



FUNDACIÓN DE LOS
FERROCARRILES
ESPAÑOLES



INTERNATIONAL UNION
OF RAILWAYS

5th TRAINING ON HIGH SPEED SYSTEMS LEVEL II

13-17 Nov 2017

Madrid

GENERAL CONTEXT

High speed rail is not just a single area of expertise, but a complex system combining wide ranging technical fields such as infrastructure, rolling stock and operations with cross disciplinary issues such as finance, business, management, communication and training.

Taking these factors into account, and facing an often tense economic, political and social climate in their countries, managers must take tough decisions that may prove historic in the field of transport in general and rail transport in particular.

The decision to build a High Speed System and how to implement it is complex due to numerous parameters, different potential combinations and the variety of stakeholders involved.

In order to answer all these questions and satisfy the many requests for comprehensive and unbiased information on the subject made by its own members as well as consultancy firms, ministries, railway companies, etc., in 2004 UIC launched a special course, Training on High Speed Systems (THSS).

Since 2004 more than 600 students have taken active part in these sessions on an annual basis to learn more and share their experience with us (UIC members). The 13th session was organised in April 2017 and more sessions are planned for future years.

Following proposals made by students in previous editions and at the request of UIC members, since 2012 we have offered a second level of training focusing on more in-depth and specific elements of high speed systems, with a particular emphasis on the theoretical aspects of fundamental issues (standards, environment, modelling, etc.).

In the second level, particular attention is given to the analysis and discussion of practical cases, which can prove highly useful when taking decisions in practice. A series of technical visits will complement the course program.

The 5th edition of this Level 2 THSS will be held in Spain in November 2017 thanks to the cooperation of Spanish stakeholders in the field of high speed (Renfe Operadora, Adif, Fundación de los Ferrocarriles Españoles and Fundación Caminos de Hierro FCH), giving the possibility of showing several different technologies and examples of integration of systems.

You will find here-after more detailed information on this innovative and unique training session.

OBJECTIVES

- ▶ Offer in-depth and comprehensive insight into the High Speed System
- ▶ Provide managers with all the information needed to facilitate decision-making on the subject of high speed rail
- ▶ Discuss and develop practical High Speed projects
- ▶ Definition on path/way to implement a High Speed System
- ▶ Visit strategic points on the Spanish High Speed System and discuss them on-site

TARGET AUDIENCE & CONDITIONS FOR PARTICIPATION

This program is aimed at professionals already involved in any of the processes of HSR or who intend to do so in the near future, whether working for railway companies or ministries, local authorities, universities, advisory bodies, agencies or associations: managers, strategy experts, decision-makers, economists, banks, industry, engineers...

- ▶ Seminar participants do not need to have in-depth knowledge of any specific subject relating to HSR
- ▶ Previous attendance to THSS-Level 1 is recommended but not necessary
- ▶ Attendance at ALL sessions is therefore mandatory

TESTIMONIALS

(What the participants said)

KEY FEATURES

GLOBAL APPROACH

- ▶ *I have increased my point of view of the railway system and the approach to see it as an integrated system*
- ▶ *This training provided an excellent comprehensive view of all the fundamentals of a rail system (technical, economic...)*
- ▶ *Good 360 grades approach to the HSR System*

INTERNATIONAL NETWORK

- ▶ *A very good opportunity to have operators, researches, consultants, project managers worldwide in one room*
- ▶ *It was really interesting to share experiences from all over the world. Great to do "networking"*
- ▶ *I received a wide glimpse of HSR and met colleagues around Europe and the World*

PRACTICALITY

- ▶ *The High Speed Planner is a great tool and it helps to better understand the importance of different parameters*
- ▶ *Working in railways is always a learning curve. This course will allow me to work and take better future decisions*
- ▶ *I will use all this new knowledge to push forward HSR development in my home country*

LEVEL II DRAFT PROGRAM

Madrid, 13-17 November 2017

The training program will consist of the following components:



INTRODUCTION MODULE

- ▶ Introduction to High Speed Systems (summary of basic THSS – Level 1)
- ▶ Potential in the conventional network (“incremental rail speeds”)
- ▶ General approach to high speed rail
- ▶ Overview of high speed rail systems around the world
- ▶ High Speed Implementation Handbook

THEORETICAL SESSIONS

- ▶ Each theoretical session will consist of a presentation about the several strategic concepts necessary for a High Speed project development.
- ▶ Each subject can be composed of a one or more 30-minute presentation.
- ▶ Strategic subjects identified are (some final modifications are possible):

Environment

- Presentation of UIC research on high speed’s contribution to sustainable mobility and carbon balance

Stations for High Speed Systems

- Presentation of UIC research on high speed and the city

Traffic Forecasting

- Basic principles of modelling and its application to High Speed prospection

Standards for High Speed Rail Systems

- Requirements, definitions, different types of standards, different “families” of rail standards

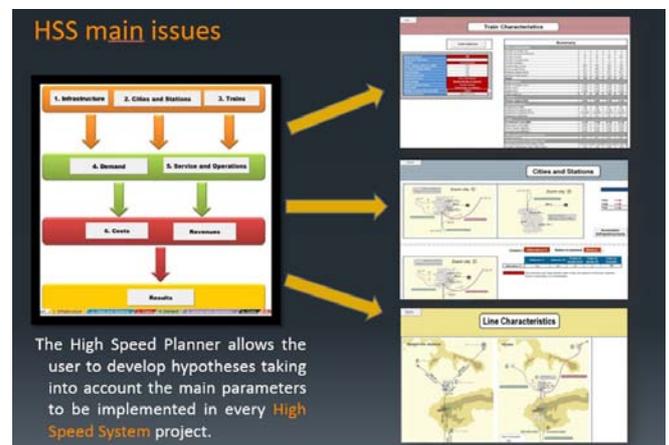
Other Fundamental Values in High Speed Projects

- Basic principles for comprehensive planning and processes in developing a high speed project
- Fundamental elements of high speed (safety, security, RAMS [Reliability, Availability, Maintainability and Safety], quality, management, life cycle cost, etc.)
- Integration concept

PRACTICAL CASE

During the training, and on an alternating basis with the different theoretical sessions, students will be divided into groups of a maximum of 5 students led by a teacher-supervisor, and will develop and discuss a real example of a High Speed project. Each group will assume a particular role regarding the planning of a High Speed System. To that aim they will have the help of the **High Speed Planner**, a didactical tool especially designed for the II level of the UIC High Speed Training.

This practical exercise will include all the steps to accomplish, to define and to plan a real High Speed project, from the beginning of the process up to the final configuration of basic parameters and many actions to implement. A presentation and final common discussion will be held at the end of the training.



After the setting-up of the groups, each one will develop the different consecutive parts. At the end, a plenary discussion will compare the different solutions reached.

- ▶ Main explanation of the project
 - ▶ Geography of the projects and strategy of cities served
 - ▶ Modelling and calculation of the potential traffic expected, under the different hypotheses and options
 - ▶ Definition of the operating plan
 - ▶ Definition of the strategy
 - ▶ and situation of stations
 - ▶ Creation and adaptation of rail standards
 - ▶ Integration
 - ▶ Adjustment and correction of parameters
 - ▶ Further steps to the final implementation
- Final round-table discussion and conclusions**
- ▶ Final discussion
 - ▶ Closing remarks



PRACTICAL INFORMATION

DATES AND VENUE

LEVEL II

Dates Lectures from 13 (08:30) to 17 November 2017 (16:00)

Venue Fundación de los Ferrocarriles Españoles
c/ Santa Isabel, 44 Madrid (Spain)

The speakers are all specialists in the subjects addressed and are drawn mainly from railways, universities and industry. They represent all the countries and world regions with experience in the field of HSR System.

The program of the training has been specially designed by the **UIC Intercity and High Speed Committee**. This group is composed by experts from all the companies and countries involved on HSR Systems as HS2, SNCF, DB, Trenitalia, FCH, FFE, IK, LISEA, EUROSTAR, THALYS, RENFE, ADIF, RZD, PKP, AMTRAK, Euskotren, KORAIL, JR, CR, CARS, THSRC, Trafikverket, FTA, TCDD, ONCF, FTA...

REGISTRATION FEES AND PAYMENTS

The registration fee is **1 600 €** taxes included. (Special fare for UIC – HSR members)
Special discounts can be requested for companies interested in involving several participants.

The organiser is in charge of the logistics for the training session and technical documents.
Coffee breaks and lunches during the training period are included.

Technical visit: destination, object and eventually cost, to be defined.

Travel to and from Madrid accommodation and dinners are not included.

LANGUAGE

The training session will be held in English.
However, other languages could be envisaged if enough participants in a certain language are registered.

ONLINE REGISTRATION

<http://events.uic.org/5th-training-on-high-speed-systems-level-ii>



For registration and any further details please

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See the websites

www.uic.org/highspeed
www.formacion-ffe.es