FISITA
WMC WORLD MOBILITY CONFERENCE
BARCELONA 3-5 JUNE 2025

Organised by:

FISITA

STA
SOCIEDAD DE TÉCNICOS DE AUTOMOCIÓN

Call for papers

Welcome to
The FISITA World Mobility Conference 2025

FISITA WMC WORLD MOBILITY CONFERENCE

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In 2023, the FISITA Technology of Mobility Conference and Exhibition (TMCE) brought together over 2,100 delegates, featuring 12 panel sessions, 80+ technical sessions with 400+ presentations, and 130+ sponsors and exhibitors. An impressive 92% of participants rated the overall experience as good or excellent.

Building on this success, the event has evolved into the FISITA World Mobility Conference, reflecting FISITA's broader, more inclusive vision for the future of the technology of mobility industry.

The FISITA World Mobility Conference is a premier gathering of technology leaders and experts from the world's leading automotive and mobility brands. It is one of the most significant events in the international technology of mobility industry calendar.

We invite you to submit an abstract for consideration as a technical paper, oral-only, or poster presentation at the FISITA World Mobility Conference 2025. The topics include:

- Future Mobility Systems & Solutions (3 – 4 June)
- Propulsion Systems (3 – 5 June)
- Energy Infrastructure (3 June)
- Safety & Automated Driving (3 – 5 June)
- Advanced Chassis Technology (4 June)
- Digitalisation & Artificial Intelligence (5 June)
- Sustainability (4 – 5 June)

The 2025 submission and review timeline will follow its usual schedule, ensuring a well-defined and high-quality technical programme. We welcome submissions from companies, organisations, and institutions worldwide on any of the topics listed overleaf.

Participating in the technical programme at the FISITA World Mobility Conference 2025 is your chance to reach an influential audience of technology of mobility specialists, share knowledge, and connect with decision-makers from leading global companies.

Previous event highlights

The technical programmes delivered high-quality content, with a strong emphasis on cutting-edge research, new technologies, and environmentally friendly materials and approaches. All TMCE proceedings are published in the FISITA Digital Library, which Members can access at no extra cost as part of their benefits.

Leading organisations from around the world showcased their products and services in the exhibition, contributing to the event's success.

The conference achieved high satisfaction levels, with a 92% overall satisfaction.

Call for papers

Technical papers accepted on to the FISITA World Mobility Conference will be published in the FISITA Digital Library, which Members can access at no extra cost as part of their benefits.

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Why present at the FISITA World Mobility Conference 2025?

- Share your latest technical ideas and achievements with over 1,000 of the world's top mobility innovators and businesses.
- Position your organisation as a leading force in mobility innovation within the global technical community.
- Expand your professional network by connecting with international experts from the forefront of tomorrow's technology of mobility, all gathered under one roof.
- Engage with peer groups and network with colleagues across all levels, from students to CTOs.
- Play a key role in shaping the future of technology of mobility as the industry drives towards a clean, safe, and sustainable evolution.

Original papers, oral presentations and posters are invited on any of the following topics:

Future Mobility Systems & Solutions
3-4 June

Smart city

- Cyber security
- Smart city as an enabler for electrification & autonomous vehicles
- Role of connectivity and V2X in mobility
- Smart charging
- The robotaxi UX - technical challenges
- The evolution of telco networks - from 5G to 6G and beyond

- Autonomous vehicle systems
- Multi purpose vehicles - how to maximise robotaxi fleet uptime
- Autonomous delivery robots
- Intelligent infrastructures: smart grid: automation & energy efficiency
- Intelligent infrastructures: security and data protection (Cybersecurity)
- Big Data, information & cooperative systems
- Detection, identification and tracking technologies

Mobility data management and monetisation

- Governance, harmonisation & standardisation of data sources and data exchange
- Technical considerations for industry best practices
- Payment, tolling & ticketing technology
- Public transport management systems and operator integration, intermodality
- Traffic management & infotronics

Software Defined Vehicle (SDV)

- Mobility and E/E systems architectures
- Challenges and opportunities for automaker brand differentiation with the SDV
- Technical and privacy challenges of using AI for vehicle experience personalisation
- Technical solutions for ensuring consistently reliable over-the-air (OTA) update
- Smart actuators, by-wire systems, new sensors, edge computing

Call for papers

Future mobility technology enablers

- Artificial Intelligence (AI)
- Smart sensors, brake by wire, safety
- Make-or-buy for automotive OEMs (what will OEMs do in the future, what not)
- Best practice technical architectures for successful MaaS implementation
- Technical challenges and opportunities of MaaS financial and ecological sustainability
- Carbon footprint
- Detection, identification and tracking technologies and supporting infrastructures

Beyond the car

- Urban air mobility
- Micromobility
- Future mobility form factors
- The technology of shared mobility
- Future workforce and skill requirements for innovation and technology adoption

Propulsion Systems
3-5 June

Future of the ICE

- Alternative and synthetic fuels and enabling technologies
- Innovations in lubricants
- New after-treatment systems
- Waste heat utilisation
- New sensors (virtual, physical) for engine control
- Next-generation ICE architectures

Hydrogen

- Stack technology
- On-board storage technology
- FCV technology and architecture developments including FCEV, FC range extender, etc
- Improved volumetric and gravimetric power density and increased fuel cell system durability

Battery technology

- Charging speeds: high voltage versus high charging current; super-fast charging
- Thermal management
- Battery swap technical challenges and opportunities
- Developments in cell chemistries
- Battery management system developments
- Battery pack design and innovation inc battery casing/housing/enclosure
- Lithium-air batteries
- System approach, vehicle integration
- Regulatory activities for testing and safety
- Battery lifetime prediction/simulation

Call for papers

Future of hybrid technology

- Hybrid & range extender architectures
- PHEV range & system costs
- Developments in hybrid technology
- Powertrain connectivity
- Technical challenges and opportunities in thermal efficiency
- Detection and usage of fuel quality
- Gear box technologies

Electrification / EDU

- E-axle architecture innovations
- Technical challenges and opportunities in E-motors
- E/E: Electrical and Electronic Architecture
- Charging technologies including bidirectional and V2G, convenience charging, robotic
- Electromagnetic radiation reduction

Fast charging

- Fast-charging applications for passenger cars and commercial vehicles
- Megawatt charging for commercial vehicle freight corridors
- Megawatt charging & micro-grids synergies
- Battery, infrastructure and other enabling technologies for fast charging

Powertrain system modelling, simulation, control and diagnostics

- Advancement in powertrain and propulsion CFD modelling and simulation
- Adaptive and predictive controls
- Prognostic health management
- Data-driven diagnostics
- Virtual testing environments
- Implementation of ecodesign principles
- Connectivity and data management

Energy Infrastructure
3 June

Dynamic wireless charging technical considerations

- Plug & Charge
- Vehicle to grid (V2G)
- Role of non-vehicular infrastructure policy & regulations in enabling V2G
- AC and DC technologies
- Grid balancing

Hydrogen

- Production and transportation of hydrogen
- Production and operating costs
- Pressure systems
- Safety considerations

Renewable fuels

- Sourcing and production
- Scaling production

Call for papers

Energy storage

- Offboard fuel and energy storage challenges and solutions
- Onboard fuel and energy storage challenges and solutions

Safety & Automated Driving
3-5 June

General

- Regional approaches to safety
- Legislation, standards, and global safety requirements for ADAS/DCAS
- Defending critical safety-related data
- Advanced AI-based video analytics for traffic safety
- Human factors and collaborative systems
- Data collection and sharing

Detection

- Sensors - lidar, radar, camera and sensor fusion
- Driver monitoring systems (DMS) and occupant monitoring systems (OMS)
- Delivering pedestrian AEB
- Intelligent vehicle tech and VRU protection
- Beyond ABS and ESP

Protection

- Occupant protection in future crash configurations
- Adaptive restraint systems
- Virtual Human Body Models (HBMs) for computer analysis of body injuries
- Advanced Anthropomorphic Test Devices (ATDs)
- Lightweight materials for structural crashworthiness
- High voltage battery safety and implications in occupant protection

Automated driving

- Prospects for robotaxis
- Merging AVs
- Evaluation of road conditions using high-performance infrastructural data
- Evaluation of operating conditions for mixed AV and non-AV traffic
- Teleoperation
- Security / cybersecurity in AVs

V2X

- Evaluation of operating conditions for mixed traffic with V2X and non V2X-connected users
- Use of V2X in safety systems
- Technological challenges and opportunities of new V2X devices
- The role of infrastructure in V2X
- The role of networks in V2X

Advanced Chassis Technology
4 June

Euro 7

- Technical challenges and opportunities of Euro 7 solutions
- Non-exhaust emissions control
- Use of AI in modelling non-exhaust emissions
- Tyre particle generation testing methodologies
- Torque calculation in EVs

Next generation tyre tech

- Sustainable tyre materials
- Self-healing tyres
- Advanced tyre monitoring systems
- Tyre material toxicity - use phase & end-of-life
- Tyre testing
- Intelligent tyres
- Airless tyre technology

Next generation brake technology

- Integration with other vehicle systems
- Consumer acceptance of next-gen braking technology
- Next-generation brake technology in the software-defined vehicle
- Regenerative braking
- Single pedal driving
- Sustainable materials
- Safety and reliability of next-generation braking technology
- Brake-by-wire systems
- Ceramic composite brake materials
- Electrohydraulic Braking (EHB) & Electromechanical Brake Systems (EMBS)

Next-generation chassis design

- Prospects for corner modules
- Effect of electrification
- In-wheel hub motors
- Lightweight designs

- Sustainability & circularity
- Control strategies
- Safety considerations in chassis technology
- Noise, vibration, harshness (NVH)
- Next-generation chassis technology for terrain vehicles

Virtual development process and AI Machine Learning

- New parameterisation methods
- Target definition for driving comfort criteria
- Driving simulators in development process
- Simulation of vehicle degradation states
- Tyre wear simulation
- Control strategies
- Cyberphysical environment
- Reinforcement learning for autonomous driving

Call for papers

Digitalisation & Artificial Intelligence
5 June

Knowledge and competency

- Digital re-skilling
- Virtual evaluation of product experience
- Human-in-the-loop (HiL) vehicle performance development evaluation
- Project planning in software-dominated product development
- AI expertise & skills development

Information and data

- Flexible digital thread to support x-domain process digitalisation and collaboration
- Data spaces for collaboration between product development partners
- Data management & monetisation
- PLM infrastructure & new data management solutions
- Artificial Intelligence
- AI simulation & evaluation in AD & ADAS development
- Enabling AI solutions for ADAS at scale

Methods and processes

- Model-based system engineering (MBSE)
- Model-based design / development (MBD)
- Digital twins
- Predictive maintenance
- AI-backed vehicle design and engineering
- Foundation models for ADAS

Tools and technologies

- Use of CAE for probabilistic risk management
- Model resolution and speed contradiction in product development
- AI maturity in manufacturing
- Surrogated CAE models
- Application of AI (and Gen AI) in novel engineering solution development
- AI for ADAS

Sustainability
4-5 June

Sustainable design

- Design for insurability
- Design for recycling
- Design for second life
- Design for CO2 reduction

Sustainable materials, sourcing & production

- Global overview of sustainability regulations and requirements including Corporate Sustainability Due Diligence Directive (CSDDD), European Battery Regulations (EBR), and EU Carbon Border Adjustment Mechanism (CBAM)
- The technical challenges and opportunities of responsible sourcing
- Critical material provenance monitoring
- Application of sustainable and natural materials

Call for papers

Life Cycle Assessment and CO2 reduction

- Reduction of carbon impact in the life cycle
- Product passport solutions
- Battery as a Service to extend battery lifecycle
- Life cycle-based technology evaluation
- CO2 assessment

Circular economy - repair, reuse, recycle

- Recycling
- Second life battery applications
- Product design and manufacturing
- Waste minimisation
- Resource recovery
- Secondary raw materials
- Business models

Requirements for technical paper abstracts

Abstracts should contain clear description of the main scientific, technical, economic and/or practical points to be addressed, applied methodology and achieved results paying particular attention to those aspects of the work which are new, innovative, and unique.

Authors should observe the following requirements:

- Maximum 700 words
- The paper should align with at least one of the seven themes of the conference
- No figures preferred, but can be included if essential
- Written in English

The following should be included in the abstract:

- Paper title
- Author names and affiliations
- Research and/or engineering questions/objective (maximum 100 words)
- Methodology (maximum 150 words)
- Results (maximum 150 words)
- Limitations of this study (maximum 100 words)
- What does the paper offer that is new in the field in comparison to other works of the author? (maximum 100 words)
- Conclusion (maximum 100 words)

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How to submit your abstract

To submit your abstract, please click on the appropriate conference(s) box below.

Submitted papers will be reviewed by the appropriate FISITA World Mobility Conference topic team. They reserve the right to assign submitted technical paper abstracts to either an oral or poster presentation.

All accepted submission authors will be required to submit a full paper to be published in the FISITA World Mobility Conference proceedings. All papers should be original works, not have been published elsewhere and be written, as well as presented, in English. 20 minutes will be allocated for each oral presentation, including time for questions and answers.

Key dates

13 January 2025	Deadline to submit abstracts
10 February 2025	Acceptance notification to all authors
24 March 2025	Deadline for review-ready full papers, draft oral only presentations and draft posters
28 April 2025	Deadline for modifications to technical papers at the request of the Review Team
19 May 2025	Deadline to upload final presentation slides, posters and pre-recorded videos

Permissions and copyright assignment

All authors submitting a full written paper must assign copyright of their materials to FISITA for it to be published. By submitted a technical paper, you are giving permission for copyright to be assigned to FISITA.

All oral and poster presenters selected to be included in the event must submit a pre-recorded presentation. The pre-recorded video, along with the accompanying PDF of the technical paper/ presentation slides/poster will be available to FISITA World Mobility Conference attendees and FISITA members after the event and by agreeing to take part in the event, you are giving permission for content to be used in this manner.

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The World Mobility Conference is organised by FISITA, the international membership organisation for the technology of mobility industry. FISITA membership supports hundreds of thousands of engineers across four member-category types including Automotive Engineering Societies, Corporate Members, Strategic Partners, and Academia.

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