PROJECT PROPOSALS FOR THE 2ND CALL OF FP7

(DEC 2007 – JAN 2008)

Template for the project synopsis

1. Proposal for project name **Systematic Technical Integrity Levels**

2. Problem that the project will address (why is the project being initiated?) **Major developments in train design, to improve reliability, and reduce cost and mass are critical to the long term success of the industry, and achieving these developments will require successful integration of software and mechatronic systems with traditional mechanical engineering components. A key element in this is the establishment of an integrity process which builds on extensive experiential knowledge and system engineering and which encourages innovation while maintaining the existing levels of safety.**

3. Scope of the project

   - Main (measurable) objectives

   The objectives of the project is to establish a repeatable approach to establishing integrity for functions (rather than individual components) which ensures safety without demanding a level of integrity in excess of that which currently exists and has been declared to be generally acceptable.

   - Proposed solutions and deliverables

   The project will build upon previous work to identify safety related train functions, and consider the engineering elements associated with the function (eg for a braking system, the elements include the demand instruction, the brake control valve, the link between the valve and the brake, the air supply, the actuator and the brake mechanism, and also potential interfaces with wsp and door systems). It will then consider how the required level of integrity is delivered by the system, and thus identify the levels required for each element of the system, and establish approaches to assessment for the different sorts of system involved.

4. Which section of the 2nd call draft is being addressed?
   Either SST.2008.2.5.1 (Interoperable Rolling Stock) or SST.2008.4.1.1 (Safety and Security by Design)

5. State of the art: previous or on-going research or standardisation initiatives in this area
   This project will build on work already undertaken in the MODTRAIN project, and a number of initiatives being undertaken into separate elements (eg software) by CEN/CENELEC. The specific additional element of this proposal is that it applies holistic considerations to achievement of functions.

6. Estimated budget (total and EC Contribution)

(Please note that under FP7 R&D activities as well as demonstration will be 50% funded)

7. Project duration *(indicative range: between 24 and 48 months)*
   24 months

8. The leader of the proposal preparation
   Railway Industry Association?????RSSB????

9. Main potential partners (names of companies supporting the proposal as opposed to potentially interested stakeholders) **potentially Alstom, Bombardier, Knorr-Bremse, Faiveley (brakes and doors), Rail Safety and Standards Board, Notified Bodies**

10. Contributions to standards – can the results of this projects be transferred into future EN standards? *(Maximum 5 lines)* **Yes – this is the intention of the project**

11. Implications of the project for current individual company products and practices – is the proposal supported internally within each major partner at the strategic level? *(Maximum 5 lines)* **The project is likely to support GOOD existing products, and to facilitate implementation of GOOD products which are in the development stage; equally it is the intention that it discourages products where the effect on the integrity of the whole system is not properly thought through.**

12. Risk factors that could jeopardize the implementation of results. How to ensure market up-take and who will have the responsibility over the implementation? *(Maximum 5 lines)* **a significant risk is lack of clarity in the output, such that a common approach is not achieved in practice; this needs to be addressed by ensuring that the project conducts case studies. A second risk is that cheap non-conforming components may be selected without systems validation having been undertaken; responsibility for this lies with System Integrators, and with their customers.**

    Market uptake will be ensured by the output being enshrined in ENs or TSIs, which will thus become a norm for future train design, but also by policy decisions by Systems Integrators and their customers.

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