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## Realizing safer schools through AI-powered crime and accident prevention system

- Development of an AI-powered Remote Integrated Control System that enables proactive response to crimes and accidents by implementing access control, visitor movement management, and early detection and resolution of risks
- Collaboration with the Ministry of Science and ICT on the School Multifunctional Complex Safety System Project
- Smart Safety Management System developed within school multifunctional complexes to be expanded to all schools

The Ministry of Education (Deputy Prime Minister and Minister of Education Lee Ju-Ho) aims to develop an AI-powered Remote Integrated Control System that harnesses the potential of Artificial Intelligence (AI) and Internet of Things (IoT). This system has the primary objective of ensuring the safety and security of students by preventing safety accidents and crimes.

The Ministry of Education participated in the survey of the 2023 Public-Private Cooperation Innovative Platform Project and the Private Sector Investment Software Business conducted by the Ministry of Science and ICT (MSIT). In addition, the Ministry of Education's School Multifunctional Complex Safety System Project was selected for the IT Project Planning and Development on Thursday, May 4th. As a result, the Ministry of Education plans to collaborate with the MSIT and the National Information Society Agency (NIA) to develop a relevant system by 2024, and start pilot operations from 2025, which will be proliferated nationwide.

Efforts have been made in the past to ensure students' safety and protect their right to education by employing the Crime Prevention Through Environmental Design (CPTED). These efforts include the separation of access time and space between students and local residents, and the development of a monitoring system utilizing the remote control system of local governments. However, relying solely on human resources had constraints in relation to the prevention of accidents and provision of swift responses.

With the implementation of the AI-powered Remote Integrated Control System by the Ministry of Education, various crimes and safety accidents are expected to be prevented in advance with proactive responses. The system entails the following functions:

The fundamental role of the AI-powered Remote Integrated Control System is access control. Beyond the function of the current CCTV surveillance, which relies on the management personnel such as school security guards, the AI-powered Remote Integrated Control System enables access control to allow only authorized individuals such as students, teachers, and pre-approved visitors (e.g., parents) to enter school premises. It also allows teachers and parents to monitor students' arrival and departure times, and their current locations real-time. If a visitor attempts to enter unauthorized areas, an automatic alert message is sent to the school administrator, enabling real-time management of the movement of individuals and immediate guidance, thereby preventing crimes. Furthermore, based on the analysis of accumulated data on visitor movement patterns, administrators can identify areas that may benefit students and take relevant measures such as additional installation of CCTV cameras.

Safety accidents can be prevented by various information collected through the Safety Management System. For example, if a student slips and falls down the stairs while rushing down to the cafeteria during

lunch time, the AI-powered Remote Integrated Control System can detect such abnormal behavior. It sends a message to the student, urging caution, while simultaneously transmitting the occurrence and location to the school administrators. It also checks for any damages and provides necessary maintenance actions. By integrating fire detection sensors into the AI-powered Remote Integrated Control System, it can also announce warnings and reports in the event of a fire, and guides students to the optimal evacuation routes. These features aim to minimize the potential harm to students in various disaster situations.

The AI-powered Remote Integrated Control System will be installed in school multifunctional complexes as a priority, in line with the key initiatives of the Ministry of Education. School multifunctional complexes require a complex access control and safety management due to its shared utilization of local residents and students. Safety management technologies in school multifunctional complex will serve as an exemplary case. In addition, the system will address social concerns about the increased interactions between local residents and students.

In order to protect the rights and personal information of students and users, guidelines such as the existing “Guidelines for Installation and Operation of Video Information Processing Devices in Schools” and regulations related to the use of personal information will be revised. In addition, relevant standards, such as the “Provisions for the Installation and Operation of Remote Integrated Control System in Schools (tentative name)” will be developed.

The AI-powered Remote Integrated Control System is expected to promote the use of school multifunctional complexes by local residents, ensure student safety by controlling access, and enable local governments to expand school multifunctional complexes. The Ministry of Education and local governments will ensure the sustainability of policies relevant to school multifunctional complexes, as well as the promptness and effectiveness of crisis response. By developing

necessary functions for the system operation and collecting and analyzing various safety accident information from schools, the AI-powered Remote Integrated Control System will play a significant role in realizing safer schools and be used as a guideline for future school safety designs.

The Director of the Education Autonomy and Safety Bureau Park Seong-min expressed, “The school and student safety management system’s transition to a digitally-based operation and administration system powered by AI and IoT would become a core task of the Ministry of Education in line with the Digital Transformation of Education Initiative.” He requested the active involvement of organizations on informatics and communication technology to enhance school safety.

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