

Middle East Association of Railway Professionals



**E-Newsletter
May 2022 Issue**



- **11th International Railway Summit 2022**
- **Rail Industry Safety & Standards Board – Safety Conference 2022**
- **Bahrain metro prequalification phase**
- **Don't put your life at risk, stay away from tracks**

Editor's Message

This year the world saw revival from the high intensity and impact of Pandemic of COVID-19. The Pandemic has not only changed our life, lifestyle and thought processes but has also left a significant impression on the ways and working of railway industries. While the life, and railway Industry progress is slowly and gradually coming back to normal but a lot is still be recovered and revitalized. One of the sectors that bounced back after the bad hit from Pandemic was the railway industry global projects. The education and its related research sectors are now experiencing a paradigm shift of moving from p-learning to e-learning and now to m-learning. This technological advancement has opened up new avenues and prospects for researchers and academicians across the world.



The response to our request to authors for contribution has been overwhelming. Despite, of our best efforts, due to decision of editorial board and the referee review board, some of the articles/papers could not be included in the present issue, but this shall not restrict any of the authors to send their original articles, case studies, research reviews for publication in our E-newsletter.

This newsletter is dedicated for rail industry conferences, middle east railway projects and global rail safety activities.

Our sincere thanks to all the contributors for their support and interest. We once again request all rail industry professionals and researchers to send their technical articles/papers for publication in our monthly E-newsletter

Yasir Bhatti
MEARP Program Lead

11th International Railway Summit

At the 11th International Railway Summit (IRS11), world-class speakers from the global rail sector and beyond will debate the greatest challenge of our time – sustainability. In the face of a growing climate emergency and a worldwide pandemic the summit programme will tackle the many aspects of social, environmental and economic sustainability ('People, Planet and Prosperity'). Amongst the topics to be debated will be clean energy and fuels, attracting public investment, green infrastructure, efficient asset management, and community engagement. Key national and international decision-makers will share their visions and debate which innovations and which ideas can create a better future



30 May-1 June 2022 | Berlin, Germany

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How can mobility lead a greener future?



François Davenne
Director General
International Union of Railways (UIC)



Karen Vancluysen
Secretary General
POLIS



Rafael Schwartzman
Regional Vice President, Europe
International Air Transport Association (IATA)



Andre Rodenbeck
CEO Rail Infrastructure
Siemens Mobility



Moderated by
Carlo Borghini
Executive Director
Europe's Rail



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RISSB Rail Safety Conference

Safety Climate and Climate Safety

3-4 May 2022 | Collins Square, Melbourne

The **RISSB Rail Safety conference** returns to **Melbourne in May 2022** as a face-to-face event with virtual attendance options.

As the world recovers from COVID, the demand to rebuild our people and assets in a resilient and sustainable way has never been more important. Following the recent announcements at COP26, almost 90% of the world's greenhouse emissions are coming from countries with a pledge to net zero. This is important to the whole rail industry as the safety impacts become more frequent due to climate change.

Rail has a central role to play on this journey and reflecting this, **RISSB Rail Safety 2022** will address the theme 'Safety Climate and Climate Safety'. Protecting our people and assets has never been more important and as organisations bring people and climate change to the core of every decision, now is the time to act.

The rail industry has traditionally used engineering, technology and the power of its people to champion change. Join us as we address rail's journey to decarbonisation and the safety impacts of green energy, supply chain transformation and risk management.

Building on the success of our 2021 Rail Safety Conference, the 2022 event will be just as engaging with a 2-day program featuring keynotes, industry panels including our popular 'Ask the Regulator' panel, an exclusive conference dinner, site visits and much, much more.

Topics to be discussed include:

- Safety culture
- Mental health and resilience
- Learnings from COVID
- Sustainability
- Climate change
- Safety and sustainability as risk management
- The role of people: our workforce, customers, and communities
- Technology and innovation



Bahrain metro prequalification phase attracts 11 bidders

Phase one includes two lines with a total length of 29km and 20 stations.

BAHRAIN's Ministry of Transportation and Telecommunications (MTT) has received applications from 11 bidders to prequalify for the contract to build phase one of the Bahrain metro.

MTT plans to build a fully-automated 109km elevated metro in four stages, with the first stage comprising two lines with a total length of 29km and 20 stations, including two interchanges. The project will be procured as an integrated public-private partnership (PPP) through a two-stage process which includes a prequalification period followed by the main tender.

The winning bidder will design, build, finance, operate, maintain and transfer the project, with applications received from:

- **China Harbour Engineering - Foreign Branch**
- **China Railway Group**
- **Orascom Construction**
- **Alstom Transport**
- **Taqi Mohammed Albahrana Trading**
- **Hyundai Engineering & Construction**
- **Aradous Energy Generations**
- **Larsen & Toubro**
- **Virtue Global Holding**
- **Plenary Asia, and**
- **CRRC (Hong Kong).**



The contract will run for around 35 years.

The government of Bahrain approved the project in October 2021 following market consultation in March 2021, which received a positive response from the private sector. The line is expected to initially carry 200,000 passengers a day, with this expected to increase as passengers switch from private cars.

The demand risk will be borne by the government while the private partner will receive availability-based payments along with performance-based incentives and deductions. The government will provide a pre-determined amount as a construction grant to the project company to fund a small portion of the capital expenditure.

The sites required for the metro corridor and the associated depot facilities have been acquired by the government at its own cost and will be handed over to the private partner at the start of the project.

Siemens Mobility sign contract for 2,000km high-speed rail system in Egypt

Siemens Mobility have signed a contract to provide approximately 2,000 kilometres of modern, safe, and integrated rail system to link 60 cities in Egypt.



Siemens Mobility and its consortium partners Orascom Construction and The Arab Contractors have signed a contract with the Egyptian National Authority for Tunnels (NAT), a governmental authority under the jurisdiction of the Ministry of Transport of Egypt, to create the sixth largest high-speed rail system in the world. The Siemens Mobility share of the combined contract is €8.1 billion and includes the initial contract of €2.7 billion for the first line signed September 1, 2021.

The contract was signed by Lieutenant General Kamel Al Wazir, Minister of Transport Egypt, and Dr. Roland Busch, President and CEO of Siemens AG, as well as Osama Bishai, CEO of Orascom Construction and Sayed Farouk, President and CEO Arab Contractors.

The 2,000-kilometre state-of-the-art high-speed rail network will connect 60 cities throughout the country, with trains that can operate at up to 230km/h. This means that approximately 90 per cent of Egyptians will have access to this modern, safe, and integrated rail system. With a modal shift to train transport, the fully electrified network will cut carbon emissions by 70 per cent compared to current car or bus transport, further supporting Egypt's efforts in transforming its mobility to a more sustainable one. Together with civil works partners Orascom Construction and The Arab Contractors, Siemens Mobility will provide its comprehensive turnkey services to design, install, commission, and maintain the entire system for 15 years.

“The new electrified train network comes as a consolidation of the fruitful cooperation between Egypt and Germany in the field of infrastructure and will represent a valuable great addition to Egypt's transportation system,” Abdel Fattah El-Sisi, Egyptian President, said. “It marks the beginning of a new era for the railways system in Egypt, Africa, and the Middle East.”

“The opportunity to provide Egypt with a modern, safe, and affordable transportation system that will transform the everyday for millions of Egyptians, create thousands of local jobs and reduces CO2 emissions in transport, is an honour for us,” Roland Busch, President and CEO of Siemens AG, said. “Not only will it promote economic growth, it will also enable Egypt to take a leap forward in rail transportation. With our latest technology in rolling stock, signalling, and maintenance services, Egypt will have the sixth largest and most modern high-speed rail network in the world.”

“This landmark transportation project is truly historic for both Egypt and Siemens and we are honored to partner with the Ministry of Transport to reimagine the future of transportation in Egypt,” Michael Peter, CEO of Siemens Mobility, said. “The extensive 2,000km high-speed rail network will connect 60 cities and enable around 500 million journeys a year. It will link the country like never before, fight pollution and global warming, while also providing an effective and reliable method for the movement of goods. Together with our partners, we will develop from scratch a complete and state of the art rail network that will offer a blueprint for the region on how to install an integrated, sustainable, and modern transportation system.”

The Egyptian high-speed network will consist of three lines: The already announced “Suez Canal on rails,” a 660-kilometre line connecting the port cities of Ain Sokhna on the Red Sea to Marsa Matrouh and Alexandria on the Mediterranean. The second line will be about 1,100 kilometres and run between Cairo and Abu Simbel near the Sudan border, linking the mega city to rising economic centres in the south. Furthermore, it will allow for the development of communities up and down the Nile, which will subsequently provide additional opportunities for small and family-owned businesses to flourish. The third line will cover 225 kilometres. This line will connect the world heritage archaeological sites in Luxor with Hurghada by the Red Sea. In addition, this rail link will significantly improve the efficiency and sustainability of freight transport for goods and materials between Safaga harbour and inland locations.

To equip the entire rail network, [Siemens Mobility](#) will deliver trains based on its proven product platforms. This includes 41 Velaro eight car high-speed trains, 94 Desiro high-capacity four car regional train sets, and 41 Vectron freight locomotives. On all three lines, Siemens Mobility will install a safe and reliable [signalling](#) system based on the European Train Control System (ETCS) Level 2 technology, as well as the power supply system that will deliver efficient and continuous energy.

Siemens Mobility will also provide its latest digital products and platforms that will optimise operations throughout the network for the trains, rail infrastructure and subsystems. The digital application Railigent will be used to provide comprehensive asset management and maintenance to guarantee the highest availability. Digitalised depots will enable seamless processes from problem identification to correction. Automated Ticketing, Digital Station and Power Management solutions will help to meet the challenges surrounding capacity and efficiency in stations

Don't put your life at risk, stay away from tracks!

With level crossing and railway trespass related collisions amounting to over 90 per cent of all railway accidents, Isabelle Fonverne, Senior Advisor for Safety and Interoperability at the UIC, explains why raising awareness of safety initiatives is now more important than ever and how ILCAD 2022 will play a part in promoting messages.

The International Union of Railways (UIC) leads activities on level crossing related topics through two global working groups with over 45 experts from around the world: the Global Level Crossing Network ([GLCN](#)) and the [TreSP-Network](#).

The UIC estimates that there are half a million level (grade) crossings around the world, with over 100,000 in the EU and over 200,000 in the USA, representing 20 per cent and 40 per cent of the total number of level crossings in the world, respectively.

In the EU and the USA, level crossing accidents and fatalities represent almost a third of all railway incidents. When incidents involving pedestrian trespass on tracks are included, this figure rises to 91 per cent of all railway accidents in the EU and 95 per cent in the USA.

All over the world, regardless of the country or culture, the railway sector faces the same problems at level crossings and around tracks. The vast majority of collisions at level crossings are caused by users who deliberately take risks or make bad decisions by mistake, out of habit or when distracted.

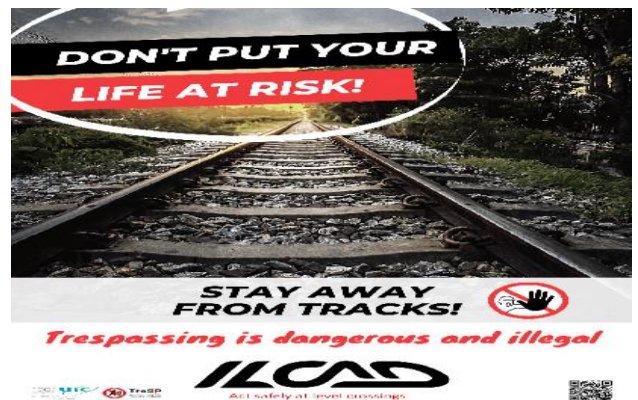
[ILCAD](#) is a worldwide initiative to improve awareness of level crossing safety. Since 2009, the campaign has been spearheaded by the UIC with the support of the railway community around the world. Approximately 50 countries usually take part in the annual ILCAD campaign.

During the COVID-19 pandemic, most countries experienced an increase in inappropriate behaviour by pedestrians, cyclists, and vulnerable people, both at level crossings and on or around railway tracks, causing a corresponding increase in near misses. Consequently, the ILCAD host countries have decided to focus the messaging and theme of this year's event on 'vulnerable people' with the motto: 'Don't put your life at risk, stay away from tracks!'

Sharing communication and support

Level crossings are high risk spots on the railway network to both road and railway users. Risk assessments, engineering solutions and innovations are used to upgrade the riskiest level crossings.

In 2022, the UIC will again share communication supports on a collaborative basis with all interested participating countries, to be printed and shared on social media or during public safety activities, including safety flyers, posters and videos in several languages.



Each year, a partner country hosts the launch event, an occasion to share good practices and projects to improve safety and reduce the incident toll.

This conference attracts railway industry representatives, road authorities, academics, and many others from around the world who are working to raise awareness of the dangers surrounding level crossings.

In 2021, the ILCAD launch conference was jointly organised remotely by Network Rail and the UIC. It was meant to have taken place at the National Railway Museum in York but was moved online due to the pandemic. Over 300 people from 47 countries (representing every continent with a railway) joined the 2021 conference. Speakers presented engineering, innovative solutions, and education measures to improve safety at level crossings.

ILCAD 2022

In 2022, the 14th ILCAD campaign will be hosted by the Association of American Railroads (AAR), the Federal Railroad Administration (FRA) and Operation Lifesaver, Inc. (OLI) on 9 June 2022 in Denver, Colorado, U.S., it will be preceded for the first time by a special session on ‘Trespass and Suicide Prevention’ on 8 June 2022.

Around 20 speakers from Europe, Canada, Argentina, and the U.S. will discuss best practices and Engineering, Education and Enforcement measures to improve safety both at level crossings and on and around railway tracks.

The main themes of the ILCAD 2022 launch conference include technology (helping to educate and raise awareness), enforcement/regulations (joint initiatives with local authorities and police forces), and community outreach (utilising different channels to spread awareness of safety).

Tackling the problem together

Trespass and suicide events impact the entire railway industry with their adverse effect on safety, performance, reputation, costs, and efficiency. This is an issue that affects all parts of the business, and society as a whole, and is therefore a problem that we must tackle together.

The ‘Trespass and Suicide Prevention’ session on 8 June 2022 aims to share with our partners from industry the key activities being undertaken within the scope of existing programmes.

The objective of this session is to identify what exists, what else is needed, what individual organisations can do to help prevent trespassing and suicides, and how we can work much closer together on these issues.



Isabelle Fonverne joined the International Union of Railways (UIC) in 1992. Since 2009 she has been the Senior Advisor for Safety and Interoperability and is in charge of level crossing safety and trespass and suicide prevention issues within the UIC Safety Unit.

Siemens and Mitsubishi Electric to cooperate in SiC traction technology



Siemens Mobility and Munich City Authority (SWM) completed a one-year trial in August 2021 using semiconductor technology based on SiC devices fitted to a three-section Avenio LRV

A memorandum of understanding (MoU) to cooperate in silicon carbide (SiC) traction power technology has been signed by Siemens Mobility and Mitsubishi Electric Europe.

JR Central's next-generation N700S Shinkansen trains, which entered service on the Tokaido Shinkansen in [July 2020](#), were the first trains in the world to have a traction system featuring SiC devices.

“The key concept for the N700S was to take advantage of the merits of SiC devices, which have a lower power loss, higher frequency and a higher current than Si devices, not only in the power converter system but also in the entire traction system,” JR Central [told IRJ in 2019](#).

Since then, SiC devices have been used in other trains in Japan. For example, Tokyo Metro's [series 17,000 trains](#), which entered service in February 2021, have permanent magnet synchronous traction motors and a control device that uses SiC elements to reduce power consumption, while JR Central's series 315 EMUs, which were introduced in March, have SiC devices in the traction system.

Siemens Mobility and Munich City Authority (SWM) completed a [one-year trial](#) in August 2021 using semiconductor technology based on SiC devices fitted to a three-section Avenio LRV. The trial, which was conducted as part of the Shift2Rail Pinta project, found that the vehicles were quieter and used 10% less energy.

“Mitsubishi Electric's SiC devices have proven long-term reliability in the most demanding of applications such as traction inverters in trains,” Siemens says. “The potential for energy savings through the use of Mitsubishi Electric's SiC power devices in railway technology exists particularly in the area of traction drives. In particular, the full SiC 3300V power modules contribute to energy saving and the downsizing of traction inverters.”

Siemens says the SiC chipset for high-speed switching is used in the standardized LV100 package, which provides low stray inductance and easy paralleling capability. The company says power losses of LV100 full SiC modules can be reduced by about 75% compared with conventional Si power modules during the inverter operation, thereby increasing the efficiency of the traction inverter.

On behalf of Middle east association of railway professionals. I'd like to take this chance to welcome Mr. Hamoud to the team. Your expertise and skills will help us achieve the next milestone together, and we look forward to your valuable contributions.



Hamoud Alenzi
Program Coordinator

Hamoud Alenzi is railway industry professional. He has expertise in mass transit customer service. He has been working in rail industry since last 10 years, He worked Saudi Arabian Rail SAR company and presently he is working in Riyadh metro. He is graduate from King Faisal university, He also served in Saudi renowned telecom company as well. He always looking forward for rail passenger customer service improvement as well as passenger safety.

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**28th International Exhibition
for Track Technology (iaf)**
31st May – 2nd June 2022
in Münster, Germany

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