

EURAILMAG – REDAZIONALE E PAGINA PUBBLICITARIA - SETTEMBRE 2012



# EURAIL *mag*

**BUSINESS & TECHNOLOGY**

THE MAGAZINE FOR EUROPEAN RAIL DECISION MAKERS

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AN IMPOSSIBLE EQUATION?
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TICKETING LANDSCAPE
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- LEVEL CROSSINGS –  
STRENGTHENING A WEAK LINK
- DIABOLO PUTS NEW SPIN ON  
AIR-RAIL RELATIONS



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## FULLY INTEGRATED INFOTAINMENT SYSTEM FOR TRAINS

ADVANCED AND RELIABLE TECHNOLOGICAL SOLUTIONS PROVIDE A COMPLETE AUDIO, VIDEO AND ENTERTAINMENT SERVICE. SADEL PRODUCTS ADOPTED ON FRECCIAROSSA ITALIAN HIGH SPEED TRAIN FLEET DELIVER COMMUNICATION INFRASTRUCTURE AND END DEVICES COMPOSING A COMPREHENSIVE P.I.S. FOR A NEW TRAVEL EXPERIENCE.

From high speed to commuter trains an increased demand of information is required by passengers and train staff for better services and to improve the interaction. The efficiency and performance of the entire system with automatic audio announcements and real-time information on wide LCD screens allow the personnel to be focused on ticket control and true traveller needs.

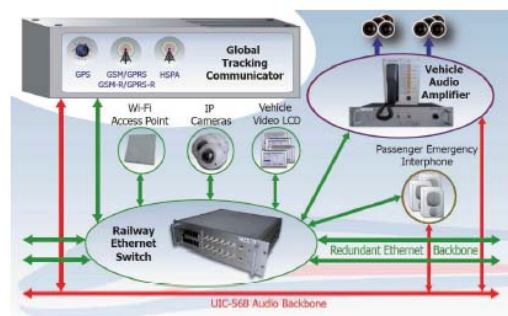
**A state-of-the-art passenger information system delivers these three main services:**

- **Video and Audio Public Information** thanks to internal LCD TFT displays, external LED panels and coach audio amplifier with loud speakers to broadcast visual, sound and voice messages;

- **Safety** with passenger alarm interphones for a direct audio communication with train staff or control center and video surveillance with IP cameras and DVR to monitor potentially critical situations on the train;

- **Entertainment** with coach WiFi connectivity to access multimedia contents through passenger portable devices (such as laptops, smart-phones, etc.) and seat video and audio interfaces.

These services and facilities need additional products to fulfil the tasks of train constructors and operators: automatic and fast online contents updating, monitoring and sharing of information along the train and with the ground control center.



A **Railway Ethernet Switch (RES)**, is placed on each vehicle to realize a train IP backbone with high levels of performance, reliability and security. The inter-carriage backbone solution, bandwidth and physical layer are defined in function of the transmission medium and required level of redundancy. Sadel provides a broad choice from coaxial cable at 100Mbps up to Cat7 at 10Gbps. The RES allows various network topologies achieving complete redundancy and bandwidth multiplication with LACP. In vehicle services are usually at speeds of 100Mbps or 1Gbps with M12 or Tera connectors. Support for VLAN, QOS, traffic shaping and multicast are the key features of this SNMP based managed device.

A train to ground gateway (**Global Tracking Communicator GTC**) allows the connectivity to transfer real-time trip infor-

mation, multimedia and digital signage contents. Moreover the onboard GPS module feeds localization based services. The GTC offers an online platform for diagnosis and monitoring the service levels. The communication with ground control center, train depots and stations is guaranteed by GSM/GPRS or railway GSM-R/GPRS-R, HSPA and WLAN (802.11g and n) modules.

With over 6000 products installed on the whole Trenitalia fleet, **Sadel is an emerging and leading edge player in the PIS solution market**.



### MORE INFORMATION

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**Audio Information**



IP & UIC-568  
Coach Audio Amplifier  
Train Staff Handset  
Passenger Alarm  
Interphone

**Video Information**



LCD Information Displays  
for Passengers & Train Staff  
with LED backlight

**Video Surveillance**



IP Cameras  
Digital Video Recorder  
Train Server  
with 15" MMI

**Coach Communication**



Railway Ethernet Switch  
Powerline Communication Box  
WiFi & HSPA Router

**Train Localization**



Control Digital Unit  
with GSM/GPRS & GPS  
Audio Interface  
Advanced MMI

**Public Address**  
**Video Surveillance**  
**Entertainment**



Visit us at  
 18-21 september 2012, Berlin  
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