ERTMS DEPLOYMENT IN ITALY
ERTMS LEVEL 2 IN OPERATION

Italy, as an early investor in ERTMS, distinguishes itself by the use of ERTMS Level 2 on the main national axis, from Turin to Salerno, allowing for mixed traffic (passengers and freight) on what is nationally called a “High Speed, High Capacity” network. In most sections of it ERTMS level 2 is used as the only signalling equipment (without any fall-back system and without trackside signals), which allows for considerable savings in infrastructure and maintenance costs. ERTMS has helped gain significant market share for rail transport in Italy and the completion of the High Speed network (new sections linking Milan to Venice and Genoa have been already scheduled) is expected to bring considerable further economic and social benefits.

What is the status of ERTMS deployment in Italy?

Italy has been heavily investing in High Speed lines since the early 2000’s. The construction of the first ERTMS-equipped lines started in 2004. RFI, the Italian Rail Infrastructure Manager, has opted for the use of ERTMS Level 2, which is currently installed and in revenue service in the following lines:

- Rome-Naples route (245 km) in revenue service since December 2005
- Turin-Novara route (85 km) in revenue service since February 2006
- Milan-Bologna route (219 km) in revenue service since December 2008;
- Bologna-Florence (78km) in revenue service since December 2009;
- Novara-Milan (40km) in revenue service since December 2009.

The completion of the above-mentioned axis in December 2009, together with the upgrade of the old Rome - Florence “Direttissima” High Speed line, enables High Speed travel between Milan and Rome in less than three hours. This travel time is expected to be reduced even further once new stations are built in Rome, Florence, Naples & Bologna.

How was ERTMS implemented in Italy?

Italy made the very important decision of installing ERTMS Level 2 as the only signalling system applied to its new High Speed lines without installing any fallback system. This has allowed considerable cost savings since trackside equipment needs to be carefully designed fit for purpose. Therefore, any ongoing or associated trackside maintenance costs are avoided.

ERTMS Level 2 does not need trackside light signals and allows for a significant increase in terms of traffic capacity.
What are the benefits brought by ERTMS in Italy?

In addition to the example of the Rome-Milan line (see below), ERTMS has brought considerable advantages to the Italian railways and society as a whole.

As far as the first ERTMS line that came into service (Rome-Naples) in Italy, it doubled its number of passengers in less than a year.

ERTMS has also proved to allow for very high speed travel, and this despite a difficult natural environment, where many railway lines go through the Alps or Apennines. For instance, 73km out of the 78km route between Bologna and Florence are made of tunnels. In test trips, a new worldwide speed record in tunnel was achieved at 362 km/h!

Modal shift in action: the Rome-Milan line

In the first 50 days of commercial service of the Rome - Milan High Speed line the airlines connecting Milan Linate Airport with Rome have lost a total of 91,000 passengers (almost 2,000 per day, representing 30% of the market). Conversely, the High Speed service has gained 1,600 new passengers per day.

On the whole Rome-Milan route, the transport mode share reveals that rail transport is now dominating the market.

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2010</th>
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</thead>
<tbody>
<tr>
<td>Rail</td>
<td>36 %</td>
<td>55 %</td>
</tr>
<tr>
<td>Air</td>
<td>50%</td>
<td>35%</td>
</tr>
<tr>
<td>Road</td>
<td>14%</td>
<td>9%</td>
</tr>
</tbody>
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Source: Ferrovie dello Stato

Such modal shift translates itself in considerable CO2 savings. This High Speed line is even opening new opportunities for operators, and Ferrovie Della Stato is now considering the introduction of “low-cost services” for High Speed trains, as it exists already on some airlines.

Opening the passenger services to competition

Likewise, from 2012, NTV (Nuovo Trasporto Viaggiatori) will become the first completely private High Speed rail passenger operator in Europe. Italy will thus become the first European country with High Speed rail services open to competition. NTV plans to run services from the most populated Italian cities and has heavily invested in a modern Very High Speed fleet. Open competition will further boost the railway market for sure. Indeed, ERTMS is also an essential part of this achievement for the new NTV services will profit from state of the art interoperable infrastructure and from ERTMS equipment available from multiple independent suppliers.