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DFI's ES220-CS Combined With AI Solution Creates A New Era of Law Enforcement Technology

DFI and Chunghwa Telecom created an AI real-time license plate recognition system, combined with a high-performance computing brain and an intelligent algorithm, to help the Nantou County Police Department eliminate vehicle violations and build a more comprehensive road safety maintenance.

Region: **Taiwan**

Industry: **Police**

Application: **Real-Time License Plate Recognition**

Solution: **ES220-CS**

AI Toolkit: **OpenVINO™**





Nantou County Police cooperated with Chunghwa Telecom to flexibly deploy a portable artificial intelligence license plate recognition system to take photos and videos of illegal vehicle behaviors and report them. Not only can it make up for the lack of police force, but it can also recognize automobile and motorcycle license plates and refer to cloud data to immediately pull over the written-off and scrapped vehicles.

The system uses DFI's ES220-CS as the hardware computing brain. It is designed with a durable and robust aluminum mechanism, well-rounded peripheral interface expandability, wider voltage input that can tolerate voltage fluctuations, and conforms to mainstream wireless network standard. Combined with the real-time AI license plate recognition software developed by Chunghwa Telecom, the system ensures that the law enforcement technology seamless.

The success rate of license plate recognition is easily affected by vehicle speed, climate, and external environment. The hardware and software

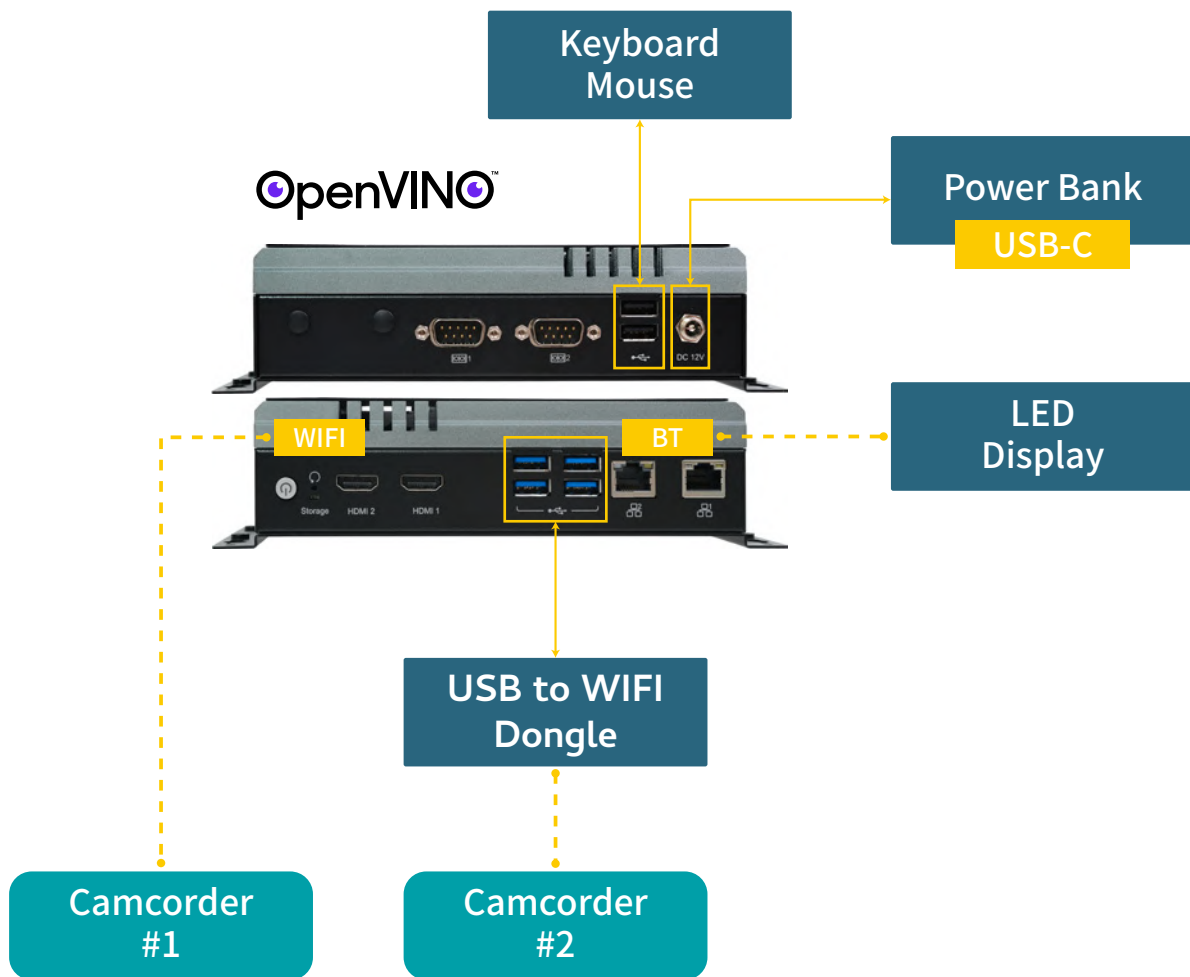

configuration need to provide a much higher image bandwidth and throughput to ensure image quality. In the face of extreme weather, such as smog or heavy rain, efficient hardware is needed to process and purify the content of the image to execute AI identification, which is evident in heavy load.

DFI's ES220-CS uses the Intel® Core™ processor as its computing core. It can execute real-time and high-performance AI calculations by relying on the CPU alone. It can also reduce the network and storage burden through hardware encoding capabilities, making cloud data verification more efficient and without delay. The high-scalability I/O interfaces can be linked with the alarm system. The vehicle will be immediately warned in case of violations, which significantly reduces the need for a workforce that comes with judgment and warning, along with less the police's mental burden.

Last but not least, Intel OpenVINO is a deep-learning deployment toolkit that enables Chunghwa Telecom to optimize AI models on DFI ES220-CS.

The police department has used the stable and fast license plate recognition to ban violations, leading to 26 vehicles banned within one month. Based on DFI's rich experience in the industrial computer field for many years, the ES220-CS, which is durable, efficient, and expandable, is also writing a new page in AI-based road safety maintenance.

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DFI

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