



## **Korea's Internationally Certified Railway Technologies Open Up Foreign Markets**

- *MOLIT's "Support Program on International Certification for Railway Equipment" assists three home-grown technologies in obtaining globally recognized certifications*
  - *The Vertical Platform Screen Door (VPSD) technology exported to France acquires the highest level of safety certification*
- The Ministry of Land, Infrastructure and Transport (MOLIT, Minister: KIM Hyun-mee) announced that three of Korea's promising railway technologies achieved internationally accredited certification with the assistance from the Support Program on International Certification for Railway Equipment, which has been conducted by the Ministry since 2018.
- In particular, Korea's VPSD technology used in the pilot project at Vanves-Malakoff station in France successfully achieved the highest level of safety certification which was required by the ordering entity. With globally recognized approval on its safety, the VPSD technology will have greater competitiveness in the European railway market.

- Since 2018, MOLIT has been supporting promising domestic railway technologies in advancing into the overseas market. The Ministry gives financial support of up to KRW 100 million per item for the expenses of obtaining railway-related international certifications\*, and has been running education programs on international certification acquisition for railway professionals.

\* SIL(Safety Integrity Level), TSI(Technical Specifications for Interoperability), IRIS(International Railway Industry Standard), etc.

- As a result, the Line-side Electronic Unit (LEU) developed by a Korean firm achieved the highest safety level (SIL4) in international standards in February 2020. This feat was repeated by the axle counter system in April and the VPSD in August, both developed by using domestic technologies.

\* SIL 4, the highest level of SIL, is given to products with failure frequency rates between  $1/10^8 \sim 1/10^9$

- Domestic railway technologies that acquired international certification through the Support Program are as follows:

- ① (Line-side Electronic Unit (LEU)) LEU is an integral part of the railway signaling system, transmitting signal information between balises and railway signals to ensure safety. The LEU technology developed by a Korean company, Shinwoo ENG, obtained an internationally recognized safety certification (SIL 4) for the first time in Korea in February 2020 with assistance from the Support Program of MOLIT.

- This achievement will contribute in replacing the imported products in the Korean market with the more affordable domestic ones, and lead to exporting the domestically produced LEU to the overseas market.

\* As of 2018, the domestic LEU market size reached around KRW 20 billion a year. The introduction of domestically produced LEU is estimated to save cost by KRW 10 million (centralized type) ~ 15 million (distributed type) per unit.

② (Axle counter) Axle counters are used in railway signaling to detect track vacancy. In April 2020, the axle counter system developed by DAEATI became the first in Korea to obtain SIL 4, the highest level of globally recognized safety certification.

- Before this, no domestic axle counter system had achieved international certification, so Korean companies had to use foreign products in the overseas construction projects awarded to them, such as the Phase 1 Jakarta LRT project. However, thanks to the recent acquisition of SIL 4, domestically produced axle counters can be used in future overseas projects\*, which will give a competitive edge to Korean companies in the overseas market.

\* Imported axle counters used in the construction of the Phase 1 Jakarta LRT project in 2017 were around KRW 140 million per unit → if replaced by domestic products, it would be possible to reduce cost by KRW 55 million per unit and improve procurement stability.

③ (Vertical Platform Screen Door (VPSD)) The VPSD technology, developed by sTraffic to address limitations of conventional sideways-sliding platform screen doors, acquired the highest level of international safety certification

(SIL 4 SA\*) in August 2020, which will allow sTraffic to successfully complete the VPSD trial project at Vanves-Malakoff station in France.

\*SA (Specific Application) differs from SIL certification for a product (GA, Generic Application); a SA approval is a certification of safety on one particular installation of the product.

- VPSD, which can accommodate a variety of rolling stock types, was developed through a national R&D project in 2013 targeting foreign markets with diverse types of trains.
- The VPSD technology was selected for the pilot project on railway safety conducted by SNCF at Vanves-Malakoff station in France in 2017. The Korean company, sTraffic, in charge of VPSD product procurement for the project, applied for and obtained the international certification on the technology at the request of the ordering entity.

Overview of the trial project	Project site
<ul style="list-style-type: none"> <li>✓ Ordering Entity : SNCF</li> <li>✓ Contractors : sTraffic (product and technology) &amp; Bouygues Energies et Services (local company, construction) consortium</li> <li>✓ Contract period: 2017.10.26. ~ 2021.02.28</li> <li>✓ Contracted price : approx. KRW 3.67 billion (EUR 2.8 million)</li> <li>✓ Project Content : Install 7 units of VPSD at Vanves-Malakoff station in France and operate them for a one-year trial period to assess accident</li> </ul>	

prevention performance at stations accommodating a variety of rolling stock types	
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- The acquisition of the international certification on the VPSD technology will lead to a successful completion of the trial project in France, and pave the way for advancing into the European VPSD market estimated to reach the size of KRW 80 billion with the upcoming 2024 Paris Olympic Games.

- Mr. Seon-tae KIM, Assistant Minister for Railway of MOLIT, explained, “The government plans to expand the support to reach up to KRW 2 billion next year to assist Korean companies in obtaining international certifications for their railway equipment products, so that they could overcome pandemic-induced challenges and advance into the foreign market with domestically developed railway technologies.”
- “We will provide systematic management and support by creating a database of Korean companies with internationally certified technologies, so that more domestic companies obtain international certifications on their promising railway technologies and move on to win more orders for overseas projects.”