The 1st UIC Global Conference on Signalling organised with Ferrovie dello Stato Italiane (FS Group), focussing on “The Evolution of ERTMS” opens successfully in Milan in the presence of the Mayor of Milan:

500 participants, from all five continents, and 20 exhibitors discuss the evolution of ERTMS

(Milan, 26 March 2018) Following the long, successful history of ERTMS Conferences (Brussels February-March 2016, Istanbul April 2014, Stockholm March 2012, Malaga March-April 2009, etc.), the 1st UIC Global Conference on Signalling jointly organised by the International Union of Railways (UIC) and Ferrovie dello Stato Italiane (FS Group) successfully opened today at the Fiera Milano Congressi (MiCo), Milan, in the presence of 500 delegates from more than 25 countries and 20 exhibitors.

During two days, this international event will be a worldwide forum for stakeholders, professionals, local authorities, research institutes and anyone interested in understanding the current trends of modern railway signalling and how the ERTMS system is evolving around the world.

The Opening Ceremony took place in front of Mr Giuseppe Sala, Mayor of Milan, who highlighted the theme of the mobility in Europe and the need to develop connexions, together with the participation of Mr Jean-Pierre Loubinoux, Director General of UIC, Renato Mazzoncini, Chairman of UIC and CEO of FS Group, Mr Karel Vinck, EU Coordinator for the ERTMS overall program, Mr Josef Doppelbauer, Executive Director of the European Union Agency for Railways (ERA), Mr Philippe Citroën, Director General of the Association of the European Rail Supply Industry (UNIFE), Mr Libor Lochman, Executive Director of the Community of European Railway and Infrastructure Companies (CER), as well as Mr Massimiliano Salini, Member of the European Parliament.

Mr Jean-Pierre Loubinoux, Director General of UIC, gave his introductory speech: “I’m pleased to welcome all of you at the 1st UIC Global Conference on Signalling, with a focus on the Evolution of ERTMS. As I announced in Brussels in 2016, this conference is the first one to address, on a worldwide scale, the convergence between the European ERTMS and its worldwide “cousins”. I’m pleased to welcome, and thank for their participation and support, first of all FS and Renato Mazzoncini, and also the total of more than 500 delegates, from more than 25 countries, 20 exhibitors and our sponsors. We will all have the opportunity in a great setting to exchange our views on this key topic, at a time when the cost effectiveness and the sustainable performance of the railway system are being debated so intensively”.

He then said: “The railway is a system of systems and signalling is the very heart of this functionally and technically integrated railway system. “CCS signalling” is the heart of this system.

Signalling infrastructure and equipment enable us:
- to manage traffic on a meshed network to operate and control traffic by type of train, and in future to allow trains to run autonomously;
- to manage five risk scenarios: Clashing, Convergence, Shearing, Divergence and Succession, thanks to three kinds of systems: centralised traffic control, signal boxes/interlockings and finally headway and speed control systems.

The choice of technology at each of these three levels must take account of the "system" goals of the network and must be sustainable. The modernisation of a signalling system must meet systemic goals. It may take different shapes and forms from one network to another but must not simply follow the latest fashion as concerns equipment.

Signalling, as the interface between trains and tracks,
- should no longer be a barrier between regions, countries or continents,
- should no longer be a source of high expenditure.

We have all to share our worldwide experiences, to work together and give rail transport the unique chance to be the cost-effective backbone for the expected growth of sustainable transport of goods and people. It’s our task, responsibility and honour to achieve the best for tomorrow with the network given by our parents. Yes, better compatibility between rolling stock, track layout, operation, signalling and telecom performances should make it possible to interconnect the railways all over the world”.

Finally: “ERTMS has a positive global benchmark, perhaps more outside than inside Europe, regarding the number of kilometres of track equipped, mainly new high-speed lines, through many different national interlocking and control centres, like a kind of Esperanto between countries, increasing the fluidity and capacity of the exchanges.

Meanwhile other systems are also very highly developed throughout the world, such as PTC (USA), ATACS (Japan) and KLUB (Russia) among the most important ones. We have to understand the reasons and expectations behind these developments, and the possible convergences for railways to become the backbone of mobility on international corridors.

Of course, there are many different ecosystems around the world and different legal and normative constraints (such as radio frequency), but still there are five essential common targets: safety, customer care, cost effectiveness, environmental protection and asset management.

The safety and cost effectiveness of CCS give rise to common trends in innovation worldwide, such as the
- use of a continuous CCS approach and radio link for the transmission of safety data;
- integration of satellite geo-localization, already a reality with projects like SATLOC and ERSAT among others, which will also improve the transmission of data.

Signalling and Telecom must work together more closely.
In this respect, UIC was the basis for GSM-R and is now the basis for the current development of the Future Railway Mobile Communication System (FRMCS).
For the setting of this new radio system, UIC works closely with the European Union Agency for Railways, in particular to guarantee the radio bearer for ERTMS Levels 2 and 3. The FRMCS “User Requirements Specification” is downloadable for free from a new section on the UIC website. UIC is also working as a catalyst to support the development, deployment and the different migration phases of ERTMS in the world transparently and in full coordination with all our members.

However, once again UIC is working on all the components of an integrated system, for which the rapid input of digital technologies, and IOT in particular, should boost our technical and economical performances. Given that CCS Signalling and Telecom are the heart of this living system, I hope you will have a very lively conference.

Mr Renato Mazzoncini, Chairman of UIC and CEO of FS Group said: “It is a great pleasure for me to be here with all of you, and to open the 1st UIC Global Conference on Signalling, whose main theme is the “Evolution of ERTMS”.

As Jean-Pierre Loubinoux has already explained, the signalling system is at the core of the rail system and I might add of the railway digital technological evolution too. We are grateful to UIC and its former and well-known European Rail Research Institute (ERRI) who decided to start the development of the European Rail Traffic Management System in the early 1990s more than 25 years ago, in order to promote interoperability through the railway corridors and increase capacity, safety and efficiency. Since the early 2000s, Ferrovie dello Stato Italiane has chosen ERTMS as the breakthrough signalling project to develop our high-speed lines. We took on the challenge to test and deploy the ERTMS Level 2 on our first high-speed lines Roma-Napoli, that was opened for commercial operation as early as December 2005 and is still continuing service without any fall-back signalling system and with great satisfaction. Yes, we can confirm today that it was the right choice in terms of both performance and safety. An efficient and good transport infrastructure, as well as service, are vital for the growth and competitiveness of every region.

Nowadays, the pioneering phase is over and ERTMS has become an industrial product, stable and well adapted to our current needs, also including freight corridors and classic/regional lines. We firmly believe in the development of intercontinental corridors to boost competitiveness and connect regions (mostly Europe and Asia) for the benefits of citizens and companies who want to move smoothly between countries and in the countries. Large-scale transport horizontal projects, as ERTMS, will further integrate and modernize transport infrastructures worldwide. In Europe, we are deploying ERTMS on all TEN-T Networks. We need to boost this deployment, gathering all the resources available with grants and financial instruments. We are investing more than 500 billion euros in physical infrastructure, and we must be able to afford 20 billion euros for ERTMS. We believe that the Rhine – Alpine corridor could be the pilot project to test the ERTMS implementation scheme on the whole TEN-T Core Network, taking into account the rolling stock equipment. The development of corridors has to be seen as the starting point to spread the benefits of standardised solutions that are now available not only for the high-speed lines but also to solve issues on high density or to cover regional lines with low traffic levels. ERTMS has so far been deployed along more than 750 km on the Italian high-speed network and we have further planned to complete 1250 km by 2020, 4000 km by 2026 and 6000 km by 2030”.

He added: “Looking at the other corridors around the world, it is important to take into consideration the potential of a proven system such as the standardised signalling system
developed in Europe. ERTMS has been designed to be fully interoperable and the new on-board systems (Baseline 3MR2) will be backward compatible with old infrastructures (Baseline 2.3.0d). Infrastructure managers all over the world are adopting this standard to increase traffic efficiency and raise safety standards to address the increasing passenger and freight demand. Projects such as the One Belt One Road initiative can benefit through this proven technology in terms of performance and reliability. In Australia, satellite applications combined with ERTMS started to operate last year and successful test activities were carried out in Europe and particularly in Sardinia in order to provide sustainable solutions on secondary lines and urban nodes”.

He concluded: “More investments are needed to succeed with the challenges we are facing, to better cooperate with the EIB and the World Bank, to promote agreement with the Chinese Investment Bank and other institutions willing to boost rail transport. All together, we must cope with the reduction of CO2 emissions and we know very well the high potential of rail transport to help reduce climate change in our little planet. Let me also say, as the railway sector, it is important to continue to develop and sustain our relationship with the United Nations. The FS Group and UIC, in collaboration with rail representative organisations all over the world and suppliers as well as the system authority for ERTMS in Europe (ERA) and other authorities for the main advanced CCS systems in the world, will always live up to this challenge. In substance, full digital signalling will bring us new models for running railways more efficiently, more safely, closer to our customers and in ways that are easier to integrate into a transport chain.”

Mr Karel Vinck, EU Coordinator for the ERTMS overall program, gave a keynote speech: “Why is this not going faster? Next time: this is going to be the same question. We have huge importance with regard to mobility and the European deployment. If we can do so, we are prepared to accelerate the European program. From a financial point of view, we have everything in place now. The ERTMS program is very important. The interoperability will create 1.5% growth in the European Union. This technology can evolve, it can be better. The basis of the digitalisation of the railways is complex but also very crucial. Migration is the big problem – we are not efficient enough. We can go faster. We need a technical qualification to support this program. The financial means are huge. We have to change our mentalities. We need to be flexible and to be prepared for change.”

Mr Josef Doppelbauer, Executive Director of the European Union Agency for Railways (ERA) said: “The ETRMS has the potential to remove the technical barriers in the path towards enabling cross-efficient operation. ERTMS is the global reference for signalling. The deployment in various countries is not centralised. We still have problems. The migration for ERTMS is clear. The new signalling system has to be more reliable.

We have not yet deployed an operable ERTMS. We have a complete system but we need to mature the system. We still have to achieve a fully industrialised and standardised system. Compatibility is mandatory. We have the basis and now we have a methodology for insurance. There are 3 key processes:

1. Vehicle authorization
2. Route compatibility
3. RINF “types” of ETCS networks.

The Agency will be the strong system authority. We still have more than 20 signalling systems in Europe and we have still not deployed an interoperable ERTMS system.”

Mr Philippe Citroën, Director General of UNIFE, gave his keynote speech: “Today, I would like to take stock with you of the most important recent ERTMS developments and to discuss the way forward. I will start with a brief report on the latest developments related to ERTMS from the industry perspective. Then I would like to discuss the future challenges facing ERTMS and the industry direction, especially with regard to the ERTMS game-changers. Finally, I will conclude my presentation by addressing the topic of competition and market rules in Europe”.

He then spoke about the latest developments related to ERTMS, the future challenges and the ERTMS development strategy/industry vision and the competition and market rules in Europe.

He concluded by saying: “To conclude, let me just personally thank Commissioner Violeta Bulc for her strong commitment in recognising ERTMS as a cornerstone of digitalising the rail sector and a key step towards achieving a single and safe European Railway Area. I trust the rail community will work constructively to deliver ERTMS and a genuinely interoperable rail network, as she has requested several times.

I would like to take this opportunity to remind you that a new UNIFE committee has been established recently: UNITEL, bringing together the main European GSM-R suppliers, will support future ERTMS and other railway telecom activities, such as the next transition from GSM-R to the Future Rail Mobile Communications System (FRMCS)”. 

Mr Libor Lochman, Executive Director CER, said: “ERTMS is the essential SERA pillar and it must succeed but is it succeeding in reality?

The “E” is essential. First message: let’s accelerate. The deployment has to be fixed. We have the business cases, but we have to address the business cases for the individual actors of the system (the infrastructure managers, the railway undertakings…).”

He talked about the progress since the ERTMS Conference in Stockholm in 2012, pointing out that some results have been achieved:

- A compatible B3 release 2 and principles for stability and evolution of the system are agreed
- 4th railway package could support efficiency and interoperability
- Updated deployment plan and first national implementation plans
- Audit of the EU Court, deployment action plan
- Shift²rail is being launched and should boost research

He highlighted the need to accelerate and that the EU ERTMS program needs coordination, commitment and a clear funding program to make rail competitive and attractive for customers.
Mr Massimiliano Salini, Member of the European Parliament said: “Thank you, Mr Loubinoux and Mr Mazzoncini, for speaking about the ERTMS. Italy is very keen to push forward the ERTMS. We have to discuss the development of the ERTMS. Since the 1980s, when the railway sector started to develop, the ERTMS system has been fully supported by the European Institutions. The ERTMS system is still very expensive. The European system has to be supported and promoted by every single actor at national and European level. The EU and the railway sector should promote the research.”

And he added: “We should aim to promote the ERTMS as the only global signalling standard worldwide.”

And do not hesitate to watch “Signalling is an essential cornerstone of the railway system”: [https://youtu.be/cxHx8P3PljM](https://youtu.be/cxHx8P3PljM)

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