



佳捷智能股份有限公司
ABILITY INTELLIGENT CORP.

Driving industrial transformation and smart upgrades
with AI for a comprehensive solution

A Leader in AI-Powered Smart Solutions

ABILITY INTELLIGENT

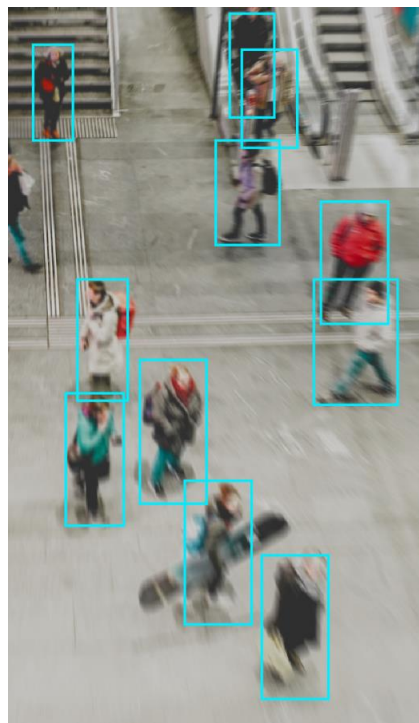
Blending ABICO Group's manufacturing with Ability Enterprise's AI expertise enables delivery of custom technology solutions. Offerings include smart cameras, control platforms, digital twins, and automated parking for a range of industries.

▶ Video-Based People Flow Analysis Solution

Accurately tracking people flow in large public spaces is vital for safety and operations. With AI video analytics and multi-sensor fusion, the system delivers real-time crowd statistics—including count, movement, and density—even in challenging conditions.

Deep learning, multi-target tracking, and edge computing minimize errors. Cloud monitoring, trend analysis, and integrated data from cameras, infrared, and Wi-Fi provide heatmaps and movement paths—helping operators manage crowds and optimize efficiency.

Ideal for malls, transit hubs, venues, campuses, and public spaces, this solution enables smarter, safer, more efficient environments.



Personnel Information Collection and Management Application

The system uses AI video analytics to detect individuals and generate human detection boxes, forming the foundational dataset for people-flow analysis.

People-flow detection and analysis provide actionable insights into behavior patterns, empowering facilities to boost operational efficiency, enhance planning, and improve resource allocation.

✔ **People Counting Information**

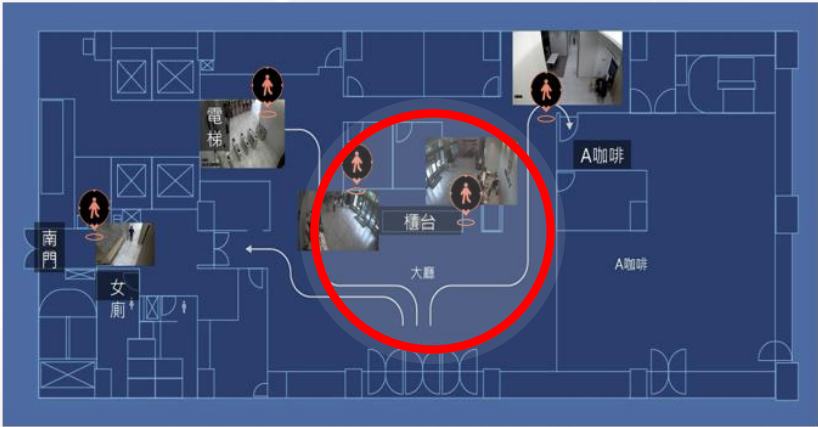
The system uses AI video analytics and multi-sensor technologies to deliver real-time statistics on entries and exits, occupancy levels, and instantaneous crowd load. These metrics inform access control, operational planning, and safety management.

✔ **People Attribute Information**

The system detects anonymized attributes such as gender, age range, and clothing features to help optimize service allocation, advertising placement, and overall operational strategy. (No personal data is collected; all analysis remains anonymized.)

✔ **People Movement Information**

The system analyzes walking paths, dwell times, and crowd hotspots to drive layout optimization, service deployment, queue management, and spatial planning.



People Flow In/Out Trend Analysis:



Zone-Based People Flow Data Collection and Management

The system uses AI video analytics to detect individuals and generate human detection boxes, forming the foundational dataset for people-flow analysis.

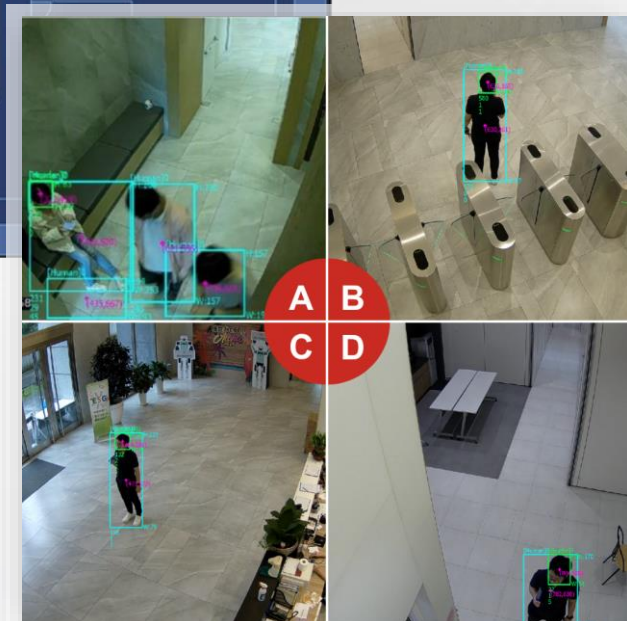
Monitor people-flow load, movement patterns, and potential risks at the area level to support management decisions and safety planning. Use the system for:

✓ People Count Statistics

The system enables real-time calculation of the number of people and the distribution of density within a designated area. This includes overload alerts to support public safety, space allocation, and staffing management.

✓ Crowd Flow Paths

Additionally, area-wide movement analysis identifies crowd distribution, flow directions, and major movement corridors, supporting the planning of evacuation routes, reducing bottlenecks, and improving operational efficiency.



System Architecture – People Flow Detection

People Counting and Flow Detection System Overview

Distributed / Edge Architecture



Field Side

After the cameras record video, the footage is relayed to the analyzer, which conducts real-time on-site people counting and entry/exit flow analysis. The results and video streams are then transmitted to the server-side system.



Server Side

The data server receives and consolidates event information and data returned from each site, while the recording and streaming server centrally manages all video footage.



Customer Management Center

Monitor real-time people flow status, generate statistical reports, and review recorded footage for each site from the People Flow Management System workstation.

System Architecture – People Flow Detection

People Counting and Flow Detection System Overview

Centralized Architecture



Field Side

The cameras capture video, and all footage is transmitted directly to the server room.



NETWORK



Server Side

People-flow analysis, data integration, and video management are centrally performed by the server room systems, providing unified processing for all site imagery and statistical data.



NETWORK



Customer Management Center

Monitor real-time people flow status, generate statistical reports, and review recorded footage for each site from the People Flow Management System workstation.

Case Study: AI Intersection Safety & Real-Time Flow Guidance at the Kaohsiung Arena

Kaohsiung's rise as a concert hub challenges crowd dispersal

BLACKPINK and Mayday concerts often congest roads around the venues well before the shows end. When crowds exit, bottlenecks and long waits diminish visitor experience and raise safety concerns.

To improve dispersal efficiency and safety, teams introduced an AI-powered people-flow detection and hotspot analysis system that rapidly and accurately assesses crowd dynamics in real time. Unlike traditional static monitoring, this system swiftly identifies high-density areas and delivers dynamic, data-driven guidance as congestion develops. On-site teams implement these recommendations immediately, adjusting exit routes in real time to help attendees leave smoothly and efficiently.



Building a Smart Transportation Model from Three Dimensions

01

Safety

Using AI recognition and roadside warning systems to reduce potential pedestrian–vehicle conflicts at intersections.



02

Efficiency

During post-event peak periods, AI-powered, real-time flow guidance and dynamic recommendations help shorten dispersal times for both pedestrians and vehicles around the venue.



03

Service

Crowd-guidance notifications (via app push alerts) reached over 5,000 users during the event, delivering a tangible improvement in public experience.



Select a map monitoring point

View live video

Intersection flow guidance

Nearby road congestion alerts

Case Study: AI Intersection Safety & Real-Time Flow Guidance at the Kaohsiung Arena

Crowd Congestion Rate Detection

The system collects people-flow data in real time to instantly calculate crowd congestion rates and assess crowding risks. A high congestion rate triggers alerts for potential hazards such as pushing, blockage, or trampling.

Visual dashboards let management monitor crowd density at entrances, exits, and movement paths. If congestion rises, they can act quickly by deploying staff to specific locations, opening additional routes, activating signage or announcement systems, or arranging transport options such as buses or shuttles to help disperse crowds.

This approach reduces crowd pressure, prevents incidents, and ensures safe evacuation.



Solution Features and Application Scope

- ✓ **Deployment Coverage**
Extends hotspot monitoring to full-area coverage, delivering real-time people-flow insights and issuing risk alerts across the site.
- ✓ **Analytical Depth**
Creates customized metrics using scientific data analysis and modeling, supporting more precise decision-making.
- ✓ **Application Value**
Combines precision marketing with operational management, boosting transparency and maximizing management efficiency.



Smart Cities

Provides data to improve urban planning, public safety, and traffic management.



Public Buildings & Campuses

Delivers people flow data to improve service in museums, schools, and parks.



Public Buildings & Campuses

Supplies real-time crowd data for safety management and emergency planning.



Retail & Shopping Centers

Tracks customer flow to optimize marketing, resource use, and store layout.



Major Transportation Hubs

Monitors passenger flow at stations and airports for safety and efficiency.



Industrial Sites & Business Parks

Tracks movement to boost facility safety and operations.



The Key to Smart Transformation Starts with Choosing **Ability Intelligent**

About Ability Intelligent

Ability Intelligent, a subsidiary of Ability Enterprise under the ABICO Group, leverages the Group's manufacturing expertise and advanced AI research to deliver smart technology solutions that drive measurable industrial transformation. Our high-performance smart cameras, command-and-control platforms, digital twins, intelligent warehousing, and smart parking deliver secure, deployment-ready results for large-scale impact.

Our core principles—customer-centricity, innovation, and integrity—guide deep investments in AI, big data, cloud, and information security. Continuous R&D and implementation enable organizations to optimize efficiency and improve decision accuracy.

Together with partners, we enable digital transformation and sustainable growth for smart industries.

- ✓ **Solid Corporate Backing**
- ✓ **Combines different technologies**
- ✓ **Strong AI skills**
- ✓ **Wide range of products**
- ✓ **Strict quality control**
- ✓ **Solutions for different industries**
- ✓ **Cares about the environment**

Synology

altasec

HONLYNN
宏鈺股份有限公司

佳禾亭
JIA PARKING

Friendtrol

Home+ 中嘉寬頻

WinNexus
誠雲科技

CISCO
Partner

HiPower
Solution Group

Edge-core

tech 湛揚科技

ZERONE

WATCHNET

安數科技
SECDigit

PETACOM
翔宇科技

Unicomp
聯達資訊

橙銘科技
ORANGERED

力悅資訊
cyberview.cloud

General
Advanced 世達先進科技
www.gati.com.tw

敦新科技
DUNNING TECHNOLOGY INC.

 **ABILITY INTELLIGENT**

☎ +886-02-8522-9788 | 📠 +886-02-8522-9789

✉ service@abilityintelligent.com | 🌐 www.abilityintelligent.com

📍 No. 200, Sec. 3, Zhonghuan Rd., Xinzhuang Dist., New Taipei City 242030, Taiwan (R.O.C.)



ABILITY INTELLIGENT

 **能率集團**
ABICO GROUP

 **佳能企業**
ABILITY ENTERPRISE