Innodisk AI for Surveillance

iAI | **innodisk**

Screen is flickering

Camera has been moved

Camera has been disconnected

Screen goes black

Screen is masked

Innodisk, a global AIoT solutions provider, has developed an AI solution for surveillance. This solution features a CIC (Camera Integrity Check) tool that automatically checks cameras and generates reports. Vague images, black images, and images resulting from unexpected camera movement and camera disconnections are expelled by the CIC.

Challenges & Innodisk AI Solutions

Limited camera support
Innodisk AI's solution is able to support 500 channels for camera checking.

Non-customizable alarms
Alarm mechanisms are able to be adjusted by the customer.

Heavy employee load
CIC is an automatic camera checking tool relieving human resource loads.

Lack of remote management
Support for iCAP (Cloud Administration Platform) allows remote maintenance.

AI recognition inaccuracy
Customized self training AI models increase accuracy of the camera image.
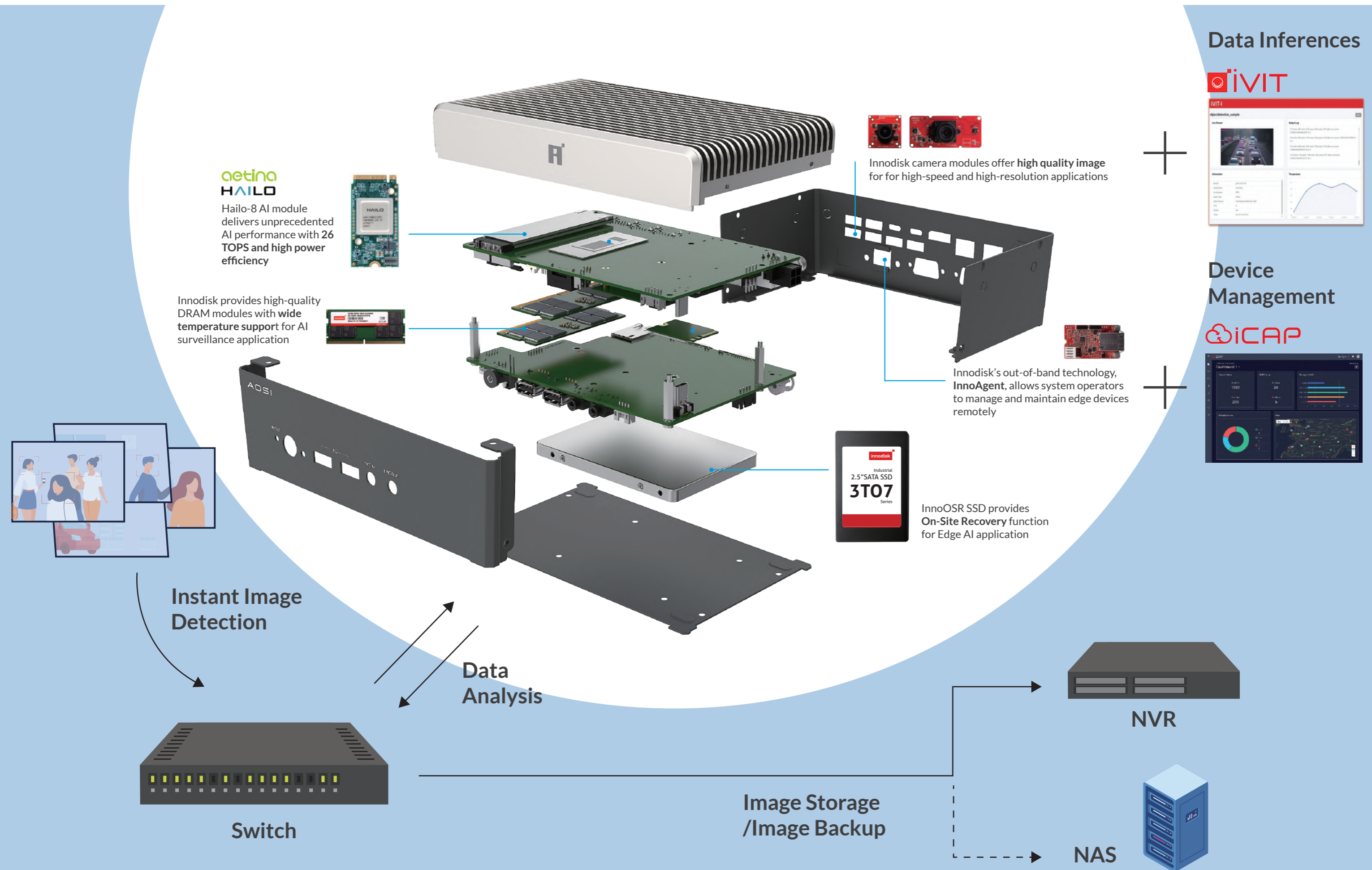
Poor disaster recovery
Out of band signaling with InnoAgent ensures access when the in-band network is down.

Innodisk AI Surveillance Application Architecture

Data Inferences

iVIT

Innodisk camera modules offer **high quality image** for for high-speed and high-resolution applications

aetina HAILO

Hailo-8 AI module delivers unprecedented AI performance with **26 TOPS and high power efficiency**

Innodisk provides high-quality DRAM modules with **wide temperature support** for AI surveillance application

Device Management

iCAP

Innodisk's out-of-band technology, **InnoAgent**, allows system operators to manage and maintain edge devices remotely

Industrial 2.5" SATA SSD **3TO7** Series

InnoOSR SSD provides **On-Site Recovery** function for Edge AI application

Instant Image Detection

Data Analysis

Switch

Image Storage /Image Backup

NVR

NAS

AI in Surveillance Case Studies

Cement Factory

The solutions were successfully deployed in a cement factory in Hualien, Taiwan, to improve surveillance. The primary goal was to reduce accidents in a challenging, dusty environment. The implemented camera checks encompassed monitoring for dust accumulation on the screens, camera focus adjustments, black screens, and unexpected camera movements. These measures significantly contributed to maintaining a high level of security within the facility.

MRT Station

To enhance surveillance capabilities, the Innodisk AI solutions were deployed in an MRT (Mass Rapid Transit), one of the major public transportation stations. Due to the large size of the station and the presence of a substantial crowd, it is challenging for a small team of guards to monitor all the cameras manually. However, by leveraging the Innodisk AI solution with an automated CIC solution, continuous monitoring of all cameras has become feasible. This innovative system detects and alerts for abnormalities, allowing the cameras to record the intended content consistently.

Innodisk AI Edge Solutions

Cloud Management	iCAP			
	Public Cloud / Private Cloud			
AI Training / Inference	iVIT			
	GPU Model ZOO	FPGA Model ZOO	ASIC Model ZOO	3rd Party AI Model
Edge Utility (SW / FW)	iSMART / iTracker /iOPAL / iRAID	OOB Management		Virtual I/O Technology
OS Integrations	BSP/Driver/SDK porting & optimization			
	Microsoft Windows / Linux			
Edge Device	AIoT Platform (FPGA / GPU / ASIC / CPU)	AIoT Peripheral (Embedded Card & Camera / Virtual I/O)	Flash/DRAM Module	Wi-Fi6/ Media Server Air Sensor CAN

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SSD

Innodisk SSDs are high-performance storage devices designed for industrial and embedded applications. They offer robustness, reliability, and endurance, with features such as power-loss protection, error correction, and advanced data security.
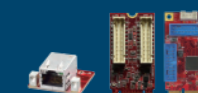
DRAM

Innodisk DRAM is a high-speed, high-capacity memory module designed for use in a wide range of industrial applications. It features reliable performance, durability, and advanced data protection, making it ideal for harsh environments.

Camera

Innodisk camera modules optimize image quality for different AI applications depending on the needs of customers, in order to meet the demand for high-speed and high-resolution applications in different embedded systems.

Embedded Peripherals

Embedded peripherals like LAN, PoE, CAN bus, DIO, serial port, storage, RAID, and display add functionality to systems. Innodisk aims to create expandable and space-efficient expansion modules to increase flexibility and lower TCO.

aetina

AI solutions for AI training, inference, and computing, powered by NVIDIA's GPU and AI accelerators.

antzer

Communication and system integration enable fleet management and data collection.

MILLITRONIC

Wireless software defined network and virtualized connectivity products for modern applications.

sysinno

Ensures safe indoor and outdoor air quality through sophisticated and robust sensors.

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