ITS Australia 2026 Japan Study Tour

Report

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Intelligent Transport Systems

MAY 2026

CEOs Report

Reflections from the ITS Australia Japan Study Tour

In late April, I led an ITS Australia delegation to Tokyo for three intensive days engaging with Japan's leading transport innovators; MLIT, ITS Japan, NEC, Toyota, Sumitomo Electric, NEXCO East and others. This proved one of our most valuable study tours, revealing not just impressive technology but how a nation moves from innovation to implementation at scale.

We were so pleased to be able to faciliate a group of Australian and New Zealand transport technology proessionals representing government, academia, and industry to share their experience and learn from counterparts in Japan.

What was clear is that Japan isn't talking about connected vehicles - they're running them. ITS Connect now operates across 700,000 vehicles and 114 infrastructure sites, delivering measurable safety outcomes: 38 percent reduction in right-turn crashes and 7.7 percent improvement in emergency vehicle response times. When our delegation experienced Toyota's V2X demonstrations firsthand - receiving real-time warnings about emergency vehicles, pedestrians and blind-spot hazards - it became clear why Japan has made cooperative systems central to their transport strategy. These are safety interventions autonomous vehicles alone cannot deliver.

Japan legalised Level 3 automated driving in 2020 and Level 4 in 2023. This January, MLIT established an Autonomous Driving Society Realisation Headquarters, signalling this is national policy, not pilot programs.

They've also opened ETC 2.0 probe data for local government use, turning millions of vehicles into mobile sensors for traffic management and safety analysis.

For Australians & New Zealanders navigating C-ITS deployment, automated vehicle law reform and data governance questions, Japan's experience provides both roadmap and reality check about what policy-infrastructure integration actually requires.

Site visits to NEXCO East's real-time control centre and Tier IV's automated buses demonstrated how infrastructure, vehicles and operations integrate through coordinated industry-government platforms.

The bilateral roundtable created genuine exchange. Both nations face similar challenges but tackle them from different starting points with complementary strengths, creating mutual learning opportunities rather than competitive positioning.

The tour's greatest outcome may be ongoing relationships - direct connections create channels for standards harmonisation, joint pilots and knowledge exchange extending well beyond April 2026.

Susan Harris

Chief Executive Officer
ITS Australia

Study tour participants in Japan

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Intelligent Transport Systems

ITS Japan

MLIT
Ministry of Land, Infrastructure, Transport and Tourism

SUMITOMO ELECTRIC

NEC

TOYOTA

NEXCO 東日本

Tier IV
Intelligent Vehicles For Everyone

Acknowledgements

This study tour could not have happened, or been as successful, without the full support of our Japan hosts at both ITS Japan and the Australian Embassy Japan. As well as the engagement and support from our industry partners to ensure the maximum benefit for both our delegation and our Japanese colleagues.

Over many months of planning and logistics and with generous introductions to leaders we are in their debt and extremely grateful for the time and hospitality they have offered us.

We will continue collaborating and sharing and building on the important relationships created during this study tour.

In particular we would like to thank:

ITS Japan

Mr Akio Yamamoto
Mr Takehiko Barada
Ms Ikuko Okado

Australian Embassy Japan

Mr George Manetakis
Mr Yuriko Tomita

Australian Trade Commission

Mr Leo Bremanis

> One of the clearest lessons from Japan for me, which wasn't a surprise, was that the future of transport operations is fundamentally about data — how effectively we can collect it, trust it, and turn it into timely decisions. The real differentiator isn't the technology itself, but the maturity of the data foundations that sit underneath it and how we use it.
>
> — Paul Touhey
>
> **New Zealand Transport Authority**

> **A highlight of the visit was seeing the operations of NEXCO East. Their approach to incident detection, response and recovery was highly impressive, particularly the integration of emergency services within the control centre to streamline operational decision-making. I was equally impressed by the resilience built into their facility design, including provisions for staff safety, emergency food and water supplies, and helicopter extraction capability during major natural disasters.**
>
> When industry shares knowledge and works together, we create transport networks that are safer, smarter and better prepared for the future
>
> — Chris Couldrey
> **Director, RoadAid**

Japan - Australia Roundtable

The Bilateral Roundtable hosted at the Australian Embassy in Tokyo created structured dialogue on shared challenges—ageing populations, congestion, decarbonisation, disaster resilience—while revealing complementary strengths.

The Japanese presentations at the Roundtable collectively showed Japan's ITS agenda as a mix of policy reform, operational deployment, and international collaboration, with a strong emphasis on V2X, autonomous driving, data-enabled road management, and bilateral innovation links with Australia.

Overall themes

Across the presentations, Japan framed ITS as a practical response to congestion, safety, resilience, ageing demographics, logistics productivity, and decarbonisation rather than as a stand-alone technology agenda. The speakers also highlighted that Japan is moving from pilots to institutionalisation through government reform, roadside infrastructure, consortium models, and international partnerships.

MLIT perspective

MLIT's presentation set out the policy and infrastructure direction for "next-generation ITS," linking road management, ETC 2.0 data, autonomous driving, and road-vehicle cooperation. It stressed that Japan is using probe data and roadside systems not only for tolling and information provision, but also for congestion management, local road safety, logistics support, and future support for autonomous vehicles.

The presentation also showed that Japan has already changed its regulatory framework to support automated driving, including legalisation of Level 3 operation from 2020 and Level 4 from 2023, while a new MLIT headquarters for realising an autonomous driving society was launched on 22 January 2026. In parallel, MLIT is running field operational tests on expressways and local roads to validate merge assistance, proactive hazard information, intersection support, and road-space redesign for automated mobility services.

Toyota V2X perspective

Toyota's presentation focused on V2X as a cooperative safety tool aimed at the "ultimate goal of zero crashes," grounding the case in Japan's long-term reduction in road fatalities and injuries. It argued that autonomous systems alone will not solve all crash types, and that cooperative ITS is particularly valuable for blind spots, turning conflicts, pedestrians, and other scenarios where infrastructure or other road users can contribute information.

A key practical example was ITS Connect, Japan's V2X platform, which as of March 2026 was reported to cover more than 700,000 vehicles and 114 infrastructure sites, with no service fees and use cases including red-light warnings, right-turn collision caution, pedestrian crossing alerts, and emergency vehicle notification. Toyota also cited measured benefits, including a reported 38 percent accident reduction for right-turn versus oncoming-vehicle conflicts and a 7.7 percent emergency vehicle travel-time reduction in a case study.

ITS Japan perspective

ITS Japan's presentation positioned the organisation as a national promoter and coordinating platform linking industry, government, academia, and users to advance a safer, more resilient, more efficient, and more equitable society. It also illustrated how Japan's ITS ecosystem is organised through multiple committees and projects spanning disaster

resilience, smart poles, mobility data integration, carbon neutrality, cooperative automated mobility, and level crossing safety.

The emphasis was not only on technology development, but on coordination across ministries, regions, operators, and industry bodies so that ITS services can move into operational use. This is useful context for the Roundtable because it shows that Japan's progress depends as much on institutional alignment and implementation structures as on vehicle technology itself.

Nippon Koei perspective

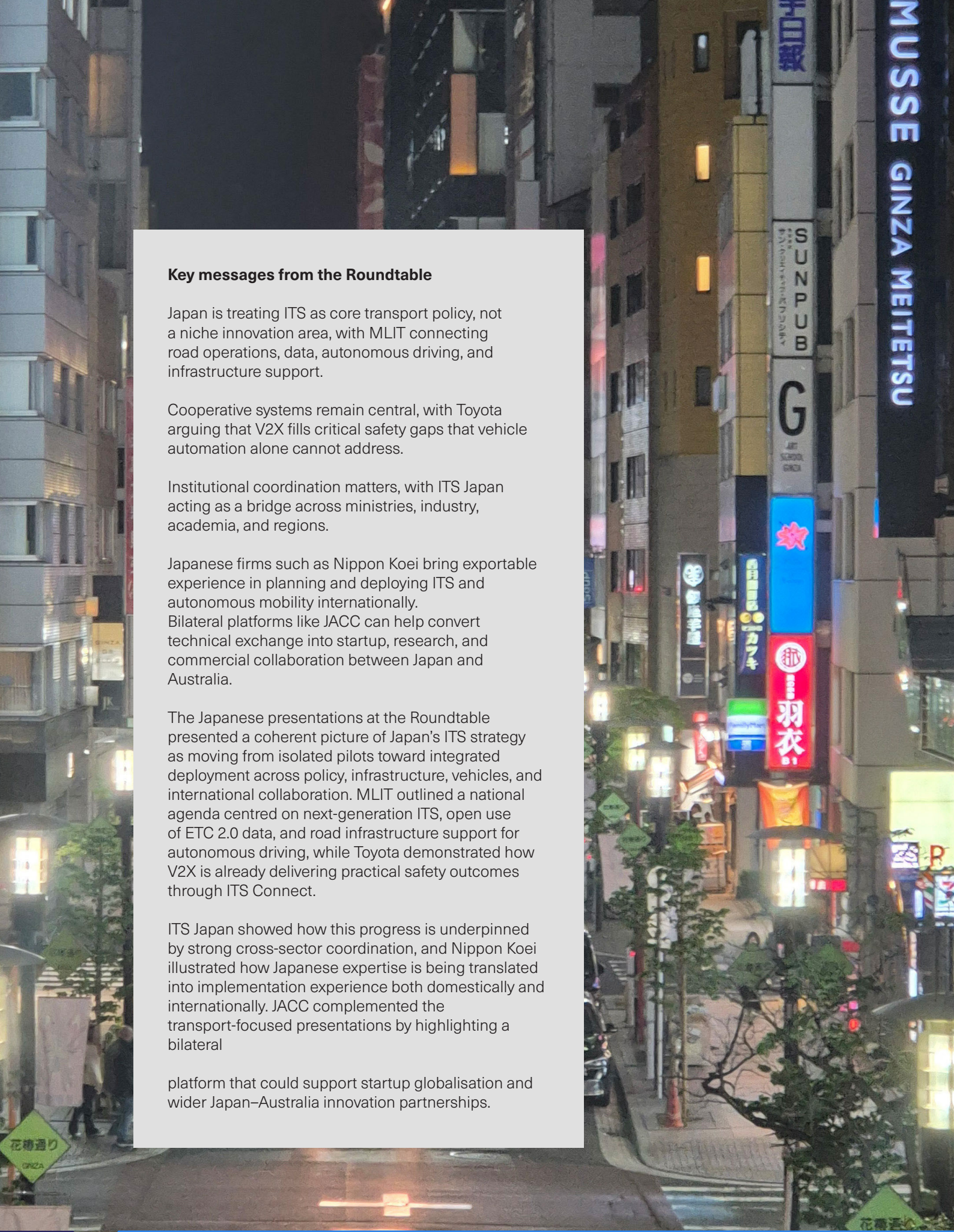
Nippon Koei's presentation contributed a delivery and international market perspective, showing how Japanese capability is being exported through planning, survey, master planning, feasibility, and implementation support across 24 countries and 34 ITS projects. The presentation reinforced Japan's strength not just in products or policy, but in systems integration, transport planning, and practical deployment support.

It also highlighted Nippon Koei's nationwide experience in autonomous mobility services since 2017, from small-scale pilots to larger bus operations, robotaxi-related activity, and logistics applications such as truck platooning and Level 4 truck operations on the Shin-Tomei corridor. This made the presentation particularly relevant to Australian stakeholders interested in implementation pathways, not just strategic vision.

Japan Australia Co-Creation Centre (JACC) perspective

The JACC presentation broadened the Roundtable beyond transport technology to the innovation ecosystem needed for bilateral commercialisation and startup engagement. It described JACC as a not-for-profit globalisation platform connecting startups, corporates, universities, and governments to support Japanese expansion through Australia and Australian engagement with Japan.

This was important in the Roundtable context because it suggested a practical platform for turning Japan–Australia dialogue into market access, co-creation, and institutional partnerships. Its emphasis on risk reduction, structured learning, and phased market entry aligns well with the cautious, implementation-focused tone seen across the Japanese ITS presentations.



Key messages from the Roundtable

Japan is treating ITS as core transport policy, not a niche innovation area, with MLIT connecting road operations, data, autonomous driving, and infrastructure support.

Cooperative systems remain central, with Toyota arguing that V2X fills critical safety gaps that vehicle automation alone cannot address.

Institutional coordination matters, with ITS Japan acting as a bridge across ministries, industry, academia, and regions.

Japanese firms such as Nippon Koei bring exportable experience in planning and deploying ITS and autonomous mobility internationally.
Bilateral platforms like JACC can help convert technical exchange into startup, research, and commercial collaboration between Japan and Australia.

The Japanese presentations at the Roundtable presented a coherent picture of Japan's ITS strategy as moving from isolated pilots toward integrated deployment across policy, infrastructure, vehicles, and international collaboration. MLIT outlined a national agenda centred on next-generation ITS, open use of ETC 2.0 data, and road infrastructure support for autonomous driving, while Toyota demonstrated how V2X is already delivering practical safety outcomes through ITS Connect.

ITS Japan showed how this progress is underpinned by strong cross-sector coordination, and Nippon Koei illustrated how Japanese expertise is being translated into implementation experience both domestically and internationally. JACC complemented the transport-focused presentations by highlighting a bilateral

platform that could support startup globalisation and wider Japan–Australia innovation partnerships.

Australian Perspectives

The Australian perspectives session at the Roundtable presented a diverse cross-section of transport operations, technology platforms, research innovation, and industry transition challenges, demonstrating both Australia's operational maturity in certain ITS domains and its emerging policy and deployment questions around C-ITS, automation, and electrification.

NZTA transport operations transformation

Andrew Clark from the New Zealand Transport Authority outlined NZTA's national strategy to transform its Transport Operations Centres from fragmented, independently-operated facilities into an integrated, resilient, and nationally consistent system. NZTA currently operates two main TOCs—one in Auckland as a joint venture with Auckland Transport, and one in Wellington—managing 18,500 kilometres of state highways, 4,377 signalised intersections, 1,558 CCTV cameras, and 247 electronic signs with 170 staff across both centres.

The future state vision emphasises strategic shifts toward a single technology stack, nationally consistent and resilient operations, customer-focused service delivery, and a culture of innovation and continuous improvement.

This presentation demonstrated to Japanese counterparts how federated jurisdictions are tackling the institutional coordination challenges that ITS Japan highlighted as central to successful deployment.

Yunex Traffic global ITS platforms

Fabian Seelinger from Yunex Traffic presented the company's position as a global market and innovation leader for urban and interurban traffic management with integrated end-to-end solutions spanning system, field, application, and service layers.

Key capabilities highlighted included advanced perception systems using AI to create real-time digital twins of road networks, enabling detection of all road users including pedestrians and cyclists; traffic optimisation applications such as safe pedestrian crossing, dynamic spot detection, intelligent priority for multiple road user classes, and vulnerable road user conflict awareness; and enforcement solutions covering automatic number plate recognition, red-light and speed cameras, low-emission zones, clean air zones, and moving traffic offences.

The London clean air zone case study showed measurable impact, with Londoners living in areas exceeding legal NO_2 limits reduced by 94 percent, state schools in exceedance zones reduced by 97 percent, and monitoring sites above short-term legal limits reduced by 97 percent.

Transmax STREAMS platform

Duane Smith and Mario Mifsud from Transmax presented STREAMS, an Australian-developed integrated ITS platform with over 50 years of heritage through the Queensland Department of Transport and Main Roads, now managing more than 100,000 devices across Australia.

On C-ITS, Transmax has been supporting Queensland Transport and Main Roads as a partner for over a decade in their delivery of C-Roads compliant central station functionality through major pilots including the Ipswich Connected Vehicle Pilot with 355 participants over 12 months generating approximately 70,000 in-vehicle warnings and measuring a 20 percent crash reduction for eight use cases; Bruce Highway connected vehicle safety; portable roadside unit trials; Main Roads Western Australia proof-of-concept on Mitchell Freeway; and the current C-ITS National Harmonisation Pre-Deployment Research trial across 30 intersections running 2024–2026 to assess operational and safety benefits.

UTS digital twins and AI-enabled transport

Associate Professor Simona Mihaita from the University of Technology Sydney presented research focused on data-driven traffic analytics, digital twins, and AI-enabled transport systems spanning incident analysis, road safety, rail operations, level crossing safety, electric vehicle infrastructure, and smart transport analytics.

The research approach uses connected vehicle data - longitude, latitude, timestamp, speed, acceleration, G-force - combined with geospatial mapping, feature extraction, and machine learning to shift from reactive to proactive road safety by identifying dangerous intersections, train level crossings, and school zones before crashes occur. Real-world applications include identifying dangerous intersections in the Australian Capital Territory, dangerous train level crossings in New South Wales, and dangerous school zones in Auckland, New Zealand.

This research portfolio demonstrated how Australian universities are building predictive, AI-enabled transport systems that complement operational ITS platforms, a model that aligns with Japan's emphasis on university-industry-government collaboration through platforms such as Nagoya University's Institute for Innovation for Future Society.

FCAI automotive industry transition

Richard Delplace from the Federal Chamber of Automotive Industries presented on Australia's automotive market in transition.

Australia has one of the most open and competitive automotive markets globally, with more than 60 brands competing for approximately 1.2 million annual sales—a level of brand diversity unmatched for a market of this size..

FCAI's vision is "a future where mobility, communications and energy technologies integrate to enhance Australian living standards," with policy priorities spanning dealer protections, consumer law and class actions, safety, cost, decarbonisation, automation, and connectivity.

This presentation provided Japanese counterparts - many of whom represent OEMs navigating similar policy tensions, with insight into how an open import market responds to decarbonisation policy, infrastructure constraints, and Chinese brand competition.

Deakin University intelligent systems research

Professor Douglas Creighton from Deakin University's Institute for Intelligent Systems presented research spanning automation, AI, robotics, and advanced manufacturing with applications to transport. Deakin University's Institute for Intelligent Systems Research and Innovation (IISRI) is Australia's largest research group in intelligent systems modelling and simulation, with over 15 years of experience in mobility research and more than 120 researchers working across transport, aerospace, defence, automotive and health sectors.

IISRI combines expertise in autonomous systems, robotics, advanced manufacturing, human factors research and digital simulation to develop practical, commercial-ready solutions for industry.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Japanese Innovation

The Japan Study Tour represents a milestone in ITS Australia's bilateral engagement strategy, de-livering direct exposure to world-leading ITS deployment, regulatory frameworks, and institutional coordination models that Australian stakeholders can immediately apply to domestic policy and project development.

The tour started with the NEC Experience where they demonstrated a number of transport innovations through several key technology platforms to the delegation. Their fibre-optic traffic sensing system uses existing telecommunications infrastructure as a distributed acoustic sensor, detecting vehicle movements, traffic flow patterns and even road surface conditions without requiring additional roadside equipment installations.

NEC's AI-powered video analytics platform processes CCTV footage in real-time to monitor road conditions, detect incidents, classify vehicle types, track vulnerable road users and generate automated alerts for traffic management centres. The system applies deep learning models trained on Japanese road conditions to identify hazards, congestion formation and safety risks, enabling proactive intervention before incidents escalate. This technology is already operational across multiple Japanese cities and expressway networks.

The hands-on V2X demonstrations through Toyota's ITS Connect platform provided delegation members with direct evidence of cooperative safety systems delivering measurable outcomes: 38 percent accident reduction for right-turn conflicts and 7.7 percent emergency vehicle travel-time improvements. These are not projections but operational results from a mature deployment spanning 114 infrastructure sites.

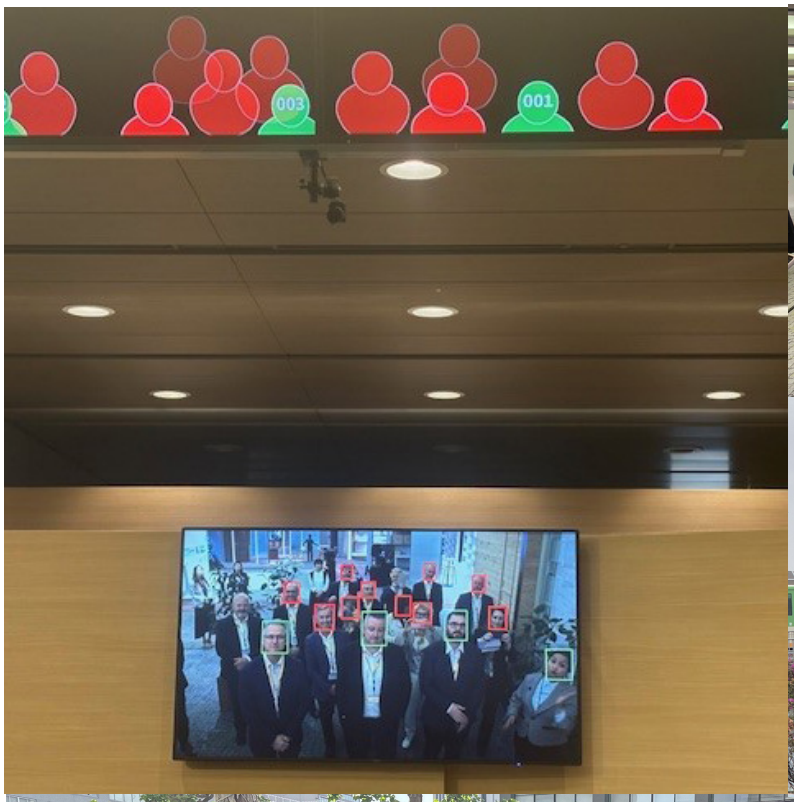
Day two focused on site visits to Sumitomo Electric and Toyota head offices for both detailed technical briefings and some delegates experiencing the Toyota Connect C-ITS vehicle on the roads.

The final day was fully experiential - starting with Tier IV, a Tokyo-based autonomous driving technology company pioneering Level 4 autonomous bus deployment through its open-source Autoware software platform and comprehensive deployment support services.

Tier IV's L4 RIDE solution provides end-to-end support for local governments and transport operators, covering risk assessments, 3D mapping, viability testing, proof-of-concept trials, hardware and software maintenance, regulatory compliance, and Level 4 certification processes. This comprehensive approach addresses Japan's critical driver shortage challenges while facilitating autonomous driving technology rollout across urban and regional networks.

The delegation's final visit to NEXCO East's facility near Iwatsuki Interchange in Saitama provided direct exposure to how Japan manages one of the world's most intensive expressway networks through integrated 24/7 traffic and facility control operations.

The Road Control Centre visited by the delegation operates two distinct but coordinated control rooms. The Traffic Control Room works in partnership with the District Police Department Expressway Management Office to collect real-time information on abnormal conditions, road conditions and weather, providing immediate information to customers via variable message signs and digital channels.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TOYOTA ARENA TOKYO


iTS
CONNECT

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Mr Satoshi (Sam) Oyama	Managing Expert, Standardisation Promotion Office	NICT
Mr Akira Mitsuishi	Board Member, Japan Expressway International Co	East Nippon Expressway Company Limited
Mr Akio Yamamoto	CEO	ITS Japan
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Mr Takehiko Barada	Senior Vice President	ITS Japan
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Katherine Anderson	Senior Product Manager	Intelematics Australia Pty Ltd
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Duane Smith	Accounts & Partnerships Director	Transmax
Mario Mifsud	Principal Architect	Transmax
Paul Touhey	Programme Manager	New Zealand Transit Agency
Andrew Clark	National Manager Maintenance and Operations	New Zealand Transit Agency
Simon Ryley	Product and Engineering Manager - Smart Transportation and IoT - Enhancing Public Transport	NEC

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Intelligent Transport Systems

About ITS Australia

ITS Australia is the peak body for advanced transport technology in Australia supporting the delivery of safer, more efficient, sustainable transport solutions. Representing our industry for over 30 years we are locally and internationally recognised as a leader in our field.

We inspire, guide and support the application of ITS across smart transport infrastructure, connected and automated transport, and intelligent mobility. We connect a thriving Australian ITS ecosystem and inspire extraordinary achievements through cooperative collaboration.

We are the largest single gathering of industry, government and academia dedicated to the research, development and deployment of ITS technologies in Australia.

Our Vision

Transport is safe, sustainable, productive and accessible through the application of technology.

Our Mission

Shaping future transport by leading and inspiring our industry. We champion Australian expertise, foster global opportunities, and nurture a resilient and vibrant transport sector now and into the future.

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