Tue, 22 April 2025
Weekly Newsletter

DVN Lighting

NEWSLETTER #901

Editorial

Test House Focus: The Invisible Part Of The Job

One of the puzzles in vehicle lighting that is not really visible on prime stage, by marketing actions or by innovation award ceremonies, is the job of photometry and testing. During the process of homologation or certification, no OEM or supplier can avoid verifying and documenting that their products meet the technical standards in the world.

Since we have many varying regulation frameworks like ECE and CCC, FMVSS and CMVSS, any worldwide product application needs to be developed and verified according to the national rules. For ECE and CCC, type approval processes are established. Even though the U.S. FMVSS requires self-certification without official approval, no setmaker and no OEM can avoid having documents that show their products follow the legal specifications.

This is the field, competence, and service of test houses. There is no vehicle on the road without a fixed process concerning lamps and retroreflective devices. And before a vehicle can be homologated by one of the ECE contracting parties, a certified test lab must supply the testing and photometry reports that are the base of any homologation. Photometry is a high-tech laboratory job and needs qualified testing equipment like precise goniophotometers, and qualified personnel.

The experts from the test houses are active members in the rulemaking process. They are in their national GTB delegations, support the national administrations in GRE, and participate in many photometry working groups trying to harmonize the regulations and to adopt all regulations to the ongoing technical innovation process.

This week we have the pleasure to publish my detailed report on DEKRA, and Eric Blusseau's description of DVN's UTAC and CCIC visits.

GRE 92 is starting this week in Geneva, and Eric has also prepared a summary of all the informal documents that will be discussed this week.

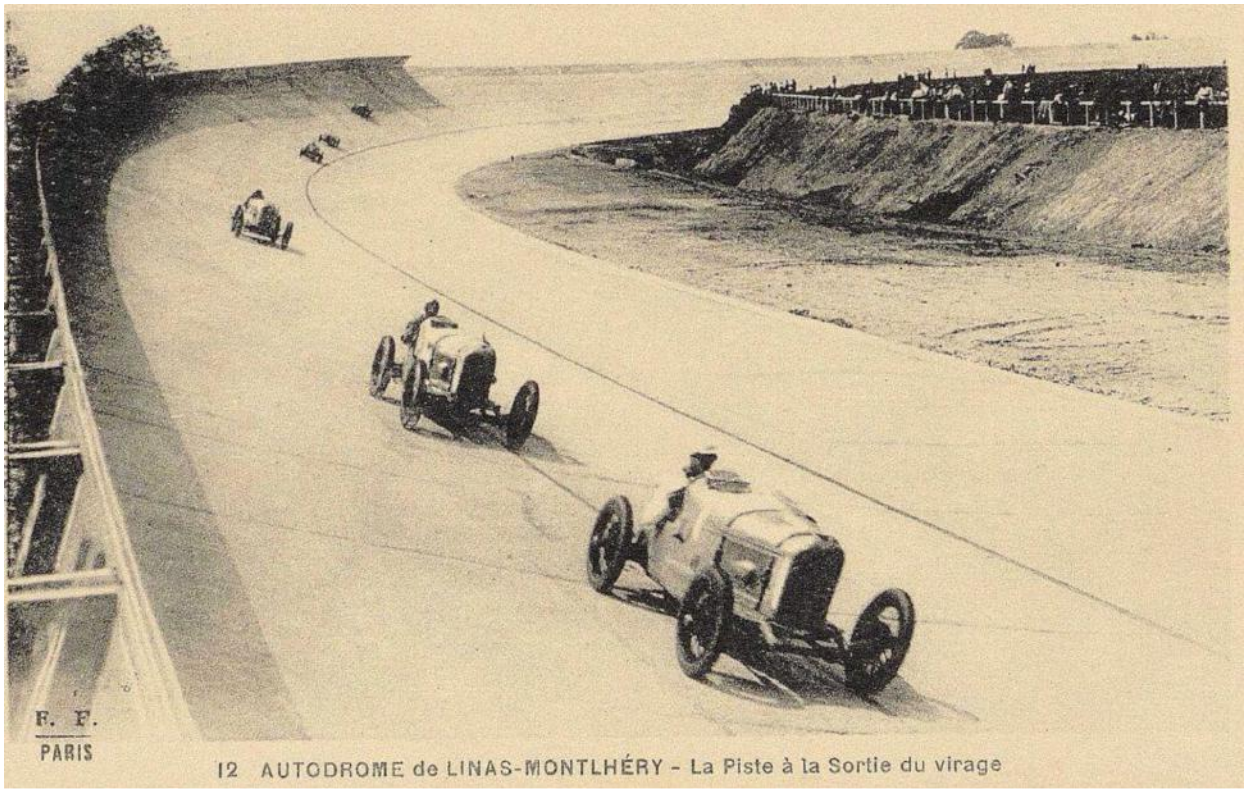
We are also happy to share the PACE awards won by Oledworks, Marelli, and Audi for Digital OLED 2.0, as well as previews of new cars which will be officially revealed at the Shanghai Autoshow starting today. Paul-Henri, Anne and Geoffrey from the DVN team will be there to prepare a detailed report of the event and visit with DVN members.

Sincerely yours,

Michael Hamm
DVN Senior Advisor

In Depth Lighting Technology

DVN Field Trip: UTAC Montlhéry



By Eric Blusseau, DVN Regulation expert

UTAC, the *Union Technique de l'Automobile du motocycle et du Cycle* (Technical Union of the Automobile, Motorcycle, and Bicycle), was founded in 1945. Since 1946, it has been based in Montlhéry, France—near the famous Autodrome de Linas-Montléry which opened in 1924.

UTAC is a market-leading international group in mobility, testing solutions, testing systems, vehicle engineering, type approval, regulatory expertise, certification, training, corporate events, and classic and sportscars festivals. The Group provide services and systems to customers in sectors including mobility, transport, tires, and more.

UTAC operate test centres and laboratories in France—including the official Euro NCAP facility—as well as the UK, the USA, Finland, Morocco, and Germany. They also have subsidiaries in China, Korea, and Japan. There are around 1,300 employees around the world.

In France, UTAC have two test centres and numerous laboratories. All the group's activities are carried out at Linas-Montlhéry and Mortefontaine, both located near Paris, one to the north and the other to the south. These two centres have more than 50 km

of test tracks for assessing speed, endurance, ADAS, braking, dynamic platform, and more, as well as state-of-the-art laboratories for electromagnetic compatibility, acoustics, cybersecurity, and simulation. At Linas-Montlhéry, UTAC's TEQMO laboratory and tracks are entirely dedicated to automated and connected vehicles, including all the possibilities of 5G connectivity.

Test track and facilities in Montlhéry and Mortefontaine

UTAC have expert teams in diverse domains, who are deeply involved in the drafting and analysis of regulations. Main domains are emissions and energy, tires, acoustics, lighting, electromagnetic compatibility, active and general safety, passive and tertiary safety, ADAS, automated vehicles, and HMI.

Other experts and engineers are involved in market surveillance, management and provision of a regulatory database (RACEonline), and monitoring of worldwide automotive regulations.

UTAC are recognized as a reference laboratory and as a technical service by—and therefore can perform approval tests for—several authorities, including France (E2), The Netherlands (E4), Sweden (E5), the United Kingdom (E11), and Romania (E19).

UTAC experts are involved in developing UN regulations, and participate in all the main UNECE regulatory groups, as well as informal working groups and relevant task forces as part of the French delegation.

Particularly, the UTAC Lighting Expert attends the periodic GRE meetings at the Palais des Nations in Geneva on behalf of France. Currently he is also contributing to the Autonomous Vehicle Signalling Requirements task force (AVSR), the aim of which is to adapt the current lighting, signalling, and installation regulations for upcoming autonomous vehicles, and the task force on Lamps Under Parked Conditions (TF LUPC), who are working to define which, when, and how light-signalling functions may be activated when the vehicle is parked.

Similarly, experts from UTAC attend the relevant working groups drafting European directives and regulations.

UTAC are formally designated as a Technical Service for the approval of vehicles and components in several countries, including Japan and Australia. The relevant tests can be performed in the laboratory at UTAC, and those test reports are sent to the authorities for approval.

UTAC also are designated by memorandum of understanding with authorities of several countries, including Korea.

The photometry department is a 3-person team. There's a 25-metre darkroom with LMT measurement system for technical tests according to UNECE, Taiwanese, Australian, and North American regulations. They can provide approval for lighting and signalling devices, and approval of vehicles as equipped.

L-R: LMT photogoniometer, 25m darkroom, integrating sphere for light source validation

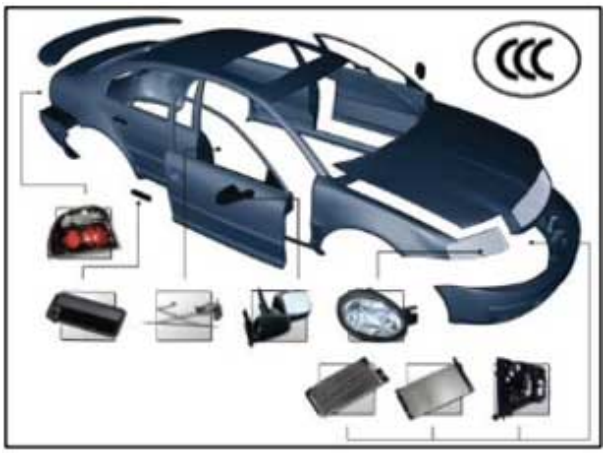
Lighting News

DVN Field Trip: CCIC Europe Testing S.L.

LIGHTING NEWS

CCIC Europe Testing S.L. (CCIC EUT) is the first laboratory founded by the China Certification and Inspection Group (CCIC)—a Chinese government-owned megagroup providing inspection, verification, certification, and testing services—and China Quality Certification Centre (CQC), a Chinese administration based in Beijing and responsible for product certification. CQC, controlled by CCIC, is responsible for product standards and quality standards sold on the Chinese market.

CCIC Europe-Testing S.L. helps European-company customers effectively deal with CCC (China Compulsory Certificate) implementation rules, updates, and market changes, and to obtain CCCs for their products.



The CCIC EUT building comprises about 1,500 square metres, and houses a vehicle lighting testing laboratory with a 30-metre darkroom, a materials laboratory, an environmental laboratory, and a comprehensive laboratory. During the visit, Eric Blusseau met General Manager Mr. Wang Xiaojian, and Test Department Manager Mr. Lyu Hancong.

Equipment includes a photometric test system from Optronik, smoke-density tester for building materials, combustion tester, mechanical wear tester, rearview mirror impact test bench, differential-scanning calorimeter from DSC-Nietzsch, a thermogravimetric

analyzer by TGA-Nietzsch, a universal material testing machine, and test chambers for salt spray corrosion and high- and low-temperature humidity by Weiss/Neurtek.

The laboratory is certified by the China National Accreditation Service (CNAS). It has ISO/IEC 17025:2017 accreditation, it is a CQC-authorized training centre, and it is certified for CCC, CQC, and UNECE (E2, E4, E49) approval and US and Taiwanese certification.

Product testing services include self-declaration CCC tests, ministry of industry and information technology (MIIT) inspections, CQC certification tests, UNECE approval tests, DOT and SAE tests, Taiwan certification services, conformity-of-production tests including vehicle lighting and light-signalling devices, and tests for other components.

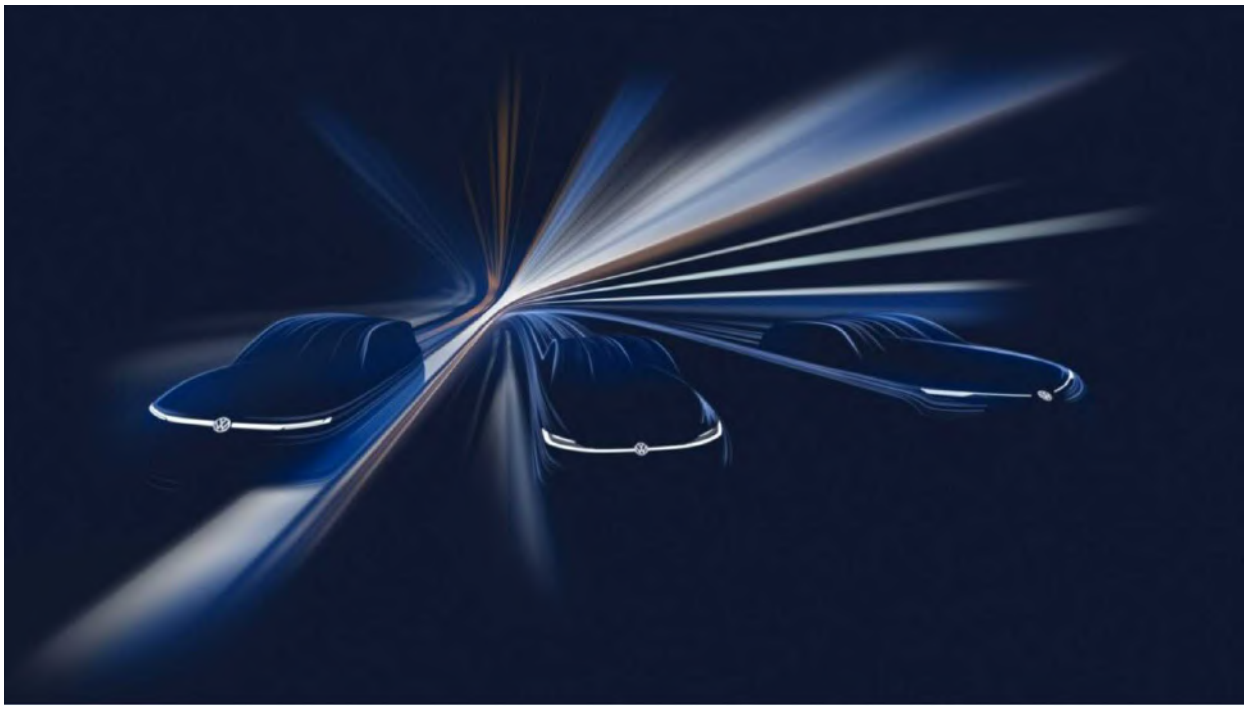
CCIC can also manage factory inspections for CCC, CQC factory audits, and COP—conformity of production—tests according to CNCA-C11-01:2020 (regulations for the application of compulsory certification of motor vehicles).

The main things checked by CCIC during the audit include key components and assembly and control materials, production process control and process inspection, final inspection, and COP testing.

CCIC-EUT can support companies in diverse topics such as preparation of the COP control plan and execution report, organization of supplier certification, monitoring of Chinese GB standards, implementing rules and regulations with regular reports on relevant changes and updates, and managing COP in-situ/on-site tests.

VW Tease New Big EVs For China

LIGHTING NEWS

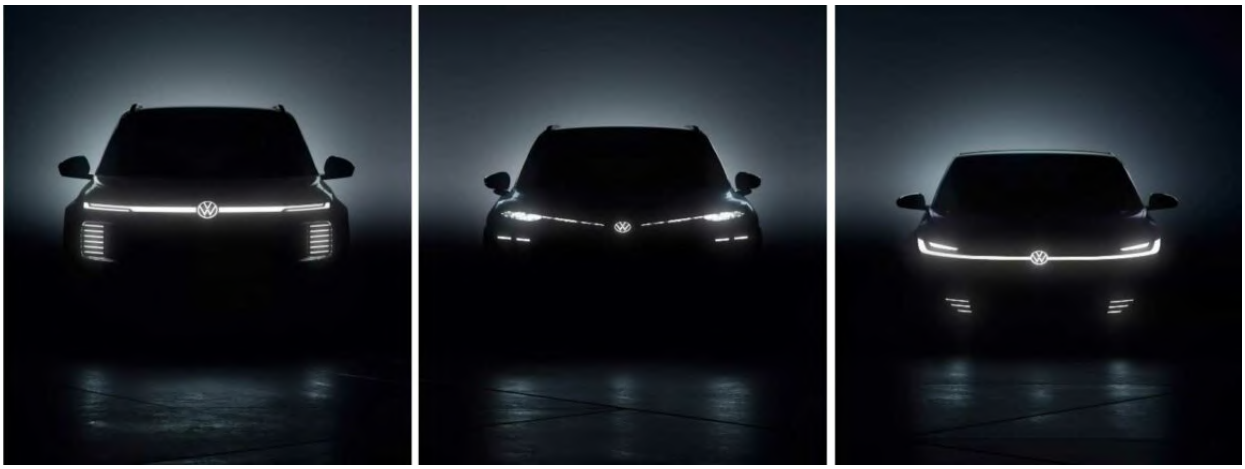


Volkswagen have just released a few more images of three concept EVs to be revealed at the Shanghai Autoshow. The pics are a shadowy glimpse ahead of the show opening.

Few specifics have been revealed, but there will be two crossovers. One will be an EV from Volkswagen Anhui, while the other is a B-segment SUV with a range-extended powertrain from SAIC-VW. The third model will be an electric notchback from FAW-VW.

The images don't show much, but they suggest slim headlamps connected by a full-width light bar. VW say the concepts will embody their new "China DNA—both in terms of technology and design and in relation to development time, which has been cut by more than 30 per cent".

VW also confirmed the three concepts preview upcoming production models, to be launched starting next year.



2025 Automotive News double PACE Awards for Digital OLED Taillight

LIGHTING NEWS

Marelli and Audi have been honoured with **the Innovation Partnership Award** at the 2025 Automotive News PACE Awards, for their collaboration on the Digital OLED Taillight solution, featured on the 2024 Audi Q6 e-tron. The award was officially presented during a ceremony held on April 15th, in Detroit, Michigan, USA. This celebrates the exceptional partnership of the two companies and their innovative achievements in advancing automotive technology.

The PACE Innovation Partnership Award recognizes carmakers that have made strategic strides in the successful commercialization of innovations developed with suppliers, representing a testament to superior industry partnership and technology excellence. This award underscores the remarkable collaboration between Audi and Marelli, particularly in bringing to market the groundbreaking Digital OLED 2.0 Taillight, which stands as a benchmark for best practices in the global automotive industry, demonstrating how collaborative engagement can lead to pioneering solutions.

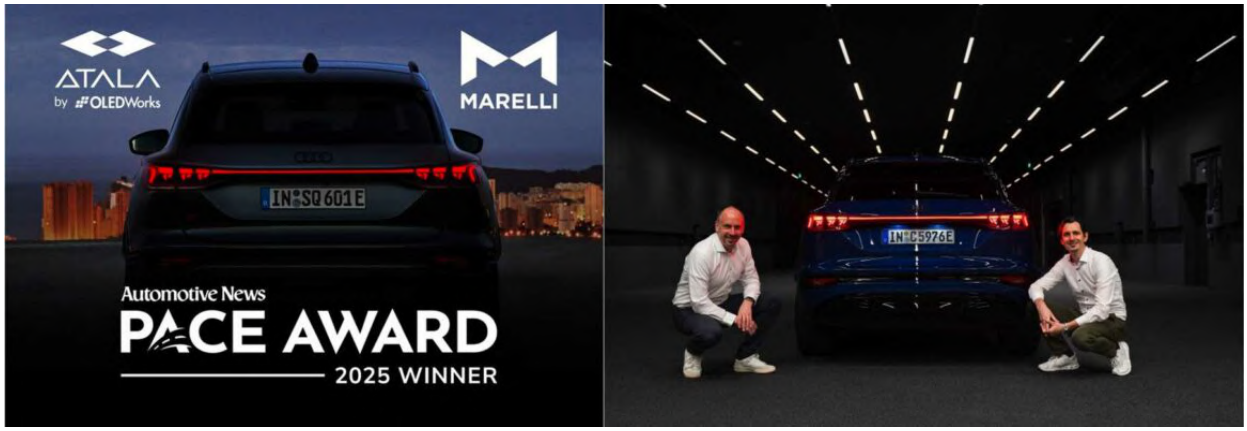
"It's a great honour for us to share this award with Audi," stated Frank Huber, President of Marelli's Lighting business. "This recognition reflects Marelli's commitment to co-creating impactful innovations with customers and partners. We are proud of our strong collaboration with Audi, which has enabled us to push the boundaries of lighting technologies together."

Marelli and OLEDWorks have received the **2025 PACE Award**, the annual award recognized by "*Automotive News",* for Audi Q6 e-tron rear lights using the digital OLED 2.0 technology. This award honours automotive game-changing innovations developed

by suppliers and deployed in a series vehicle. During the award ceremony held on April 15 in Detroit, Michigan, Steve Muench, Head of Marelli's Lighting business North America, and David DeJoy, CEO of OLEDWorks, accepted the award on behalf of the entire team.

“This PACE Award is a fantastic recognition for us as technology leader in lighting as we are proud to digitalize the light. Together with OLEDWorks we have created a unique customer experience with our OLED taillight solutions”, said Frank Huber, President of Marelli’s Lighting business. *“This innovation sets new standards in road safety and vehicle personalization and I want to express my sincerest appreciation for our teams who achieved this successful co-creation with our customer and partners. A big thank you to everyone involved in bringing this vision to life!”*

“We are honoured to receive the 2025 PACE Award in recognition of our collaboration with Audi and Marelli on the groundbreaking Digital OLED 2.0 technology,” said David DeJoy, CEO of OLEDWorks. “This award reflects the dedication of our teams and partners in pushing the boundaries of what OLED lighting can achieve. By delivering unprecedented segmentation, seamless integration, and advanced communication capabilities, we are not only redefining the role of lighting in automotive design but also contributing meaningfully to road safety and vehicle personalization. This milestone underscores our commitment to innovation and the value of strong, forward-thinking partnerships.”



Hyundai has secured six honours at the 2025 Red Dot Award

LIGHTING NEWS

The honourees included the IONIQ 9, the all-new Palisade, Smart Taxi Indicator, Global EV Home Charger, E-pit Ultra-Fast Charger, and Pixel Safety Hammer & Cutter.

The Red Dot Award, organized by the Design Zentrum Nordrhein Westfalen in Germany, is one of the world's top-three design awards, highlighting exceptional Product Design, Brand and Communication Design, and Design Concepts. Along with iF Design Awards and International Design Excellence Awards (IDEA), Red Dot is one of the top design competitions globally.

"We are deeply honoured to be recognized by the renowned Red Dot Award for our groundbreaking product design," said SangYup Lee, Executive Vice President and Head of Hyundai and Genesis Global Design. "These awards are the result of Hyundai's unique design philosophy and forward-looking inspiration. We remain committed to offering our customers distinctive mobility experiences inspired by our brand vision of 'Progress for Humanity.'"

DVN comments: interesting lighting design and features on all these products.

GRE 92nd Session Informal Documents

LIGHTING NEWS

By Eric Blusseau, DVN Regulation expert

Here's a summary of the important informal documents currently published on the UNECE website, and which will be addressed during the GRE session:

Document	Proposed by	Regulation	Proposal	Comments
GRE-92-03	CEMA (European Agricultural Machinery Association)	R65	Proposal of requirements for installation of special warning lamps on agricultural tractors and non-road mobile machineries. 	Proposal of rules for the installation of amber warning lamps in a reference document to help harmonization of divergent national requirements. These special warning lamps are subject to national rules in some countries. The proposal defines technical recommendations.
GRE-92-04	GTB	R148 S1 R48 S6, 7, 8, 9	Reversing projection Statistical data supporting GRE/2024/20 rev.1 	The purpose is to make the synthesis of the collisions between pedestrians and reversing vehicles in public areas and to assess the benefit of reversing road projections on the ground to warn the pedestrians (studies from Germany, France, UK, Korea, Japan).

GRE-92-05	GTB	R148 S1 R48 S6, 7, 8, 9	Turn signal projection—statistical data supporting GRE/2024/21 rev.1 	The purpose is to make the synthesis of the collisions between vulnerable road users and vehicles in proximity of a junction and to assess the benefit of DI road projections on the ground (studies from Europe, UK, Spain, Germany)
GRE-92-06	GTB	X	Energy saving opportunities in vehicle lighting	Proposes to reduce intensity (therefore electrical power consumed) for headlamps and DRL under specific conditions: ambient illumination, low speed
GRE-92-07	SAE	X	SAE J3134 Automated Driving System (ADS) Marker Lamp: update on 5-year document review 	SAE J3134 was released in May 2019 and is undergoing 5-year review. Adds rear & side ADS lamp requirements; revises figures to add rear & side ADS lamp requirements, adds geometric visibility requirements
GRE-92-08	Task force LED Substitutes & Retrofits	R128	Status report of the TF and outlook for upcoming new LEDs categories H8, H16, HB4.	Mainly for front fog lamp application
GRE-92-09	Task Force LED Substitutes / Retrofits	R128, R.E.5	Proposal of datasheet: H8-LED	
GRE-92-10	OICA	R48 S9	Improvements to formal document GRE/2025/5	Editorial modification to length requirements (2025/5 ¶ 6.26.4.3) for existing side-mounted manœuvring lamps and proposed additional rear mounted manœuvring lamp
GRE-92-11	France	R48	Introduction of work lamp in R48 (new series)	Gives manufacturers an option to install wiring at the factory or even installing work lamps on a new vehicle.
GRE-92-12	TF-AVSR	R48 S9	New definitions related to automated driving: dynamic driving task, automated driving system, operational design domain, ADS feature. New ¶ 5.36 - 5.41, general requirements for ADS	This informal document is linked to the informal document GRE-92-23 (comments below)

GRE-92-13	Netherlands	R148 S00	Approval marking: delete the Unique Identifier (UI) marking provisions in R148 S00	The implementation of the Unique Identifier (UI) marking was put on hold by WP29 in March 2025.
GRE-92-14	Netherlands	R148 S01	Approval marking: delete the Unique Identifier (UI) marking provisions in R148 S01	
GRE-92-15	Netherlands	R149 S00	Approval marking: delete the Unique Identifier (UI) marking provisions in R149 S00	
GRE-92-16	Netherlands	R149 S01	Approval marking: delete the Unique Identifier (UI) marking provisions in R149 S01	
GRE-92-17	Netherlands	R150 S00	Approval marking: delete the Unique Identifier (UI) marking provisions in R150 S00	
GRE-92-18	Netherlands	R150 S01	Approval marking: delete the Unique Identifier (UI) marking provisions in R150 S01	
GRE-92-19	TF - LUPC	R48	Status report of task force on lamps under parked conditions: lamp test mode; energy indicator Pending questions addressed to GRE experts: colour and apparent surface requirement of the energy indicator	GRE experts are asked for feedback and recommendation. For the next session, the TF proposes to draft an informal document based on the agreed elements and recommendations of GRE experts. The formal document should be submitted in April 2026.
GRE-92-20	Germany	R48 S8, 9	Cancels and replaces formal document 2025/02	Editorial modification of formal document 2025/02 Small luminous logos mainly inside the lamp are not considered as such and they are disregarded if their dimensions are less than 12mm on a side
GRE-92-21	Secretariat	X	X	General information and WP.29 highlights. General information and WP.29 highlights: • Next WP29 session is scheduled from 21 to 23 October. • Deadline for submission of working documents: 28 July 2025. Outcome of the previous sessions of WP29 November 2024 and March 2025.

GRE-92-22	IWG-SLR	X	Progress report on simplification of UN lighting and light-signalling regulations	Main topics to be addressed in step 2 of simplification: • Simplification and improvement of the definition of apparent surface, • Improvements of definitions in R53, R74, R86 • Improved visibility of rear direction indicators against stop lamps • Harmonization of requirements – prohibited if not allowed • Technological neutrality of light sources • Simplification of installation regulations • Correction of errors and omissions in R150-01
GRE-92-23	TF-AVSR	X	Autonomous vehicle signalling requirements task force progress report	Main topics addressed in the document: • Traffic-handedness change shall be activated by the ADS. • ADS feature controls the automatic lighting function. • Automatic main beam operation is controlled by the ADS feature to avoid causing discomfort/ distraction, or the main-beam headlamps are off while ADS is active. Further guidance expected from GRE and GRVA

Breaking News

100 Years of OSRAM Automotive

BREAKING NEWS

In 1925, OSRAM introduced the world's first twin-filament headlight bulb – the BILUX®. A century later, OSRAM Automotive, part of the **ams OSRAM** Group, is still setting the standard for innovation, safety, and quality in automotive lighting.
From halogen and xenon to the NIGHT BREAKER® LED retrofit lamps, they've spent the past 100 years lighting the way for millions of drivers.

Driver Assistance News

Magna AI-Based Thermal Sensing Automotive News PACE Pilot Awards

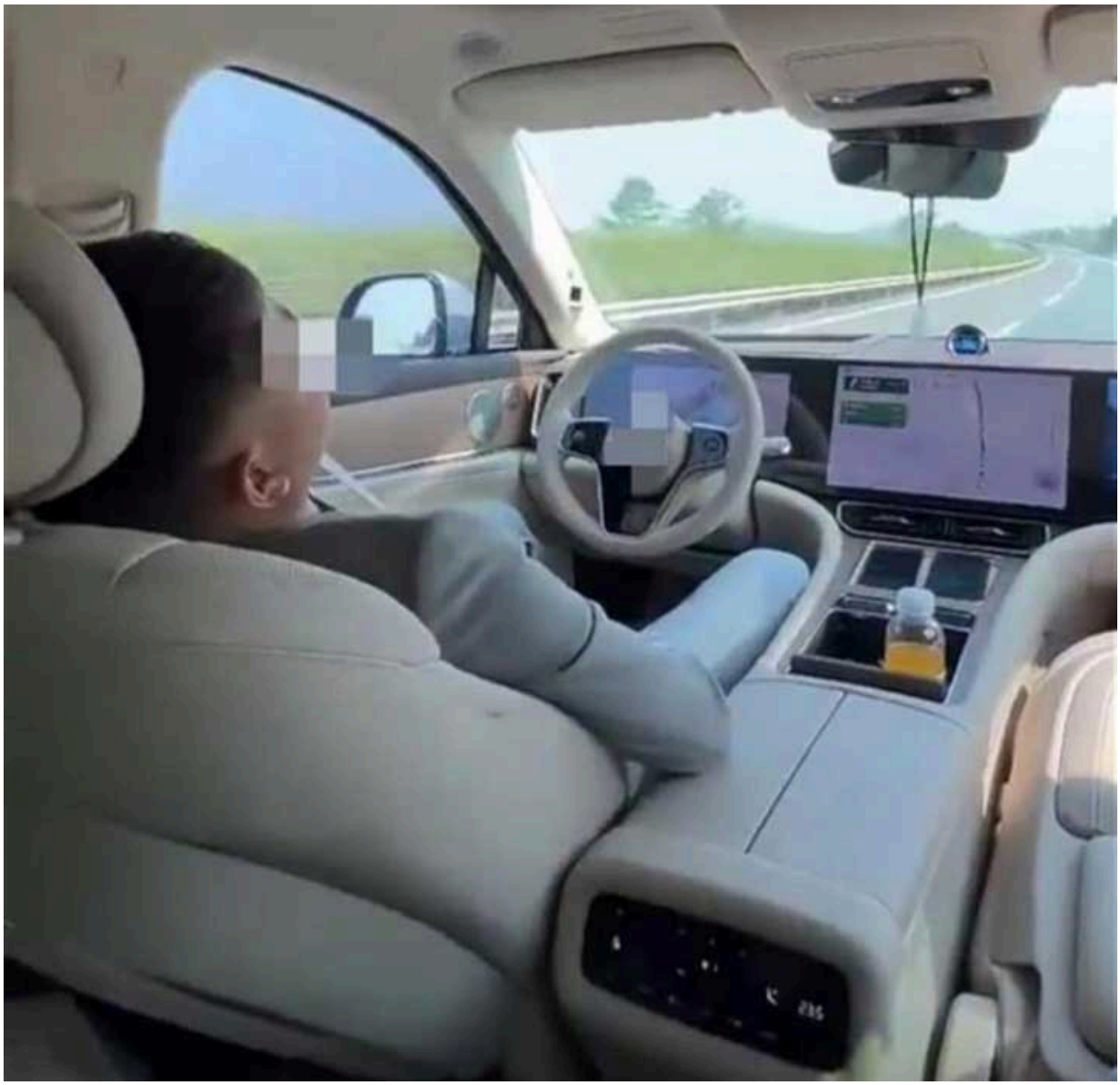
DRIVER ASSISTANCE NEWS

Magna's innovative solutions have been recognized at the prestigious **Automotive News** PACE Pilot Awards.

Magna’s AI-powered thermal sensing system dramatically enhances driver awareness in low-visibility conditions by detecting pedestrians, animals and cyclists far beyond the reach of headlights. Using an ultra-sensitive infrared camera and convolutional neural networks, the system provides real-time heat signature analysis with object classification and movement prediction, improving detection range and reducing false positives. It integrates seamlessly into both centralized and distributed vehicle architectures, supporting advanced safety features like automatic emergency braking.

China's MIIT tightens regulations on autonomous driving features, banning key functions

DRIVER ASSISTANCE NEWS



China's Ministry of Industry and Information Technology (MIIT) has introduced strict regulations for autonomous driving technologies following recent safety concerns, effectively reshaping how automakers can develop, test, and market these features.

At an April 16 meeting on intelligent connected vehicle management, MIIT officials outlined comprehensive restrictions in a document that has since circulated within the industry. The new guidelines target several key areas of autonomous driving development and marketing.

The ministry has banned the standard industry practice of using "pioneer user" beta testing programs. Officials stated that "public testing, whether with thousands or tens of thousands of users, must go through official approval channels." This effectively ends the smartphone-inspired approach where automakers recruited early adopters to test and provide feedback on new autonomous driving features.

Automakers must now avoid terms like “automatic driving,” “autonomous driving,” “intelligent driving,” or “advanced intelligent driving” in their marketing materials. Instead, they must use “L(number) assisted driving” and strictly adhere to automation level classifications.

Functions that operate without driver supervision—including valet parking, one-touch summoning, and remote-control features—are now prohibited. The ministry emphasised that “these functions will not be approved for products” as they cannot ensure driver engagement and operational safety.

The regulations mandate that driver monitoring systems cannot be disabled and must detect when drivers remove their hands from the steering wheel. If hands-off detection exceeds 60 seconds, the system must implement risk mitigation strategies such as slowing down, activating hazard lights, or pulling over.

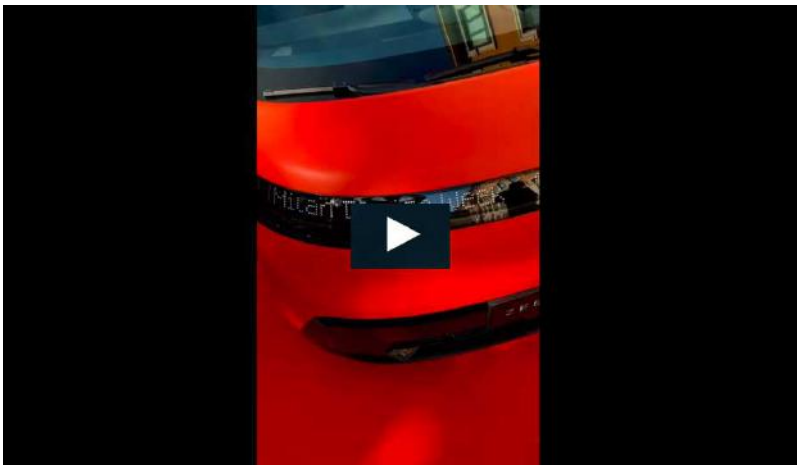
MIIT criticised frequent over-the-air updates, stating that one goal of the new regulations is to “reduce frequent OTA updates and improve version risk management.” Emergency updates will now require recall procedures and the State Administration for Market Regulation approval.

The new rules particularly impact companies that have positioned themselves as autonomous driving leaders, including Huawei, Xpeng, Li Auto, and Nio. They could potentially benefit traditional automakers that have taken a more cautious approach to autonomous technology.

To go further ...

Milano Design Week

TO GO FURTHER ...



Milan Design Week, known in Italian as *Settimana del Design di Milano*, was 7 to 13 April this year. It is one of the world's most influential design events, held annually. It transforms Milan into a vibrant showcase of creativity, innovation, and design excellence. Designers, architects, brands, and creatives from around the globe present their work in exhibitions, installations, and pop-up events across the city, since a few years the automotive world started to populate the show, we will present you 3 of the best exhibitions in this newsletter, to be followed by broader analysis in forthcoming newsletters.

Audi House Of Progress

This year, the House of Progress was animated by the Dutch design studio Drift, who designed an immersive and interactive installation called Drift Us, interpreting the concept of transformation in line with Audi's DNA.

Audi created a booth in the evocative spaces of Portrait Milano, turning the 16th-century complex into a tribute to future innovation.

Range Rover

Connected Worlds, designed in collaboration with California-based innovation design studio Nuova, who created immersive spatial performances and created a time-travel experience by merging the past toward the future, and creating two areas where you could travel from the 1970s to 2025.

The historic Piazza Belgioioso became the stage for time travel, with a 25-metre monolith in the centre of the piazza, adorned with a gold Range Rover brand motif. Transporting visitors back to the moment of the inaugural vehicle production, the first capsule takes inspiration from an original 1970s car dealership. At its centre, a particularly significant classic Range Rover: the first of the marque's pre-production vehicles built ahead of its launch in 1970.

From here, visitors journeyed into the next timeframe. Representing Range Rover's contemporary vision, the second capsule was a future-looking ethereal space with a prismatic light box interior lined with vertical mirror pillars, acting as symbols for strings of time. In the centre of the space, flooded by light, is the latest fifth-generation Range Rover Autobiography, an emblem of modern luxury travel.

Google

Google worked with artist Lachlan Turczan at Milan Design Week to present an immersive installation of mist and lasers that allowed visitors to move light as though sweeping back curtains. Six-foot wide fixtures were suspended from the ceiling in a dark room, consisting of lasers and a concave parabolic mirror, helping to project their light below. The room itself was filled with mist, so the light glinting off the mirror didn't just fall onto the floor but also onto the miniscule water particles hanging in the air, creating the impression of a curtain.

The curtains were still until the moment that sensors detected a person walking underneath or waving their hand through the light, at which point they wobbled and moved as if made of solid material.

The effect was achieved using proprietary software and heightened through the use of sound that was also triggered by the motion detection.