

Smart Express Logistics Solution

Enabling New Technology in Modern Logistics







Less Labor

Higher Efficiency



Higher Quality



More Security

INDUSTRY BACKGROUND



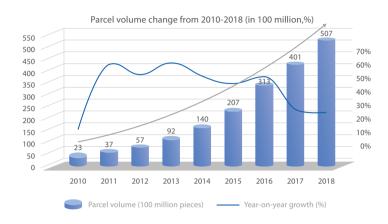
Logistics is an old industry that has been existing for centuries, yet it rarely made any headlines in the past.

With the fast growth of the e-commerce industry, which includes Amazon, Alibaba, etc, the logistics market has become much bigger, attracting more key players in this industry since 2010.

During 2018, the Top 50 logistics companies in the world are mainly distributed in the Asiapacific region, Europe and North America. UPS, DHL and FedEx are the top 3 international logistics companies, with combined revenues surpassing 60 billion USD.

CHALLENGES

Current Challenges



• Huge quantity parcels, how to delivery with higher efficiency?

 Express logistics business grows rapidly in China, with annual delivery volume of over 50 billion parcels in 2018. That means over 130million parcels have been transported every day in average.

- How to deliver the parcels efficiently to end users has become a big challenge for logistics companies.

Operation Cost UPS in 2018

Operation Cost (UPS)

Compensation and Benefit

Purchased Transportation

Repair and Maintenance

* Data is based on 2018 annual report

20.80% -

Others

Fuel

•

5.32%



Number of Employees

• Limited resource and increased cost, how to deal with it?

- Logistics business always runs with labor-intensive work scenarios. The figure on the left shows the number of employees in the Top 3 international logistics companies.
- The labor cost of UPS occupies about 57% of their total operation cost.
- It is imperative to reduce their labor cost.

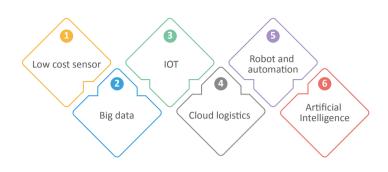
- Not just speed, customers also need higher quality
- E-commerce and new retail are key drivers of logistics, at the same time, the customers require a higher quality logistics service. No broken and missing packages.
- They need a higher quality logistics service.



- Fireproof and theftproof, how to prevent losses?
- Fireproof and theftproof are the top 2 security requirements for warehousing center. Serious fire accidents continue to happen every year and more and more attention has been paid to these issues.
- More warehouses has started to implement FSR (Facility Security Requirements) in their designs which is the official TAPA Standard for secured warehousing and storage.



How to solve the challenges



It's time to innovate and upgrade

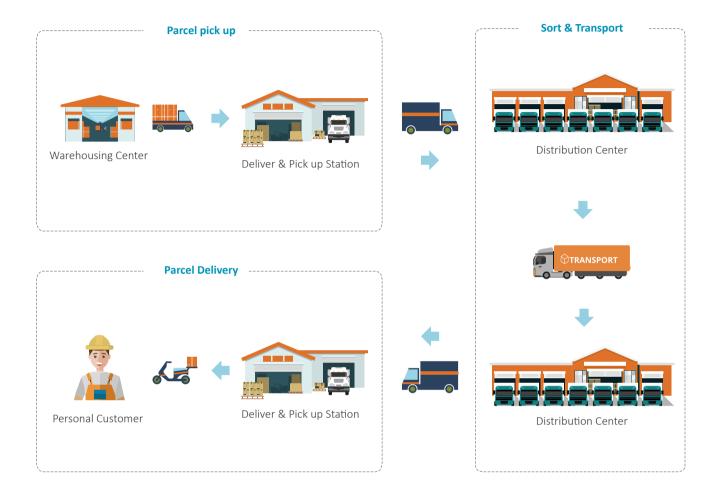
The increase in investments in the logistics industry lead to the adoption of new technology. According to professional research, low cost sensor, big data, cloud logistics, IOT, robot and automation, AI etc. will be the key technologies in this industry for the next 5 years.

• What kind of value can we provide?



SOULUTION OVERVIEW

Express Logistics Work Flow



Solution Scope

3 Scenarios

Warehouse Center:

- Provides warehousing service that can be operated by e commerce or logistics companies.
- Picks goods according to order information, pack and sort them to different couriers.

Pick up/Deliver Station

- Franchise or operated directly by logistic company.
- Performs basic sorting and collection.

Distribution Center

- Usually operated directly by logistic company.
- Located in key transportation cities.
- Sort parcels and transport them to different destinations.



SOULUTION DETAILS





Entrance and Exit





Values For Customer

- Supports automatic number plate recognition for efficient vehicle management at the entrance and exit areas.
- Under Vehicle Surveillance System (UVSS) Scanning module adopts a line scan camera that captures a full and high-resolution image of the vehicle's chassis, which meets customers' high security requirement.
- The system records the image of the vehicle's chassis and plate number which can be searched in local storage or central platform.





UVSS Scanning Module

ANPR Camera

Smart Express Logistics Solution Enabling New Technology in Modern Logistics

Perimeter Area



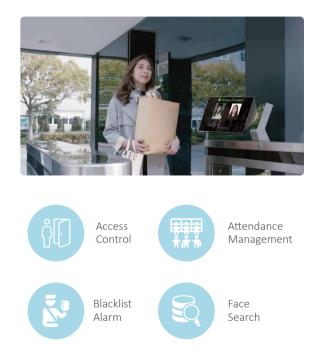
Values For Customer

- Avoids unauthorized personnel from accessing the warehouse.
- Al camera provides accurate alarms, with lower rate of <2% in false alarms triggered by small animals, tree movement, shadows and bright lights.
- Starlight night vision improves accuracy rate at night.
- Supports smart search of alarms in the central platform.

Recommend Key Products



Staff Entrance



Values For Customer

- Makes access control more convenient, accurate and efficient.
- Supports integration with attendance management system.
- Blacklist alarm to ensure the safety of company's information and property.
- Face search or tracking is available if needed.



Inbound Area



Values For Customer

- Static DWS integrates barcode scanning, weighing and optional dimensioning, with which the data can be sent to customers at a given time.
- Upgrades manual operation to automatic operation in order to improve efficiency.

Recommend Key Products

Static DWS System





Values For Customer

- 360° panoramic views without blind spots which is ideal for wide and open areas.
- Easy deployment since it can replace 8 conventional cameras.
- With IR illumination, detailed images can be captured under low light conditions or even total darkness.





Inventory Area/Racking System



Values For Customer

- Integrates thermal and visible-light technology in one camera which meets multi-requirement with one device.
- Deep-learning Intelligent algorithm supports fire and smoke detection, which can help prevent security accidents.
- Highest and lowest temperature point detection for whole FOV range.
- Smart alarm linkage, with white light and loudspeaker.

Recommend Key Products





Thermal Dome Camera Thermal Bullet Camera

> Inventory Area/ High Value Stock

Values For Customer

- The access control system records every access made in the area.
- Openning of doors will be recorded by video.





Packing Area



Values For Customer

- Replaces manual code scanning through automatic barcode reading system with >99% recognition rate.
- Combines the barcode reading system with IP camera which could fulfill the parcel tracking solution.

Recommend Key Products











Area Camera

Lens

IP Camera

Controller

Light

Outbound Area



Values For Customer

- Dynamic Top DWS supports integration of barcode, dimension and weight (optional) at same time which could minimize the working station.
- Supports operation work with max.2m/s conveyer
- Top DWS system integrates intelligence algorithm which can achieve >99% recognition rate, ±10mm size accuracy.
- Combines the barcode reading system with IP camera which could fulfill the parcel tracking solution.

Recommend Key Products





Lens







Area Camera

Light

3D Camera

IP Camera



Dock area



Values For Customer

- Use ANPR for vehicle management and monitoring of dock status.
- Combines with customer's vehicle schedule system for a more efficient task scheduling.

Recommend Key Products



Management Center



Values For Customer

- DSS pro platform helps customers improve their central management.
- All hardwares can be connected into one internet.
- Touch Keyboard supports 4 HDMI output and both of them support 1/4/9/16 split display.



Pick up/Deliver Station

Sorting Area



Values For Customer

- Static DWS integrates barcode scanning, weighing and optional dimensioning, with which the data can be sent to customers at a given time.
- Increases the operation efficiency which could achieve double speed than traditional way.
- Resolves labor problems especially on some busy holidays.
- Combines the barcode reading system with IP camera which could fulfill the parcel tracking solution.

Delivery Storage



Pick-up Storage



Pick Up Counter



Entrance



- Products can be selected based on customer's requirements.
- A station can adopt cost-effective solution with basic surveillance by NVR+ IPC camera, and can also connect to the whole logistics central management.
- Combines barcode reading system with IP cameras at pickup counters, fulfilling parcel tracking solution.



Distribution Center



> Entrance and Exit / Vehicle



Al Access ANPR Kit VTO ANPR Camera

Recommend Key Products

- Supports automatic number plate recognition in managing vehicles.
- ANPR supports white list and black list, which can be applied on barriers without having an operator on site to reduce labor cost.
- VTO supports communication with the central management platform in case of need.

Entrance and Exit / Personal



Face Track

People Counting

Values For Customer

- A distribution center typically has a lot of staff, some of which are temporary or changed frequently. The use of AI camera can help with personnel management in the center.
- Face recognition can be used to track people's route given that the face detection cameras are deployed at different key areas in the center.
- Al camera can also provide people counting function which provides more data to management team.

Recommend Key Products



Un-loading Area

Face Detection



Traditional operation mode

- 2 operators unloading the parcels from truck.
- 2 operators place the parcels to its correct position to make sure the barcode is on top.
- 2 operators scan the barcode with the barcode gun and weigh it.
- No dimensioning equipment.



- Un-loading area is the bottleneck of the total flow, 5-sides dynamic DWS system system provides faster speed and lower error rate than human operation. When the belt speed is 1.5m/s, it can process 3000pcs/h (700mm parcel) normally.
- With 5-sides dynamic DWS system, it can decrease the number of operators from 6 to 2, It can scan barcodes regardless of its position on the package (except bottom).
- Combines barcode reading system with IP camera which could fulfill the parcel tracking solution.

Sorting Area



Values For Customer

- Video surveillance covers whole area for visual management
- Rich cost-effective and flexible products can be selected, such as Powerful optical zoom PTZ camera, 360degree panoramic camera with 4 lens.
- Al camera uses tripwire Intrusion function to detect people crossing the conveyer to avoid accidents.
- Rich 2MP-8MP 2 serial and 3 serial cameras can be selected to monitor every crossing of packages on the belt, then combine the barcode system to fulfill the parcel tracking solution.

Recommend Key Products





PTZ Camera

360degree Panoramic Camera

Loading Area



Traditional operation mode

• 1~2 operators in every loading port to scan the parcel and make sure the parcels are assigned to the right loading port.



- With top barcode scanning system, it can achieve unmanned operation.
- Combines the barcode reading system with IP camera which could fulfill the parcel tracking solution.

Dock Area



Values For Customer

- Use ANPR for vehicle management and monitoring of dock status.
- Combines with customer's vehicle schedule system to do the task scheduling to improve efficiency.

Recommend Key Products



Central Management



Values For Customer

- Video Wall and Matrix show multi-application at same time which is clear and timely.
- All data are be recorded in the platform which can be used as 2nd analysis to guide operation.
- Any parcel, personnel or vehicle can be tracked through the platform.
- Supports distributed hardware extension if connecting to more channels is needed.



SOLUTIONS HIGHLIGHT

Visual and AI Technology Make Objects Visible and Tracked

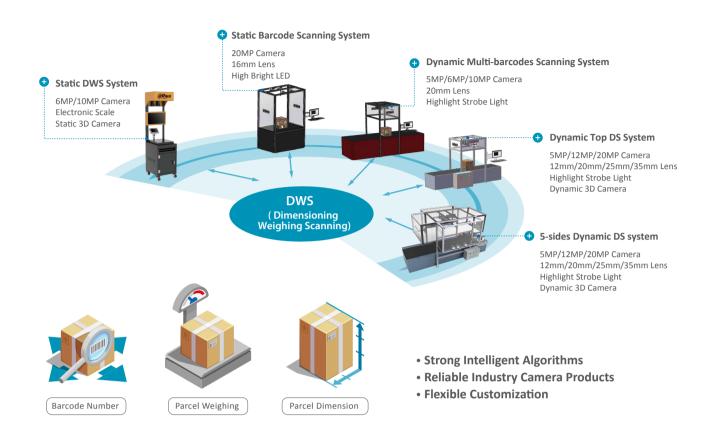


Parcel Tracking Solution/ One Barcode, Multi Video

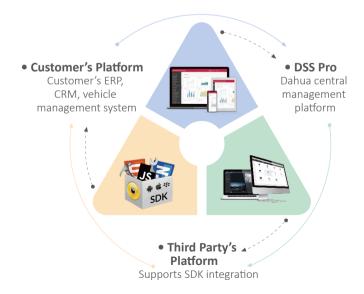
• "One barcode, Multi video" combine the barcodes with the surveillance video to help logistics companies track parcel's status, find the cause of the issue quickly, and provide higher quality service to customers.



Logistic DWS Reduce Labor and Improve Operation Efficiency



Full Integration and Openness for Cooperation



- Dahua DSS supports integration of all the products, fulfilling central management.
- Open for integration with customer's ERP, CRM, vehicle management system etc.
- Based on open architecture and supports SDK integration.



ITC215-PW4I-IRLZF27135 ITC215-PW4I-LZF27135



- Progressive scan CMOS
- WDR, Day/Night(ICR), 3DNR,BLC, HLC
- H.265& H.264 dual-stream encoding
- IR or White lighting for 12m
- Motorized lens, 2.7-13.5mm, cover 3-8 meters for LPR.
- Deep Learning: Support vehicle detection and vehicle data structuring (11 sizes and 11 color in daytime).

ASI7223Y-A



- 7 inch LCD, touch screen, resolution 1024 (H) \times 600 (V).
- Supports human face images, password and 2D code
- Supports 10,000 face data, 30,000 passwords, 30,000 2D codes
- Supports liveness detection.
- Face recognition distance is 0.5 m-2 m, human height range is 1.1 m-2.4 m.

MV-VDB5020CE-00



- 2K line scan camera
- 180° FOV
- 480W dynamic LED array
- WDR, Day/Night(ICR), 3DNR, BLC, HLC
- Supports max 40Km/h vehicle speed
- H.265& H.264 dual-stream encoding
- Stainless steel which support 50T load
- Working temperature:- 35C°~ 70C°; IP68
- AC 100-240V Power

ASI7214Y/-D



- 7 inch LCD, touchscreen, resolution 1024 (H) × 600 (V).
- Human face images, cards, and passwords can be recorded to the face recognition access standalone.
- Supports 5,000 Face, 5,000 Fingerprint, 30,000 IC/ID card
- Supports liveness detection.
- \bullet Face recognition distance is 0.3 m–2 m , human height range is 1.1

IPC-EBW81242



- 1/1.7" 12Mp scan STARVIS™ CMOS
- H.265/H.264 triple-stream encoding
- Max 25fps@12M(4000x3000)
- Multiple dewarping Mode
- Day/Night(ICR), 3DNR, AWB, AGC, BLC
- Smart detection
- Intelligent Function
- Max> IR LEDs length 10m
- Micro SD memory, IP67, IK10, PoE

- 1/2.7" 5Mp scan STARVIS™ CMOS
- H.265/H.264 triple-stream encoding
- Max 25fps@5M(2592×1944)
- Multiple dewarped Mode
- Day/Night(ICR), 3DNR, AWB, AGC, BLC
- Smart detection

IPC-EW5531

- Intelligent Function
- Max. IR LEDs length 10m
- Micro SD memory, PoE











MV-SL2460R-A1E MV-SL2460R-A2E MV-SL24A0R-A1E



- Integrates area camera, lens and light together
- 5MP/12MP/2MP resolution
- 512MB RAM & 512MB NAND
- 24 CREE LED, 3000Lux
- Conform to CE, FCC, RoHS certifications
- Software trigger/hardware trigger/free run mode
- Ethernet industrial interface, max 100m transmission

MV-D5201MG100E



- High speed output capability of 3D measurement in mm-level
- Flexibly configurable working distance and field of view
- Integrated with 3D calibration application
- Capable of 5mm x 5mm x 5mm high-accuracy measuring
- Supports point cloud and volume measurement
- Measureable object range 1000mm x 1000mm x 2000mm (W x H x L)





- Supports easy installation for area scan camera and smart camera
- Supports constant light mode and synchronized strobe mode with camera frame rate
- Supports remote adjustment of brightness through infrared remote control
- Stable operation in high temperature, high vibration and dusty environment

MV-V5102A000E



- Powerful intel processor with Win10 x64 OS
- 4G memory and 128G SSD internal storage
- Supports to control code reading cameras
- 6x1000Mbps, RJ45
- USB2.0x2, USB3.0x2

NVR5X-I

- HDMI and VGA output
- Impact design for easy installation



- Max 320Mbps incoming bandwidth
- Up to 12MP resolution for preview and playback
- 2HDMI/2VGA simultaneous video output

- 32/64 channel IP video access
- Smart H.265+/H.265/Smart H.264+/H.264/MJPEG
- Up to 16 channel perimeter protection
- Up to 4 channel video stream face recognition
- Up to 24 face pictures /sec processing
- Up to 20 face databases with 100,000 face images in total



DHL550UDM/460UDM



- Industrial level PVA LCD panel, suitable for extensive 24/7 continuous work
- Ultra-narrow 1.7mm bezel-to bezel design(1.15mm bezel on the left and top sides and 0.55mm bezel on the right and bottom sides)
- Supports HDMI, DVI, VGA, BNC, RS232, USB, Audio
- Professional thermal design to extend equipment lifespan

SUCCESS CASES

Yunda Express

Yunda was founded in 1999, with more than 20,000 stations and more than 50 distribution centers established in China. It has developed its market overseas since 2014.



Best Express

Best Express was founded in 2007, has more than 30,000 stations and more than 200 distribution centers in China. It started developing its market overseas and built several operation centers in Southeast Asia.



Best Express has deployed more than 600 DWS as of 2018, most of them are 5-side DWS, more and more distribution centers will update their infrastructure.

Dahua DWS replaced human operation to reduce labor cost significantly. In every unloading area, 6~7 persons can be decreased to 1~ 2 persons. During 2018's double eleven festival, labor requirement decreased from 110,000 to 30,000, which saved about 70% labor cost.

Unloading area is the bottleneck of efficiency, DWS system provides faster speed and lower error rate than human operation. When the belt speed reaches 1.5m/s, it can process 3000pcs/h normally , which is double than traditional operation.

Deppon

Founded in 1996, Deppon has more than 10,000 standardized stations and a total area of over 1.1 million square meters transfer centers across China. They have opened international transportation routes to Korea, Japan, Thailand, Singapore, Malaysia and Vietnam etc.

20,000+ Surveillance cameras	Deppon deployed 20,000+ cameras in their distribution and pick-up & delivery centers, all videos can be managed in the management center and local client.
2,000+ Cameras combined with code reading	2000+ cameras were combined with code reading machine in the key checkpoint to make sure the parcels status are recoded.
hours→min Tracking time	With traditional CCTV, it is difficult to confirm where and when the parcel was damaged or missing, with Dahua video tracking solution, the cause of the issue can be quicky defined.

ENABLING A SAFER SOCIETY AND SMARTER LIVING

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