
미래차 대응 자동차 국제 기준 현황 워크숍



자율차 및 전기차 국제기준 제개정 동향

김형구* · 김준호**

The Current Status of Developing International Vehicle Regulations on Automated and Electric Vehicles

Hyoung gu Kim*, Jun ho Kim**

Key Words : Automated Vehicle(자율자동차), Electric Vehicle(전기자동차), International Vehicle Regulations(자동차 국제기준), UNECE WP.29(유엔 유럽경제이사회 자동차국제기준 조화기구), Cyber Security(사이버 보안), Software Update(소프트웨어 업데이트), ALKS(Automated Lane Keeping System, 자동차로유지시스템)

ABSTRACT

Recently, WP.29 has been working actively and consistently to prepare new UN regulations for commercialization of autonomous vehicles as well as UN regulations and UN GTR for electric vehicles. Three new UN regulations such as Cyber security(UN R155), Software update(UN R156) and ALKS(UN R157) for automated vehicles were established in 2020 and several guidelines have been made to evaluate functional safety and audit for relevant technologies can be installed in automated vehicle under the GRVA. Also, Activities on developing the several additional requirements to more ensure battery safety of electric vehicles as a UN GTR No. 20 phase 2 will be completed by the end of 2023.

The overall status of activities and future plan for establishing relevant international vehicle regulations for automated vehicles and electric vehicles in the WP.29 will be introduced.

* 자동차안전연구원 안전기준 국제화센터/국제기준팀장

** 자동차안전연구원 안전기준 국제화센터/센터장

E-mail : hyoungu35@kotsa.or.kr

EU 레벨4 자율주행 자동차 기준 현황

임종순* · 김형구**

The Status of EU Automated Vehicles Lv.4 Regulation

Jongsoon Lim*, HyoungGu, Kim**

Key Words : Automated Vehicles(자율주행자동차), Automated Driving System(자율주행시스템),

ABSTRACT

Technical regulations for automated vehicles are being developed according to the AV level. The new UN regulation for automated driving was officially entry into force on January 22, 2021 regarding the AV level 3 which keeps the vehicle in its own lane even if the driver does not hold the steering wheel. However, the UN regulation for AV level 4 is still under discussion and has not yet been developed. In a situation where discussions on the development of AV level 4 was delayed, the European Commission published a draft technical regulation for AV level 4 in April 2022 and adopted it in August.

In this paper, I would like to introduce the main points of the new regulation for AV level 4 which was adopted for the first time worldwide.

* 자동차안전연구원 안전기준국제화센터/책임연구원

** 자동차안전연구원 안전기준국제화센터/국제기준팀장

E-mail : jongsoon@kotsa.or.kr

자동차안전기준 국제조화 5개년('23~'27) 계획 수립 연구

이준호* · 김형구**

Study on Establishment of 5-year('23~'27) Plan for International Harmonization of Vehicle Safety Standards

JunHo Lee*, HyoungGu Kim**

Key Words : International vehicle standards(자동차 국제기준), Vehicle safety standards(자동차안전기준), Harmony(조화), 1958 agreement(1958협정), 1998 agreement(1998협정)

ABSTRACT

The purpose of establishing the 5-years international harmonization plan is to harmonize international vehicle standards and domestic vehicle safety standards. (First) It contributes to the improvement of domestic safety level and traffic safety. (Second) It prevents disadvantages in trade by reducing overlapping investment in the industry and export support. (Finally) It lays a foothold to preoccupy and lead the international standards in the paradigm shift towards autonomous and eco-friendly vehicles.

Korea joined the UNECE/WP.29 1958 agreement on December 31, 2004, and the 1998 agreement on January 1, 2001 for international harmonization of vehicle safety standards.

In 2004, we started to enact and amend domestic safety standards through international standard harmonization, and the previous 5-years('19~'23) international harmonization plan was established in 2018.

This study was conducted to establish an international standard harmonization plan from 2023 to 2027.

* 자동차안전연구원 안전기준국제화센터/책임연구원

** 자동차안전연구원 안전기준국제화센터/국제기준팀장

E-mail : jhlee@kotsa.or.kr

자동차 히팅 시스템 기준 연구

조현준* · 편무송** · 김하경***

A Study in Heating System

Hyun Jun Jo*, Moosong Pyun**, Hakyung Kim***

Key Words : Vehicle safety regulation(자동차 안전기준), Heating system(UN-R.122), Type approvals(자동차 형식승인), Electric vehicle thermal safety(전기자동차 열안전), Electric vehicle thermal efficiency(전기자동차 열효율)

ABSTRACT

The world has been focusing on carbon-neutral, since global warming was starting. Naturally, electric vehicle population has been increasing explosively. Traditional heating system has been operated by internal combustion engine, but electric vehicle uses electric energy like PTC heater or heat pump due to the absence of internal combustion engine. As results, All Electric Range (AER) reduction in an electric vehicle is inevitable. To overcome this matter, radiation warmer technology has been researched actively, which is a self-heating material powered by electric energy. We propose that its thermal efficiency is higher than current methods based on air-blow type warmer and look into a thermal safety issue based on relevant safety regulation (UN-R.122).

* 자동차안전연구원 안전기준국제화센터/선임연구원

** 현대자동차 법규인증3팀/책임연구원

*** 현대자동차 법규인증3팀/연구원

E-mail : jhj@kotsa.or.kr

자동차 안전기준 국제조화의 시각 콘텐츠화

정내영* · 조현준** · 김형구***

Visual Contents of International Harmonization of Vehicle Safety Regulation

Nae-young Jung*, Hyun Jun Jo**, Hyoung Gu Kim***

Key Words : Vehicle safety regulation(안전기준), International harmonization(국제조화), Visual content(시각 콘텐츠)

ABSTRACT

As demands has been growing up for digital contents to understand international vehicle safety standards and its harmonization with domestic regulations, producing visual contents of international harmonization of vehicle safety regulation was initiated. Especially, many vehicle experts still have trouble in understanding how the international harmonization works. This is why we propose audio-visual aids in the area of understanding the harmonization of vehicle safety standards and its working process. We need to research on various ways for international harmonization of standards and compress those in short visual contents. All contents of the visual aid is not just useful for high-skilled experts, but at the same time it allows beginners an easy-to approach for understanding the process.

* 자동차안전연구원 안전기준국제화센터/차장
** 자동차안전연구원 안전기준국제화센터/선임연구원
*** 자동차안전연구원 안전기준국제화센터/국제기준팀장
E-mail : na8zajoa@kotsa.or.kr