

**TOP FEATURE**  
Automatic Early  
Derailment Detection.  
Huge savings.



## RT Onboard

Rolling Stock Tag System for Real  
Time In Motion Control



**HIGHEST RETURN  
ON INVESTMENT**

**RT Onboard®** is a rolling stock mounted tag-based system providing both driving crew and traffic dispatching with real time train information, featuring permanent monitoring of in motion rolling stock technical behavior.

### Key Features

**RT Onboard®** provides valuable information such as :

- Automatic train composition
- Permanent train integrity check
- End Of Train clearance
- Early derailment detection with real-time alarm
- On-wagon payload information
- Hot box detection \*
- Real time dynamic weighing \*
- Centralized event-driven information management
- On-board and central “black-box” functionality

\* Under development

### Main Components

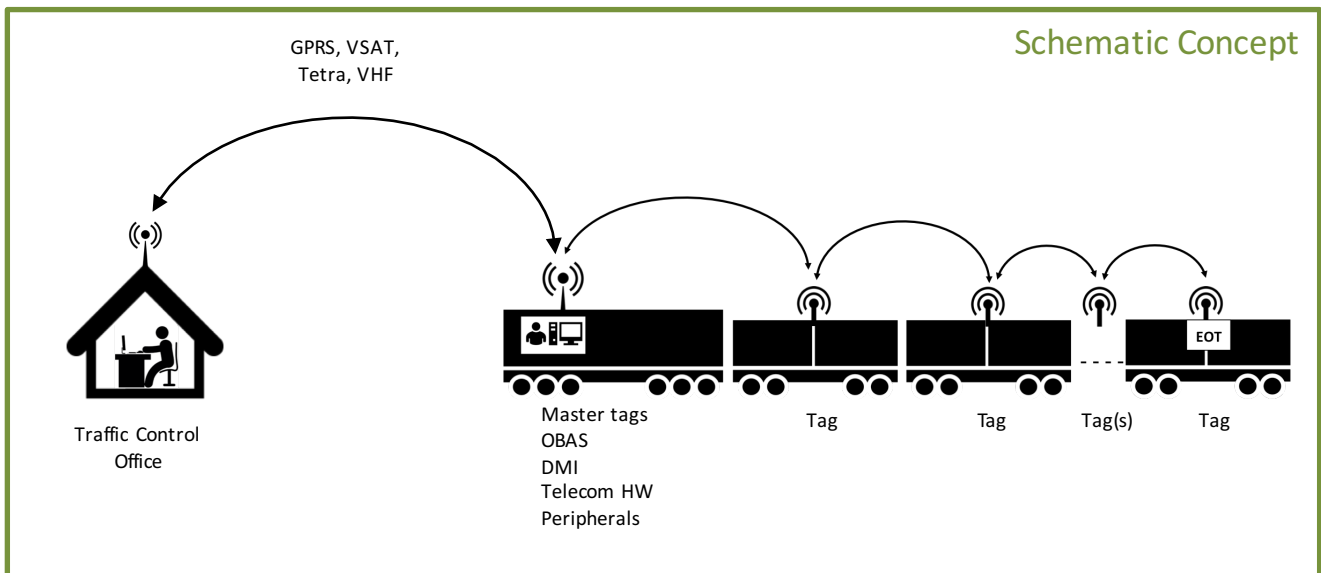
**RT Onboard®** is composed of :

- A multifunctional RFID tag mounted on each wagon (dynamic tag)
- A master tag mounted on the locomotive controlling data communications with wagon tags
- A radio-based communication protocol along the train
- An on-board computer (OBAS) serving as data center, managing data to and from the tag chain, the manufacturer's OBC, and central traffic dispatching, and managing the driver console
- A driver console (DMI)
- *Optional:* A central software RailTracker Plus® storing operational, commercial and technical data, providing on-line tools to manage the rolling stock fleet

## Main Characteristics

**ATRAC On-Board®** has been designed to meet challenging operating conditions:

- **State-Of-The-Art** technology
- **Strategic:** providing critical functionalities such as an early derailment detection allowing significant cost/damage reduction in case of derailment, as well as, other safety-related metrics
- **Robust:** all on-board real time technology, no costly and theft-prone track side equipment
- **Energy-low consumer:** RFID tag and protocol designed for low power consumption
- **Innovative:** radio protocol with full redundancy, encryption and fault tolerance
- **Connectivity:** may integrate other operational systems such as:
  - TAWS® (Train Approaching Warning System)
  - Train control system providing safe line clearance/authority to proceed
  - Automatic level crossings
  - Motorized rail switches



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**RT Onboard®** has been designed and prototyped, and now produced by FUTURE RESOURCES sa the Systems Development & Innovation partner of VECTURIS and AURAXIS, two Belgium-based companies operating small to medium sized railways in Africa and South America. Based on the railway operating experience of its partners, RT Onboard® was developed in close partnership with high-tech railway engineering research center (ERTMS certification center).

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