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World Transport Convention 2024

Special Issue



The 8th World Transport Convention 2024
Held in Qingdao: Embracing New Transportation
in Change


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Cover Story

Past World Transport Conventions

WTC 2017

- Official Name } World Transport Convention 2017
- Dates } June 3-6, 2017
- Location } Beijing
- Theme } Green and Integrated Development through Innovations
- Attendance } Nearly 4,000 participants from 40+ countries and regions
- Highlights } Signing of the *Beijing Consensus*
Launch of the Belt & Road International Transport Alliance (BRITA)



Opening ceremony of WTC 2017
Photo credit: Official website of WTC

WTC 2018

- Official Name } World Transport Convention 2018
- Dates } June 18-21, 2018
- Location } Beijing
- Theme } Better Transport, Better World
- Attendance } 6,000+ participants from 50+ countries and regions
- Highlights } Release of three think tank reports: *China Transportation 2017*, *China Green Highway Development Report*, and *China Highway Maintenance Development Report*
Introduction of two new industry standards



Opening ceremony of WTC 2018
Photo credit: Official website of WTC

WTC 2019

Official Name → World Transport Convention 2019

Dates → June 13-16, 2019

Location → Beijing

Theme → Green and Intelligent Mobility for Future Transport

Attendance → 7,000+ participants from transportation authorities, embassies in China, universities, research institutions, and related organizations from 60+ countries and regions

Highlights → Endorsement of the *Belt and Road Green Transport Development Action Plan*
Release of nearly 20 think tank reports, including *China Transportation 2018*



Featured guests launch WTC 2019
Photo credit: Official website of WTC

WTC 2020

Official Name → 2020 World Transport Convention Chengdu Forum

Dates → November 8-10, 2020

Location → Chengdu, Sichuan Province

Theme → Building New Intelligent Transportation, Creating New Collaborative Development

Attendance → 1,500+ participants, including representatives from international organizations, 10+ Chinese and international academy members, and professionals from transportation authorities, universities, research institutions, and related organizations

Highlights → Release of the *2020 White Paper on Transportation Blockchain*
Introduction of 10 new standards by the China Highway & Transportation Society, including:
Management Service Guidelines for Comfortable Expressways;
Inspection and Evaluation Quality Standards for Steel Structure Production and Installation of Highway Suspension Bridges and Cable-Stayed Bridges;
Technical Guidelines for Highway Application of Basalt Fiber and Its Composite Reinforced Concrete Pavement.



Visitors at the 2020 WTC Transportation Technology Expo
Photo credit: Official website of WTC

WTC 2021

Official Name → World Transport Convention 2021

Dates → June 15-18, 2021

Location → Xi'an, Shaanxi Province

Theme → New Technologies, New Models and New Transport

Attendance → 8,000+ representatives from the transportation industry

Highlights → 20 sessions presenting research reports, standards, and new products
Publication of the *Study Report on the Technical Development Roadmap for Collaborative Automated Driving*
Release of key research reports for the transportation sector



Plenary session of WTC 2021
Photo credit: Official website of WTC

WTC 2022

Official Name → World Transport Convention 2022

Dates → November 29-December 3, 2022

Location → Online

Theme → Innovation, Low Carbon, Circulation, and Sharing—Towards More Sustainable Transport

Attendance → Nearly 100 global experts presented online; 1.44 million+ views

Highlights → Release of the *Transport and Energy Integration Development Report 2022*
Release of *Transportation of China 2022*
Release of the *China Transportation Blockchain Development Report*
President und Professor of BAST



Markus Oeser, Professor and President of BAST, delivers an online presentation
Photo credit: Official website of WTC

WTC 2023

Official Name World Transport Convention 2023

Dates June 14-17, 2023

Location Wuhan, Hubei Province

Theme Innovation, Low-Carbon, Intelligence, and Sharing—A More Sustainable Transportation

Attendance 4,000+ Chinese and international participants

Highlights BRI International Transport Symposium
China-Japan Engineering Academicians Forum
Engineering Science and Technology Forum on Smart Highway Development
Publication of 20+ think tank reports



Opening ceremony of WTC 2023
Photo credit: Official website of WTC

(Sources: Official website of WTC and cn.chinadaily.com.cn)

The 8th World Transport Convention 2024 Held in Qingdao: Embracing New Transportation in Change



Opening ceremony of WTC 2024
Photo credit: Official website of WTC

On June 26, the World Transport Convention 2024 kicked off in Qingdao, Shandong Province. The opening ceremony brought officials from provincial transportation departments, leaders from transportation construction and investment companies, university professors, and representatives from international organizations and industry associations across 52 countries and regions together.

The event marked a significant milestone as the first time the convention was co-organized by six top Chinese academic associations: the China Highway & Transportation Society, the China Institute of Navigation, the China Railway Society, the Chinese Society of Aeronautics and Astronautics, the China Society of Automotive Engineers, and the China Air Transport Association. This collaboration underscored WTC's commitment to academic rigor and its role as a leader and pioneer in the transportation sector.

Themed “New Transportation in Change,” the convention featured a variety of thematic forums, publications, and special events designed to foster in-depth discussion and cooperation amid the rapidly evolving transportation landscape.

During the keynote session, five experts shared insights on a range of cutting-edge topics: advancement

of China's intelligent high-speed rail, development and future of green shipping technology, innovations in low-air intelligent mobility devices, strategies for safe, resilient, and sustainable development in Australia's transport infrastructure, and high-quality construction of cross-sea traffic clusters.

(Source: Official website of CAST)

Dialogues with Scientists

Expert discusses challenges with transitioning to green shipping



Professor Carlos Guedes Soares making a keynote speech
Photo credit: Official website of WTC

During the June 26 keynote session of WTC 2024, Carlos Guedes Soares, a distinguished professor at the Instituto Superior Técnico (IST) of the University of Lisbon and a member of the Portuguese Academy of Engineering, presented a report titled “Challenges in the Transition to Green Shipping.”

In his presentation, Professor Guedes Soares stressed

the need to reduce greenhouse gas emissions in the shipping industry and advance the transition towards green shipping. He outlined five key points:

Sustainability: While reducing emissions is vital, the overall sustainability of the industry must not be compromised.

Policy and market Incentives: Policymakers and regulatory bodies should implement supportive policies and market incentives that facilitate this transition while removing existing barriers.

Energy efficiency: It is important to comply with the International Maritime Organization's standards to enhance ship engine performance and adopt more energy-efficient fuels.

Route optimization: Efforts must be made to select optimal weather routes to improve energy efficiency, such as avoiding adverse weather and optimizing arrival times

to reduce fuel consumption.

Feasibility of safety technologies: Effective greenhouse gas reduction requires conducting thorough risk and safety assessments to ensure economic costs are justified and technologies are practical.

Professor Guedes Soares also proposed several measures to reduce greenhouse gasses. Short-term measures included using liquefied natural gas, advancing emission control technologies, optimizing hull designs, implementing energy-saving lighting, and intelligent energy management systems. For mid-term measures, he suggested investing in hydrogen fuel cells, advanced battery systems, and wind-assisted propulsion technologies. He also advocated for a shift to entirely green energy sources and application of digital smart technologies in shipping in the long term.

Expert advocates for innovation-led sustainable transport platform



CEO Michael Caltabiano making a keynote speech
Photo credit: Official website of WTC

During the June 26 keynote session of WTC 2024, Michael Caltabiano, CEO of Australia's National Transport Research Organization (NTRIO), delivered a

presentation titled “How is Australia moving to a new platform of ‘Innovation-Driven’ transport solutions delivering decarbonized, resilient, and safer infrastructure outcomes.” He discussed NTRO’s commitment to developing a world-class traffic safety management system, emphasizing the provision of localized, digital, and systematic carbon-neutral and zero-carbon technology solutions. He also highlighted the organization’s efforts in offering resilient transportation design, construction, operation, maintenance, and repair solutions to meet the challenges of extreme weather and global climate change.

Creating world-class traffic safety management systems

CEO Caltabiano noted the expected significant population growth over the next 30-50 years and the increasing prominence of an aging population in

Australia. From the influx of immigrants to imbalanced population structures, he discussed the pressures these changes are likely to place on transportation systems, potentially leading to accidents and substantial economic impacts. NTRO’s strategy thus focuses on enhancing traffic safety management to cope with these challenges. He emphasized the importance of balancing transportation technology and energy to create efficient, low-emission transportation systems that are resilient and convenient for future travel needs. Caltabiano concluded by reaffirming NTRO’s role in providing localized, digital, and systematic support for carbon-neutral and zero-carbon solutions across various transportation management levels.

(Source: Official website of WTC)

Event Highlights

2024 WTC Transportation Technology Expo in Qingdao



Visitors at a video demonstration booth
Photo credit: Xinhua News Agency

From June 26 to 28, the 2024 WTC Transportation Technology Expo was held in Qingdao. It highlight-

ed the latest technologies and engineering advancements from over 100 companies across various sectors of transportation construction. Exhibits featured cutting-edge digital, intelligent, smart technologies, and high-quality new solutions with a special emphasis on achievements in smart engineering, intelligent management, smart manufacturing, and innovative systems, equipment, materials, and solutions.

One standout display was a model of the Xingye tunnel boring machine from the Zhuhai Xingye Express Line, boasting a diameter of 15.76 meters. This exhibit demonstrated significant breakthroughs and innovations in Chinese shield tunneling technology.

The expo also featured the “China Railway 1237” green tunnel boring machine, which integrates intelligent control with low-carbon environmental protec-

tion. Intelligent detection and monitoring equipment for pavements, bridges, tunnels, and embankments were displayed, illustrating a variety of digital and intelligent highway maintenance scenarios.

Other highlights included displays of large-scale highway slope photovoltaic power systems, zero-carbon service areas on national highways, and zero-carbon smart highways, showcasing the latest sustainable transportation technology.

The expo served as a convergence point for the latest research achievements in the transportation industry, bringing together influential tech companies and top scientific talent. Since its inception in 2017, the expo has consistently attracted participation from leading enterprises, research institutes, and universities in the transportation sector, underscoring the dynamic growth of transportation technology.

(Source: Official website of WTC)

WTC Academic Forum on High-speed Maglev Transportation Technology



Group photo of the keynote speakers
Photo credit: Official website of WTC

From June 27 to 28, the 2024 WTC Academic Forum on High-speed Maglev Transportation Technology took place at the Qingdao Cosmopolitan Exposition International Convention Center. Themed “High-speed Maglev Technology Leading Innovation,” the forum drew over 200 participants from research institutes, universities, and enterprises across China.

The first keynote session featured six experts who delivered presentations on various cutting-edge topics such as the current practices and prospects of China’s high-speed maglev transportation, advancements in ultra-high-speed magnetic levitation and electro-magnetic propulsion, and design technology for high-speed maglev tracks. The discussions provided insights into the critical technologies and future directions of high-speed maglev transportation.

In the second keynote session, five experts

spoke on topics including urban rapid maglev technology innovation, conventional high-speed maglev switch technology, maglev train suspension systems, technical approaches to ultra-high-speed maglev railways, and key technologies involved in high-speed maglev traction power supply systems.

Considering the growing industrial need for high-speed maglev transportation, the forum sought to foster academic exchange and collaborations, address fundamental scientific challenges, build consensus, and promote the development of high-speed maglev transportation.

(Source: Official website of WTC)

WTC Forum empowers high-quality development of integrated multidimensional transportation with big data



Professor Yang Xiaoguang making a keynote speech
Photo credit: Official website of WTC

On June 28, WTC’s transportation planning division hosted a forum in Qingdao to empower high-quality development in integrated multidimensional transportation with big data. The event brought industry experts together to discuss current applications and

breakthroughs in big data in transportation across various sectors. Participants explored future development prospects, aiming to harness the pivotal role and potential value of big data in enhancing and integrating transportation systems.

Professor Yang Xiaoguang, Director of the Intelligent Transportation Systems (ITS) Research Center at Tongji University, delivered a keynote speech. His presentation assessed urban traffic systems, covering urban traffic issues, development of urban traffic informatization, and application of traffic evaluation systems. He explained the fundamentals, complexities, and challenges of traffic systems, provided insights into urban traffic problems, and discussed targeted evaluation systems and principles.

Professor Charisma F. Choudhury from the University of Leeds presented research on

the utility loss between actual and ideal departure times, underscoring the challenges in data collection, the scarcity of research, and the critical importance of modeling departure time choices. She introduced a method for modeling departure time choice based on card swipe data.

Liu Dongmei, Deputy Director of the Big Data Industry Research and Development Center at the Research Institute of Highways under China's Ministry of Transport, addressed China's pressing issues and needs in the comprehensive transportation sector. Her analysis touched on integrated public travel, the current state of comprehensive transportation platforms, and the necessity for digital transformation across various transportation modes. She also shared her vision for providing data-based transportation services and discussed strategies for developing an integrated transporta-

tion service information platform.

(Source: Official website of WTC)

Live finals and awards ceremony of 2024 World University Students' Bridge Design Competition

On June 29, the live finals and awards ceremony of the 2024 World University Students' Bridge Design Competition took place in Qingdao.

Three projects from Chang'an University—Nihao, Moonlit Bamboo Riverbank, and Unity Path Bridge—clinched the grand prize. In total, the competition awarded 10 first prizes, 20 second prizes, and 40 third prizes.

The competition aims to foster innovation in bridge design, enhance design skills, and disseminate bridge-related knowledge among university



Grand prize-winning designs of the 2024 World University Students' Bridge Design Competition
Photo credit: Official website of WTC

students globally. Since its inception, it has drawn 6,400 participants from 30 countries and regions and received over 1,400 submissions. The 2024 event attracted 231 entries from 1,135 participants enrolled at 72 universities in 11 countries.

The competition has sparked significant creative enthusiasm among university students and earned positive feedback from academic institutions and the wider community. Entries demonstrated creativity and imagination, illustrating the potential and innovative spirit of today's university students and the artistic and cultural significance of bridges.

(Source: Official website of WTC)

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