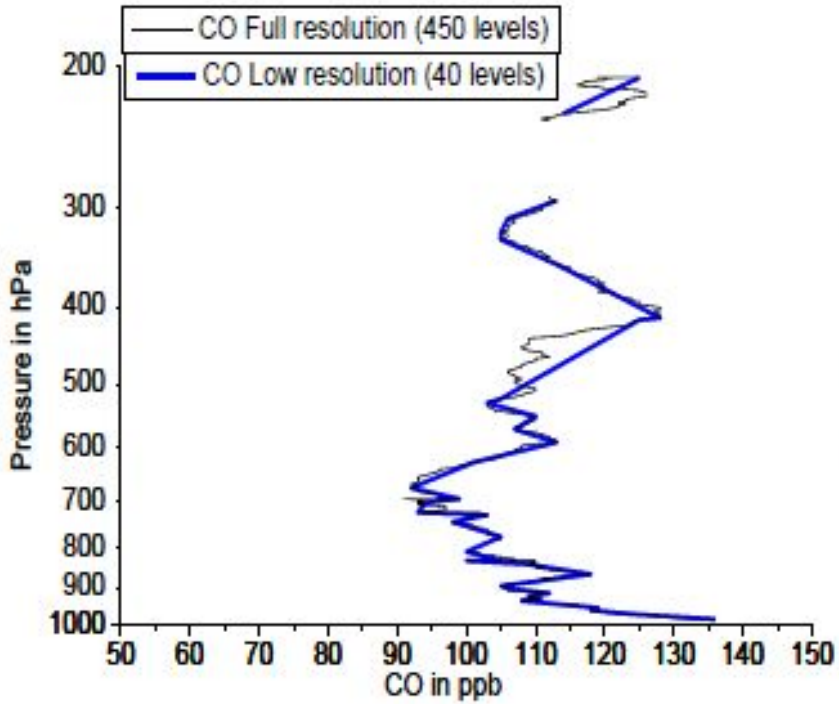
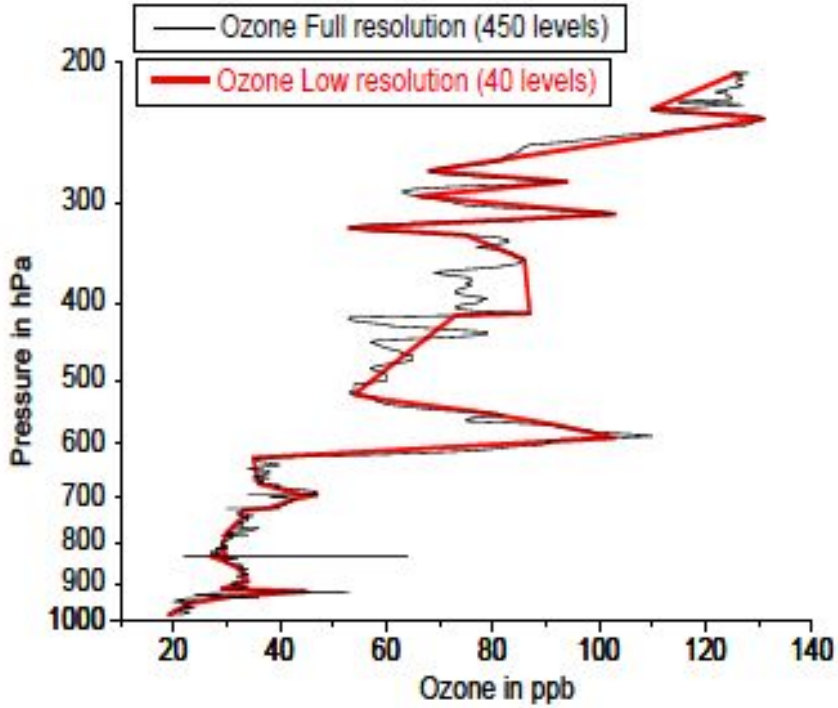
Reduced 40-points profile





The full IAGOS profiles are reduced to 40-points profiles (cost issues)
O3 and CO are transmitted

→ These options date from the late 90's.
To be revisited with current state-of-the-art numerical models

→ Evolution towards delivery of H2O, BCP, CO2, CH4 data

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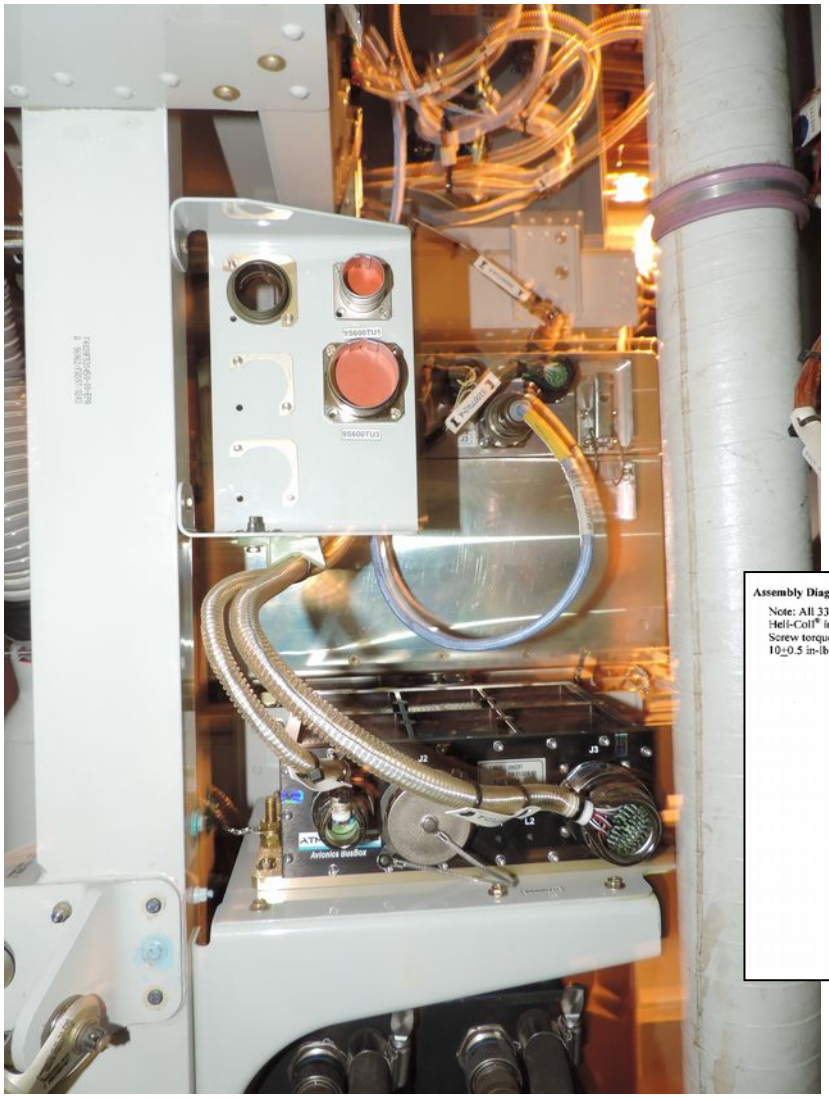
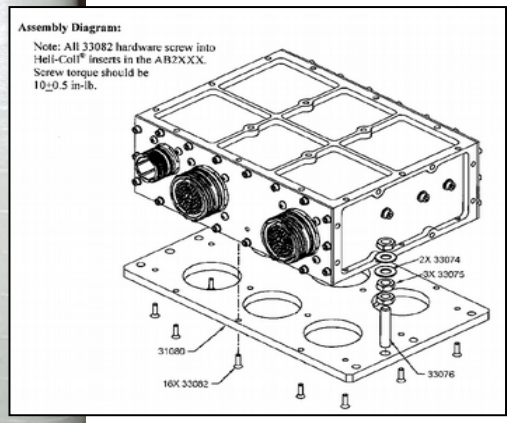
The RRT Unit, an add-on to the IAGOS package





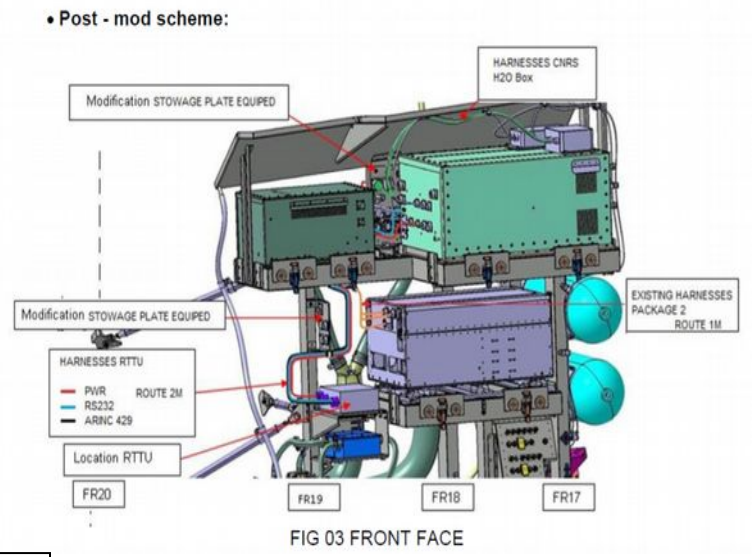
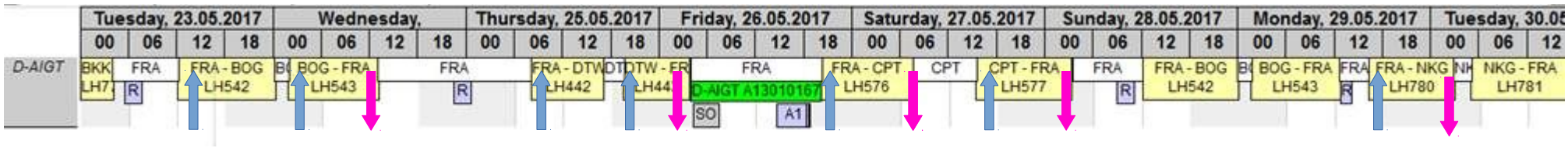


FIG 03 FRONT FACE

The RTTU is a modem, connected to the P1 package, ensuring the communication with the Satcom unit

Developments, certification by ATMOSPHERE & sabena technics TAT GROUP + METEO FRANCE

It works! The RTTU has sent messages…
What is the way forward now?



- Installation in Jan-Feb 2017; Run in May 2017; Stopped in December 2017

- The transmission of profiles via the RTTU is out for the time being
  - Work under progress to relaunch the transmission from D-AIGT

- Many lessons can be drawn from the prototype

- It seems wise for a first service to rely on various telecommunication technologies
  - GSM transmission of descending (full) profile is activated
  - WiFi on board is currently being installed on many aircraft
    → IP connectivity would make IAGOS a standard passenger

- The long run effort has to be kept and rely on the Meteorological infrastructure
    → And keep an eye on AMDAR and other measurement and telecom systems evolutions

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Merci !

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