



Use Case of EdgeXpert

INNOVATE
BEYOND



Agenda

- Uberstream
- Memorence AI
- Taiwan NCHU University
- KSCC Think Tank



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Uberstream

Use Case: Edge AI Voice Translation

Partner: Ubestream/ Taiwan

MSI EdgeXpert empowers secure, offline edge AI voice translation for mission-critical and privacy-sensitive environments.



Application Scenario



High-Security Offline Edge AI Voice Translation

Challenge



- Strict data privacy and security requirements
- Prohibition of public cloud connectivity
- Long-duration, real-time AI inference stability
- Fast deployment of complex AI voice pipelines (STT / TTT / TTS)

Industry



- Finance
- Government & Defense
- Large Enterprises / Executive Meetings

Solution



An **on-premise, fully offline edge AI voice translation solution**, jointly deployed by Ubestream and MSI, powered by **MSI EdgeXpert**.

Use Case: Edge AI Voice Translation

Architecture



MSI EdgeXpert serves as the **core edge AI platform**, enabling secure, high-performance, and scalable offline AI deployment without reliance on public cloud services.

Why EdgeXpert

Requirement	EdgeXpert Value
Offline AI deployment	On-premise, no cloud dependency
Real-time voice AI	High-performance edge inference
Long-time operation	Advanced thermal design
Fast AI rollout	NVIDIA CUDA ecosystem support
Secure management	Centralized edge AI control

Key Benefits

- Enables secure, real-time offline translation in air-gapped environments, ensuring data privacy and mission-critical reliability.
- Delivers stable AI inference and simplifies integration with mainstream frameworks under sustained workloads.
- Accelerates AI adoption in regulated industries by reducing security risks and unlocking new AI-driven services.

Secure Edge AI: The Future of Offline Voice Translation




CES 2026 Innovation Award Winner
Recognized for breakthrough offline translation capabilities using the high-performance GB10 edge platform.



MSI EdgeXpert platform

Ubestream's **Alspeakin'**



100% Offline AI Processing

STT Voice Recognition
TTT Real-Time Translation
TTS Voice Generation

Delivers STT, TTT, and TTS services without internet connectivity to ensure data privacy.



Defense and Government Security
Enables secure cross-language communication in closed-loop environments without external data leaks.



Regulated Financial Services
Keeps sensitive client consultations local, ensuring compliance with strict data protection laws.



Advanced Thermal Reliability
Patented airflow structures ensure stable, continuous AI inference even under high-power workloads.



Corporate Intelligence Protection
Provides instant multilingual translation for high-level meetings, eliminating risks of commercial espionage.



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Memorence AI

Use Case: Memorence™ Operagents™ Machine Vision & AI

An on-site AI solution for operational guidance, QA, and knowledge integration, powered by the MSI EdgeXpert

Partner: Memorence AI/ T



Application Scenario



Real-time visual QA and step-by-step assembly guidance in open factory environments.

Industry



- Global Manufacturing
- Electronics Assembly
- Automotive & Precision Engineering

Challenge



- Rigid AOI systems require complex pixel-level tuning.
- Highly sensitive to lighting, often needing custom fixtures.
- Slow deployment with poor real-time adaptability.
- Limited integration of operator feedback into AI models.

Solution



MSI EdgeXpert empowers Memorence Operagents™ to deliver adaptive, real-time AI guidance for high-precision manual operations.

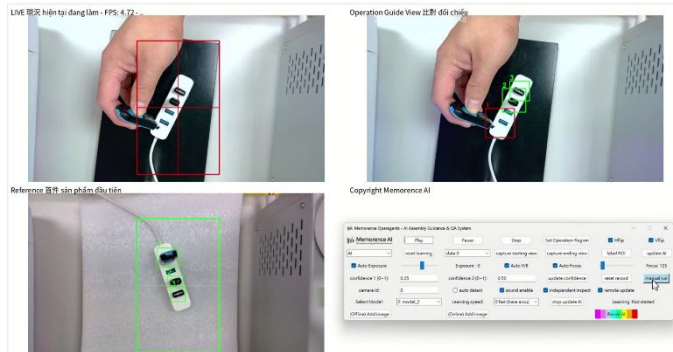
Use Case: Memorence™ Operagents™ Machine Vision & AI

Architecture



Why EdgeXpert

Requirement	EdgeXpert Value
Instant AI Learning	Autonomous Instant Learning without engineer intervention.
Complex AI Pipelines	Multi-modal AI Hub
Open Factory Operation	Industrial-Grade Stability in non-controlled manufacturing environments.
Flexible Deployment	Seamlessly integrates with standard PCs and UVC cameras via patent-protected technology.



Key Benefits

- Human-in-the-loop, No-Code AI: Operators refine models instantly without programming, keeping AI aligned with real production needs.
- Vision-Language Enterprise AI: Combines vision and SOP knowledge to explain where, why, and how to fix issues.
- Award-Winning, Scalable Deployment: CES 2026–recognized AI enabling rapid, low-barrier rollout across global factories.

Operagents™: The Instant-Learning AI for Smarter Manufacturing

CORE CAPABILITIES & INSTANT LEARNING



Real-Time Assembly Guidance

Provides sequential, step-by-step visual instructions and continuous quality inspection in open factory conditions.



Operators refine AI models in seconds through direct feedback, requiring no programming or engineers.



Vision-Language (VLM) Support

Integrates enterprise knowledge to explain where, why, and how to fix operational issues.

Comparison: Traditional AOI vs. Operagents™ AI

Traditional AOI



Setup Speed:
Slow / Requires Engineers



Environment:
Controlled Lighting/Fixtures



Adaptability:
Rigid / Pixel-level Tuning

Operagents™ AI



Setup Speed:
Instant / Operator-led



Environment:
Open Factory Conditions



Adaptability:
Flexible / Learning from Feedback

DEPLOYMENT & RECOGNITION



MSI GB10

Edge Optimized via MSI GB10

Uses standard PCs and USB cameras for low-latency, on-premise inference and learning.



Beyond the Factory Floor

Serves as an "operational brain" for humanoid robots and collaborative workspaces.



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Taiwan NCHU University

Use Case: OmniGuard, the AI Campus Patrol Rover

MSI and NVIDIA solutions empower the OmniGuard to bridge the gap between digital simulation and real-world safety at GTC 2026.



Partner: NCHU/ Taiwan

Application Scenario



Autonomous campus security patrolling and environmental monitoring.

Challenge



- Complexity of real-world environments (lighting changes, pedestrians, obstacles).
- High risk and cost associated with direct field testing of autonomous systems.
- Need for continuous, 24/7 stable operation in diverse weather conditions.

Solution

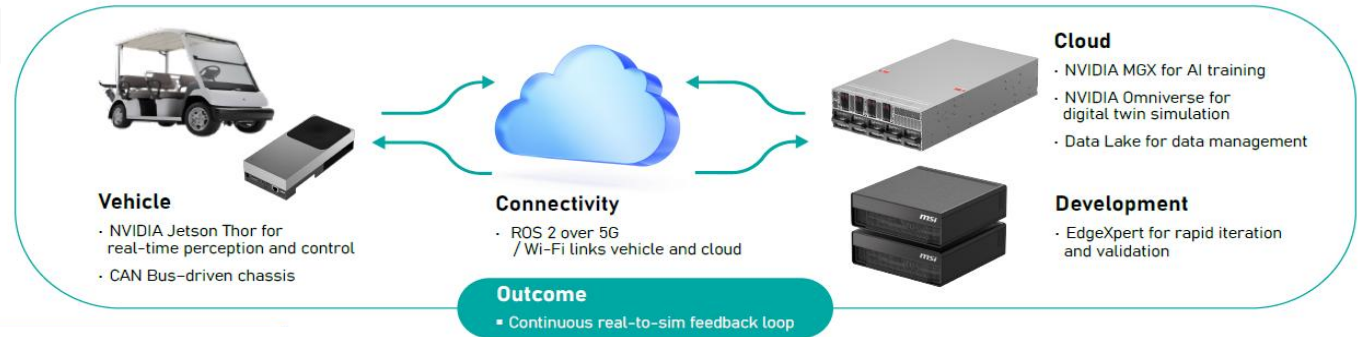


An "Edge-to-Cloud" integrated autonomous inspection solution, highlighting the fusion of digital twin technology and physical vehicle.

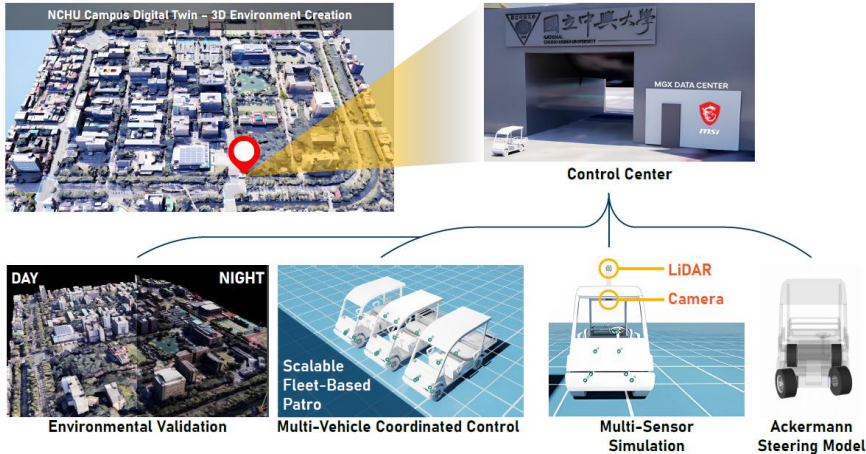
- MSI EdgeXpert on NVIDIA DGX Spark™
- NVIDIA MGX™ Server
- NVIDIA RTX PRO™ 6000
- Blackwell Server Edition
- NVIDIA Jetson Thor™
- NVIDIA Omniverse™
- NVIDIA Isaac Sim™

Use Case: OmniGuard, the AI Campus Patrol Rover

Architecture



Campus Digital Twin Simulation Built on NVIDIA Omniverse and Isaac Sim



Key Benefits

- Enhanced Operational Readiness: Combines human patrols with AI simulation to improve coverage, efficiency, and emergency preparedness.
- End-to-End Digital Twin Workflow: A stable “Train–Simulate–Deploy” pipeline ensures reliable performance in low-light and adverse conditions.
- Proven, Scalable Business Impact: GTC 2026– featured solution ready for expansion across large-scale public and private security markets.

OmniGuard: The Future of Autonomous AI Campus Security

Showcasing the Sim-to-Real development loop and technical capabilities of the AI patrol rover.

Digital Twin Simulation in NVIDIA Omniverse

High-fidelity virtual environments allow for risk-free AI training and extreme case validation.



Performance Breakthroughs & Impact

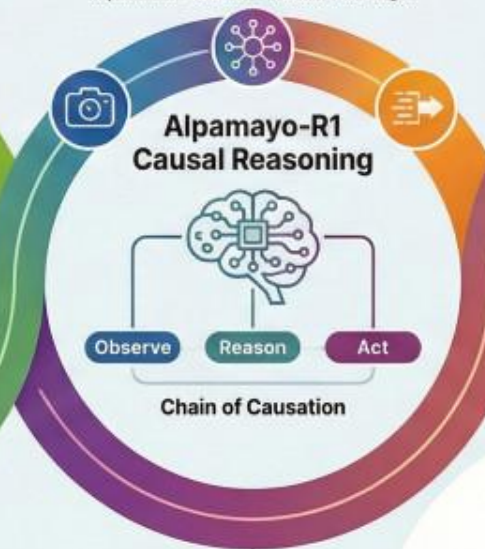
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Reasoning Quality

Optimized through BL-based post-training to ensure consistency between reasoning and action.

Sim-to-Real Development Loop

Moves beyond "black box" AI to explainable "Observe-Reason-Act" logic.



99ms

End-to-End Latency

Enables ultra-fast real-time response for personnel detection and obstacle avoidance.

Edge-to-Cloud Deployment



MSI MGX servers handle cloud-based training.

NVIDIA Jetson Thor powers real-time edge perception.



Comparative Performance Metrics

Level 4 Autonomous Ambition

Aiming for a zero-blind-spot campus safety net through scalable dataset expansion.



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KSCC Think Tank

Use Case: AI-Driven Talent Acquisition

Transform recruitment with secure, on-premise AI
— powered by KSCC × MSI EdgeXpert.

Partner: KSCC/ Taiwan



Application Scenario



To balance recruitment efficiency with data privacy, organizations adopt a localized AI strategy by combining KSCC's consultancy framework with MSI EdgeXpert on-premise AI for secure, compliant automation.

Challenge



- Screening and matching from numerous resumes and recruitments
- Predict which candidate are most likely to succeed or accept an offer
- Bias reduction for objective hiring
- Strict data privacy and security requirements
- Prohibition of public cloud connectivity

Industry



- Enterprise
- Executive Search

Solution



KSCC – AI Implementation & Governance

- HR workflow reorganization
- Recruitment task decomposition
- Standardized AI SOP creation
- Proprietary HR knowledge base preparation
- AI PACER adoption framework

MSI EdgeXpert – On-Premise AI Platform

- Local LLM deployment within enterprise firewall
- Secure processing of proprietary HR data
- AI model and application deployment management
- Device monitoring and version control

Use Case: AI-Driven Talent Acquisition

Architecture

HR Knowledge Base



Local LLM (On MSI EdgeXpert)



AI Agent for Resume Screening & Analysis



Recruiter Dashboard (Secure Internal Access)

Why EdgeXpert

- **Fully Offline Operation**
Secure on-premise deployment with zero cloud dependency.
- **Real-time AI Inference**
Continuous, high-performance processing without lag.
- **Enterprise Security**
Centralized monitoring and controlled access management.
- **Thermal Stability**
Advanced cooling for 24/7 industrial-grade reliability.

Key Benefits

- Enterprise-controlled AI infrastructure
- Reduced regulatory and data leakage risks
- Standardized and scalable recruitment workflow
- Transform HR from operational cost center to data-driven strategic partner

Secure AI-Driven Talent Acquisition

MSI EdgeXpert delivers secure, offline AI-driven recruitment.



Solving Complex Hiring Challenges

Manages high-volume resume screening while ensuring strict data privacy and bias reduction.



Full Offline Edge AI Operation

Supports on-premise deployment with zero dependency on the public cloud.



Industrial-Grade 24/7 Performance

Optimized thermal design and NVIDIA CUDA integration ensure stable, high-speed AI processing.



Data-Driven and Unbiased Hiring

Uses predictive analytics for candidate success while masking personal data to eliminate human bias.