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Busan Port is Shaping the Future of Smart Logistics With GPS-Based Automatic Truck Processing

North Port's 'Digital Pre-Gate' Surpasses 80% Usage Rate In the 4 Months After Launch, Alleviates Traffic Congestion at Gamman Terminal and Effectively Prevents Accidents

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ㅅ Panoramic view of Busan Port's North Port (Sinseondae, Gamman Pier). Photo courtesy of 82ㅅ^

The "Digital Pre-Gate" introduced at Gamman Terminal in the North Port of Busan is yielding tangible results.

On October 23rd, 2025, Busan Port Authority announced that GPS-based Digital Pre-Gate has recorded an 83% usage rate just four months after its introduction, proving its high level of effectiveness in alleviating traffic congestion within the terminal and preventing safety accidents.

The "Digital Pre-Gate" is a system that utilizes Geo-fencing technology to set virtual boundaries in a given space; when a cargo truck enters a specific zone, an e-EIR (Electronic Equipment Interchange Receipt) is automatically issued via app AllCon-e. Since it allows for the digital replacement of terminal entry and exit procedures without actually passing through a physical gate, it is referred to as a "virtual terminal gate."

Gamman Terminal recently experienced inconvenience for cargo trucks, as external rail yards and other facilities were repurposed as container yards, requiring trucks to pass through the

existing entry and exit gates. As a result, traffic congestion caused by intersecting vehicles worsened both inside the terminal and on nearby roads, and concerns about the risk of accidents grew as unnecessary travel routes increased the time spent on the road.

To resolve these issues, BPA collaborated with BPT, the operator of Gamman Terminal, to begin developing the system in November of last year and began on-site implementation in June of this year. Since its introduction, cargo trucks have been able to receive an e-EIR via smartphone upon entering the Digital Pre-Gate and proceed directly to the off-dock container yard. As a result, the distance traveled by cargo trucks has been reduced by about half—from approximately 2 km to 1 km—significantly improving logistics efficiency.

In particular, in the North Port—where traffic congestion had been severe due to a surge in vehicle traffic following Hutchison Korea Terminals (HKT)'s relocation to the Shingamman/Gamman Terminal—the digital gate is being credited with delivering tangible results in traffic dispersion and the reduction of traffic accidents.

On the 22nd, BPA and BPT (terminal operator) held an on-site campaign to guide truck drivers on how to use the Digital Pre-Gate and set up location information. Lee Jeong-haeng, CEO of BPT, said that thanks to the close cooperation of BPA the Digital Pre-Gate has been successfully implemented and is greatly contributing to efficient port operations."

Song Sang-geun, President of BPA, said that the Digital pre-gate is a smart port service implemented based on feedback from the field and it has demonstrated the potential for digital innovation at Port of Busan by achieving a high usage rate in a short period. He added that going forward, BPA would continue to actively introduce cutting-edge technologies to take a leap forward as a world-class smart port.