



MAke RAIL The HOpe for Protecting Nature



The Project Progress

By Armand Toubol
Marathon Technical Coordinator



The “Need for Faster, Longer and Heavier Trains”

The market study conducted through the project showed a great potential for such types of trains for major corridors and specifically from major European ports which will have to cope with giant container carriers calling at very few ports in Europe and subsequently pouring a high number of containers in those ports. To avoid congestion at these points, the capacity of railway lines departing from the ports to inland terminals must be rapidly improved justifying the Marathon concept. Major corridors where existing traffic flows could be carried by Marathon trains have been identified by SNCF and Kombiverkehr, from which a zone has been selected to test and pilot a Marathon train.

How Marathon Works?

Marathon project intends to enhance network capacity and cost efficiency by allowing the coupling of two classical trains with distributed traction. The Marathon train is to be manned by one driver after the coupling phase. The train is composed of a master train and a slave train. The slave train locomotive is radio remote controlled by the driver of the master locomotive at the head of the Marathon train.

for ensuring that the functions were answering all operational cases in the nominal and degraded modes. The work performed was fairly complex but has been instrumental in defining the necessary functions to be transmitted for traction and braking orders, incorporating the signals to be transferred with their required safety levels.

In parallel, simulations have been conducted by Tor Vergata and KTH Universities to determine the most critical situations in term of longitudinal compression efforts to ensure the overall safety of the Marathon trains taking into account the new technologies applied for traction and braking in nominal and degraded modes including emergency actions. All these elements will allow a comprehensive risk analysis to be conducted by D'Appolonia in order to ensure that the various possible default have been correctly treated in order to maintain the safety of the train in any case.

Ensuring Safety and Reliability

MARATHON Project partners (Schweizer-Electronics and Cerontech) have dedicated a lot of time and effort in identifying the appropriate radio frequency which will ensure a high degree of reliability for the signal reception by the slave locomotive combined with a sufficient transmission capacity. This resulted from tests performed on real train circulations between Lyon and LeBoulou which is where the future Marathon train tests will be performed. These efforts have delivered positive results.

The next objective was to define the necessary functions to be transmitted from the master locomotive to the slave locomotive for safe train control in traction and in braking. These functions were selected from the general Modtrain table and adapted to the specificities of the Locomotives to be tested (two electric Alstom Locomotives and two diesel Vossloh locomotives), together with the specificities of the braking solution elaborated by Faiveley. Additionally, an operational analysis was conducted with SNCF traction specialists to ensure that a comprehensive set of operational cases had been identified

What Lies on the Track Ahead for Marathon

The future steps to be undertaken will be the confirmation of the simulation results for the Faiveley Baleina in order to prepare the necessary file for the EPSF (and if possible the EBA) to authorise the running of the train test. This file will include the new train management proposal to take care of the Marathon trains specificities.

The train test should run by the end of 2013.

ABOUT MARATHON

MARATHON; "MAke RAIL The HOpe for protecting Nature" is a revolutionary collaborative R&D project co-financed by the

European Commission in the 7th Framework Programme. MARATHON is dedicated to increasing freight transport efficiency and competitiveness through the adoption of cutting edge technology solutions and creating a business model ready for implementation.

The most recent White Paper on transport has targeted a 30% shift of 300km+ road freight journeys to railways. To achieve this target, rail transport has to offer more to its potential customers. Therefore, MARATHON's objective is to improve the performance and appeal of rail freight services by the fast implementation of technologies, operations and business practices.

Summary of the First Marathon Project Review

By Franco Cataldo - Dissemination Work Package Leader

On March 1st the first project review of Marathon took place and was kindly hosted by RFF at their headquarters in Paris.

Mr. Johann Blondelle, the Marathon Project Officer from the European Commission was present, in addition to representatives of the majority of the Marathon project partners.

The review was led by the Marathon coordinators; D'Appolonia and NewOpera, and complimented by a summary presentation by each Marathon work package leader who reported on the status of their activities. Mr. Blondelle underlined the importance of the Marathon project particularly its relevance to the EU policy to increase the use of rail throughout the EU.

The technical challenges mainly relating to the functioning of the brake and traction commands between the master locomotive and slave locomotive also generated large discussions. Significant progress has been made in this regard with several tests conducted to test the reliability of functions, particularly the critical radio frequency element which will form the link between the master and slave locomotives.

The underlying theme drawn from this review meeting is that the project is progressing well and that the importance and need of Marathon is quite clear, particularly in regard to ever increasing demand to get freight from ports into the hinterland.

Coordinator: **D'Appolonia**

Technical Coordinator: **NewOpera**

Duration: **April 2011 to March 2014**

THE MARATHON PROJECT PARTNERS

VITAL COMPETENCIES INCLUDE INTERMODALITY, RAIL FREIGHT OPERATORS, INFRASTRUCTURE MANAGERS, HARDWARE AND SOFTWARE TECHNOLOGY AND RADIO COMMUNICATION PROVIDERS, SYSTEM INTEGRATORS, LOCOMOTION INDUSTRIES, ENGINEERING, MARKETING AND UNIVERSITIES. RESEARCH AND SECTORIAL ASSOCIATIONS CONNECTED WITH RAIL INDUSTRY ARE ALSO PRESENT IN THE CONSORTIUM.



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