



Bruxelles 2011

Olivier MAGNE

Protection Tracking Measurement



Train- Ground Communications for Energy Metering Systems



General Presentation

- Franco German Company
- Over 50 years experience in Industrial markets
- 20+ years experience in Rail
- Consolidated Turnover 2010: 21 M€

- **Business Units :**



Equipment for radioactivity measurement



Telematics



Instruments for Petrochemistry and Incineration

- Resources: 130 employees including 30 engineers



SAPHYMO



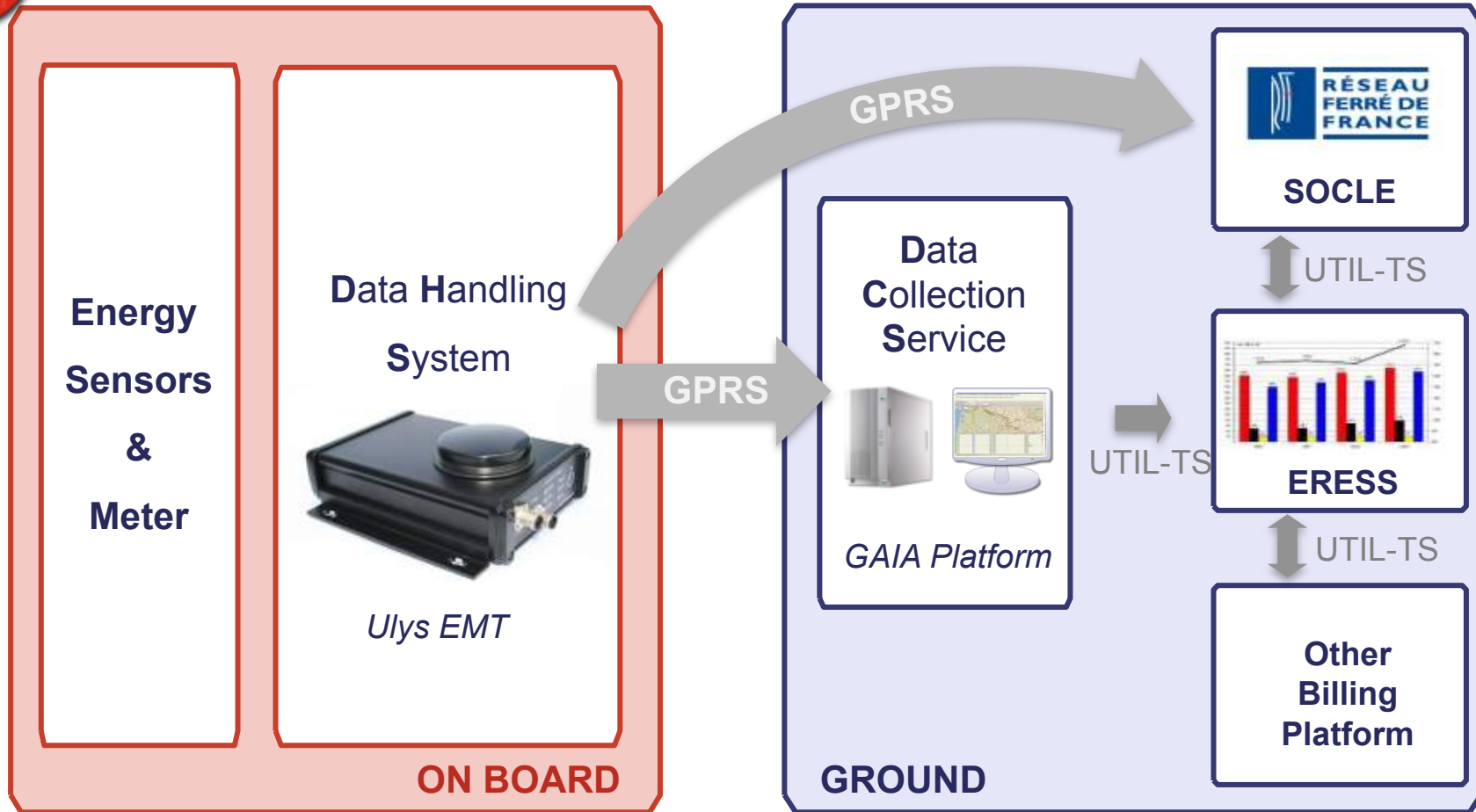
Radioprotection | Home
Security | Surveillance
l'Environnement | Contrôle
Radioactivité | Télématique
Radioprotection | Home
Security | Surveillance
l'Environnement | Contrôle
Radioactivité | Télématique
Radioprotection | Home
Security | Surveillance

**DHS and DCS provider
for
Energy Metering Systems
in Trains**

A decorative graphic consisting of two thin, overlapping wavy lines in shades of purple and blue, curving across the bottom of the slide.

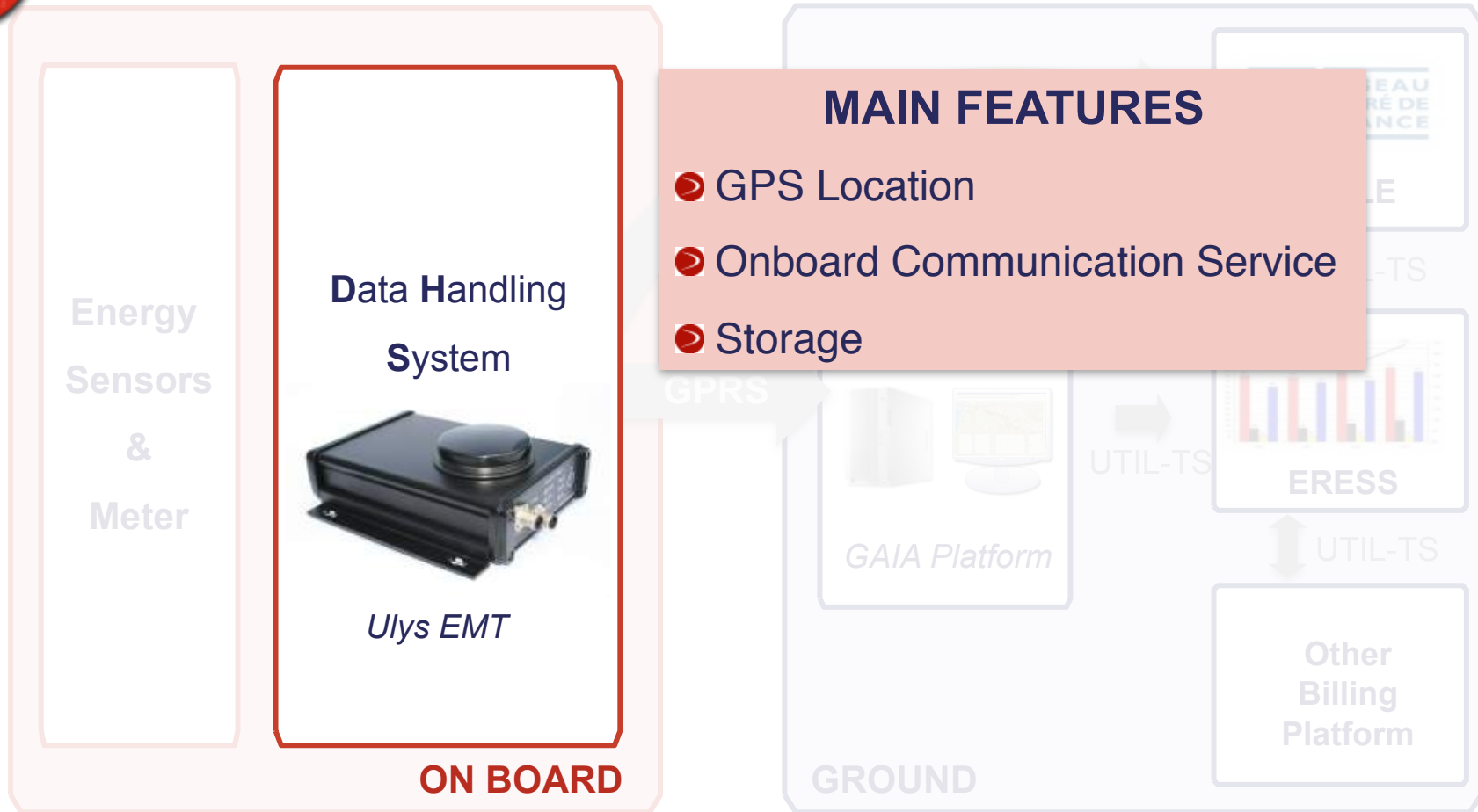
EMS Architecture

Onboard & Ground Communication platform



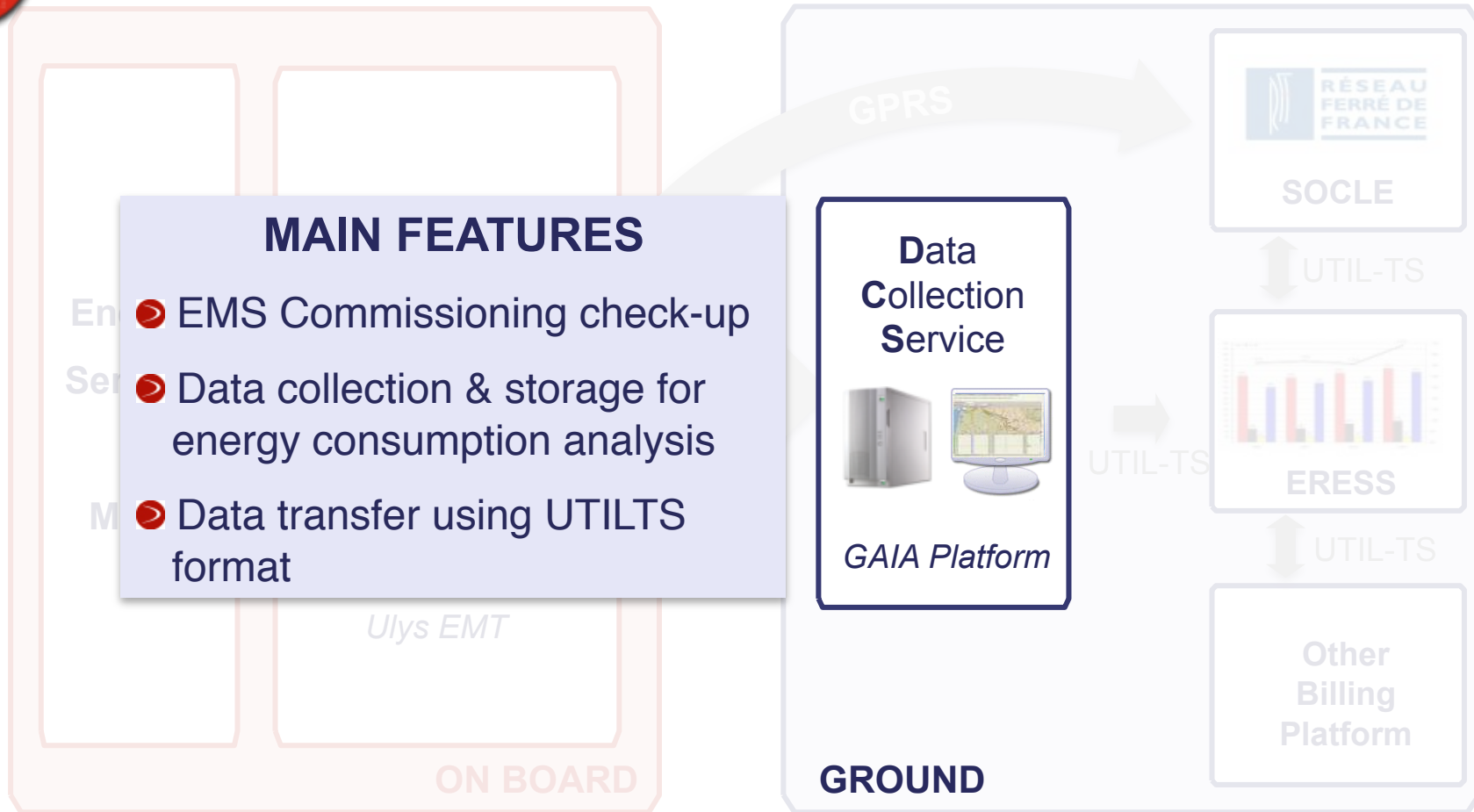
EMS Architecture

Onboard & Ground Communication platform



EMS Architecture

Onboard & Ground Communication platform



Ulys-EMT OnBoard Data Handling System 1/3

Proven solutions for Onboard Energy data handling



- 250 systems in operation
- Compliant with:
 - IEC 62056-21 for meters interface
 - EN 50463 project norm
- Suitable for international traffic
 - ERESS, SOCLE, PTB approved

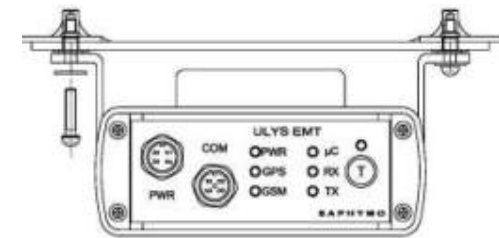
EMTBox OnBoard Data Handling System 2/3



Flexible & economical approach for retrofit



- **All-in-one under roof** mounting capabilities
- **GPS/GSM Roof antenna connection** capabilities
- **DHS** physically **independent from meter** (up to 20m)
- Onboard as well as remote **diagnosis** features



SAPHYMO

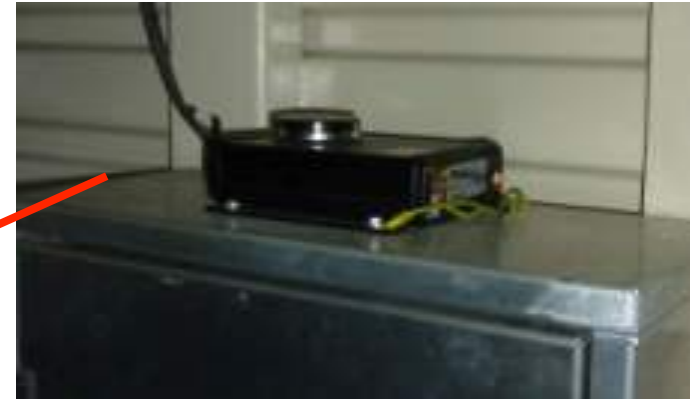
EMTBox OnBoard Data Handling System 3/3

Installed in less than one hour



24V power supply

meter



GAIA Data Collecting Service



Secured web-based platform

- Provide information for :
 - Commissioning check-up
 - Energy data management
 - Remote health diagnostic of EMS
- Data broadcast to **ERESS** platform using UTIL-TS messages format

| Date (yy/mm/dd) | AP | AN | BP | BN | Voltage | LEM | Status | LEM Error | Internal temperature | Heading | Speed | Latitude | Longitude |
|------------------|---------|--------|--------|--------|---------|-----|--------|-----------|----------------------|---------|-------|----------|------------|
| 2011/04 14:30:00 | 1813980 | 148488 | 386880 | 112330 | 0 | 0 | 0 | 0 | 28 °C | 33 | 0 | +48.8014 | +002.29930 |
| 2011/04 14:30:00 | 1813980 | 148488 | 386880 | 112330 | DC | 0 | 0 | 0 | 24 °C | 0 | 0 | +48.7991 | +002.29721 |
| 2011/04 14:35:00 | 1813976 | 148488 | 386880 | 112330 | DC | 0 | 0 | 0 | 24 °C | 0 | 0 | +48.7975 | +002.29898 |
| 2011/04 14:40:00 | 1813974 | 148488 | 386880 | 112330 | DC | 0 | 0 | 0 | 24 °C | 56 | 27 | +48.8018 | +002.29973 |
| 2011/04 13:35:00 | 1813765 | 148488 | 386880 | 112330 | DC | 0 | 0 | 0 | 24 °C | 0 | 0 | +48.8080 | +002.30230 |
| 2011/04 13:40:00 | 1813980 | 148488 | 386880 | 112330 | DC | 0 | 0 | 0 | 24 °C | 0 | 0 | +48.8080 | +002.30228 |
| 2011/04 13:45:00 | 1813939 | 148488 | 386880 | 112330 | DC | 0 | 0 | 0 | 25 °C | 0 | 0 | +48.8059 | +002.30223 |
| 2011/04 13:40:00 | 1813935 | 148488 | 386880 | 112330 | DC | 0 | 0 | 0 | 25 °C | 0 | 0 | +48.8059 | +002.30228 |
| 2011/04 13:35:00 | 1813980 | 148488 | 386880 | 112330 | DC | 0 | 0 | 0 | 28 °C | 0 | 0 | +48.8080 | +002.30228 |
| 2011/04 13:30:00 | 1813949 | 148488 | 386880 | 112330 | DC | 0 | 0 | 0 | 25 °C | 0 | 0 | +48.8080 | +002.30223 |
| 2011/04 13:25:00 | 1813946 | 148488 | 386880 | 112330 | DC | 0 | 0 | 0 | 28 °C | 0 | 0 | +48.8089 | +002.30211 |
| 2011/04 13:20:00 | 1813945 | 148488 | 386880 | 112330 | DC | 0 | 0 | 0 | 28 °C | 0 | 0 | +48.8089 | +002.30228 |
| 2011/04 13:15:00 | 1813742 | 148488 | 386880 | 112330 | DC | 0 | 0 | 0 | 24 °C | 0 | 0 | +48.8080 | +002.30206 |
| 2011/04 13:10:00 | 1813938 | 148488 | 386880 | 112330 | DC | 0 | 0 | 0 | 24 °C | 0 | 0 | +48.8081 | +002.30228 |
| 2011/04 13:05:00 | 1813935 | 148488 | 386880 | 112330 | DC | 0 | 0 | 0 | 24 °C | 0 | 0 | +48.8080 | +002.30220 |
| 2011/04 13:00:00 | 1813933 | 148488 | 386880 | 112330 | DC | 0 | 0 | 0 | 25 °C | 0 | 0 | +48.8080 | +002.30206 |
| 2011/04 12:55:00 | 1813929 | 148488 | 386880 | 112330 | DC | 0 | 0 | 0 | 28 °C | 0 | 0 | +48.8089 | +002.30228 |
| 2011/04 12:50:00 | 1813927 | 148488 | 386880 | 112330 | DC | 0 | 0 | 0 | 24 °C | 0 | 0 | +48.8080 | +002.30209 |
| 2011/04 12:45:00 | 1813924 | 148488 | 386880 | 112330 | DC | 0 | 0 | 0 | 24 °C | 0 | 0 | +48.8081 | +002.30206 |



Our business



Saphymo market position

- Partner to turnkey solution integrators
- Provider state-of-the-art wireless communication solutions for Rail

References

- **250 EMTBox** in operation on :
 - PRIMA 3U15
 - RGV2N2
 - BB27000
 - TGVA
 - TRAXX
- **ERESS / SOCLE** compatible since **2010**

Ongoing projects

- **Energy metering** system for **parked trains**
- **1st prototype** to be delivered this summer





**Thank you for your
attention!**

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