

NOT JUST IN TIME BEST IN TIME

Automated Identification &
Data Capture Solutions For
Agile Modern Manufacturing



START THE JOURNEY

Honeywell

DATA CENTRIC PROFIT FOCUSED

Manufacturers are evolving to accommodate rapid market shifts. Some are focused on short-term projects with high returns – despite the faster turnaround time, increased SKUs and more customization. Others are transitioning from mass production to mass customization. According to [Automation Alley](#), a World Economic Forum Advanced Manufacturing Hub (AMHUB) for North America, this is particularly true for fashion apparel and accessories, consumer electronics, automotive parts and accessories etc. – where customization and personalization matter.

EVOLVING TOWARD A DATA-CENTRIC FUTURE

In today's volatile economic climate, businesses are constantly exploring ways to better navigate through a harsh manufacturing landscape.

Automated identification and data capture (AIDC) solutions are a critical enabler of data-centric manufacturing. They are becoming essential across the shopfloor to enable fast and accurate product identification and data capture at scale.

AIDC IS A PILLAR OF MODERN MANUFACTURING

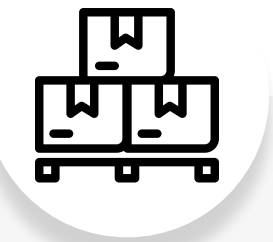
Among AIDC solutions, mobility, barcode printing and scanning will dominate manufacturing – to allow real-time tracking of every product and part in the assembly line. According to [Grand View Research](#) estimates, manufacturing accounted for 34.6% revenue share of the global barcode market in 2022 – due to manufacturers worldwide emphasizing industrial automation.

In order to remain competitive, you need to adopt this approach, to streamline your processes and enhance production efficiency.



ENHANCING THE 4 STAGES OF MANUFACTURING WITH AIDC SOLUTIONS

Honeywell is committed to helping manufacturers in the region evolve beyond manual processes and paper-based workflows, with robust AIDC solutions.



GOODS RECEIVING, STORAGE & REPLENISHMENT

- Sub-standard goods received
- Goods arriving late or less than needed
- Stockout or overstocking from inaccurate tracking
- Poor coordination with suppliers
- Poor communication and order status updates
- Poor logistics due to inefficient transportation
- Supplier non-compliant with safety and environment regulations

DESIRED OUTCOMES

Enhance accuracy, efficiency, and transparency of planning, communication, and coordination with suppliers and logistics partners - to prevent stockout & overstocking, reducing inventory obsolescence.



PRODUCTION, ASSEMBLY & WIP/JIT*

- Poor visibility due to bad data or late analysis
- Poor inventory management due to inaccurate data
- Incorrect identification of components due to low data integrity & bad audit trails
- Inefficient manual processes and paper trails leading to bad lineside replenishment

DESIRED OUTCOMES

Ensure accurate tracking at every stage for improved visibility and accountability - through accurate scanning and verified labeling - to identify problems at their source and ensure compliance.



QUALITY CONTROL

- Inability to track and trace issues due to poor data
- Inability to identify use of wrong materials in processing
- Inability to identify point of failure for rectification
- Poor QC support impeding investigation, swift remediation, and recall of faulty products

DESIRED OUTCOMES

Precise tracking of materials, and inspection of final goods, with simplified, streamlined, integrated and fully visible workflows that result in fewer errors and smarter workflows.



PACKING & SHIPPING

- Incorrect labeling, resulting in goods sent to the wrong recipient
- Badly printed labels leading to customer rejection
- Non-compliant barcode labels and tags leading to losses

DESIRED OUTCOMES

Ensuring accurate shipping labels, and proper scanning and verification, leading to automatic verification of adherence to compliance and customer standards.

*Work In Process/Just In Time

GOODS RECEIVING, STORAGE & REPLISHMENT
SOLUTIONS

- 1

RECEIVING Barcode Printer, General Duty Handheld Scanner, Portable Mobile Label and Receipt Printer, Mobility Devices, Vehicle Mount Computer For Forklift
- 2

STORAGE FACILITY Long Range Laser Scanner for High Density Barcodes, Mobile Computers
- 3

PICKING Voice Automated Solution, Mobile Computers
- 4

OPERATION INTELLIGENCE, ASSET INTELLIGENCE Device Management Software



IMPROVE INBOUND PROCESSING
Enhance inventory processing with an accurate, high-speed handheld scanner, mobile computers, and a Honeywell bar code printer that prints barcode labels after every scan – in various sizes, including tiny but high-resolution ones. 5G enabled mobile computers with high ruggedness, enable stress free picking and tracking operation.



FLEXIBLE AND ACCURATE DATA CAPTURE
Storage facilities often have tall racks, long shelving and poor lighting. Honeywell scanners - with wide scan depths going from near field to long range - enable accurate data capture for better picking, tracking, tracing and auto-replenishment.



AVOID SCAN ERRORS
Honeywell's barcode scanner lets you read and decode low contrast, plastic-covered, poorly printed, scratched, torn, warped or wrinkled barcodes, to increase productivity and reduce errors.



KNOW WHERE EVERYTHING IS STORED
Deploy high-density barcode scanner where goods or materials received are stored to help with inventory updating and tracing. Purpose build Vehicle mount computers help in fast & accurate unloading of pallets and inventory update.



HANDSFREE WORKFLOW
Deploy our Guided Work voice solution for hands free and eyes free workflows during picking or kitting for production and assembly. With the voice solution guiding workforces, they no longer need to juggle scanners, devices, checklists, and other documents, for up to 35% productivity and 50% or more accuracy gains.

INDUSTRIES THAT CAN BENEFIT FROM IT
AUTOMOTIVE | ELECTRONICS | CONSUMER-PACKAGED GOODS (CPG) | FOOD PROCESSING

PRODUCTION, ASSEMBLY & WIP/JIT SOLUTIONS

- 1

WIP Industrial Printer (with integrated label verifier), Laser Scanner for High Density Bar Codes
- 2

ASSEMBLY Mobile Computing Device or Tablet, Industrial Fixed Mount Scanner (with DPM*)
- 3

MONITOR ANYTHING, ANYWHERE Device Management Software



Honeywell’s high resolution industrial printers produce sharp, high-density barcode labels accurately, to fulfill the bill of materials (BOM).

Print and scan solutions also enhance your track and trace process with accurate data capture. Mobile computers can optimize kitting and empower rapid problem solving and the manufacturing execution process.



QUALITY AND REGULATORY COMPLIANCE

Monitoring Work-in-Progress (WIP) optimizes production schedules. Our high-performance industrial printer with integrated label verification deliver defect-free, clearly readable and 100% accurate barcodes and Honeywell scanners with DPM – for superior read rate & accuracy – handle components with barcodes edged onto the surface easily.



MACRO AND GRANULAR VIEWS

MS Team PTT on Honeywell devices enables anywhere/anytime communication between functions to reduce friction in production and assembly with improved visibility to track targets and resource allocation. If production is halted due to product quality or equipment fault, supervisors can immediately pursue remediation.



TRACEABILITY ACROSS PRODUCTION

As completed parts go to the next stage of assembly, fixed mount scanners can automatically identify and count units, enabling MES tracking, triggering printing of a barcode for the part, or even edge a tiny serial number on its body. Our scanners can also capture DPM and UV printed security barcodes to ensure traceability of WIP.

INDUSTRIES THAT CAN BENEFIT FROM IT

AUTOMOTIVE | ELECTRONICS | CONSUMER-PACKAGED GOODS (CPG) | FOOD PROCESSING

* Direct Part Marking

QUALITY CONTROL/ASSUARANCE
SOLUTIONS

- 1

QUALITY CONTROL Scanner for High Density Bar Codes, Desktop Printer, Voice Automated Maintenance & Inspection
- 2

MONITOR ANYTHING, ANYWHERE Device Management Software
- 3

EMERGING SMART AIDC Scanning solutions with AI/ML and machine vision enhancements



Honeywell AIDC solutions can help improve quality control by providing real-time data on product specifications, defects, and errors, before they impact the production process.



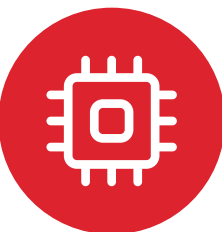
GETTING THE JOB DONE RIGHT

Enhanced interoperability of device between production and investigation. A desktop printer can print tags to mark the rejects and print QC/Identification marks for products that passed. High resolution cameras in Honeywell Tablets & mobile computers enable the Quality team to click pictures on the go and update the system in real time.



STREAMLINE PROCEDURES AND INSPECTION WITH VOICE

Use of voice-guided Maintenance & Inspection (M&I) in a hands-free, eyes-free workflow to streamline repair and inspection, while ensuring strict compliance with regulations or SOPs. Workers are guided through maintenance, inspection or repair, disruptions are minimized, and compliance is assured.



SMART AIDC WILL TRANSFORM QUALITY CONTROL

Honeywell AIDC solutions will be enhanced with artificial intelligence (AI) machine learning (ML) and machine vision to quickly detect whether the product meets standards.

INDUSTRIES THAT CAN BENEFIT FROM IT

AUTOMOTIVE | ELECTRONICS | CONSUMER-PACKAGED GOODS (CPG) | FOOD PROCESSING

PACKING & SHIPPING
SOLUTIONS

- 1

OUTGOING BAY Industrial Printer (with integrated label verifier),
Handheld Scanner/ Ring Scanner
- 2

MONITOR ANYTHING, ANYWHERE
Device Management Software



Honeywell AIDC solutions improve shipping and logistics by automating data entry and tracking - reducing errors and improving delivery times.



FULFILLING DELIVERY SLAs*

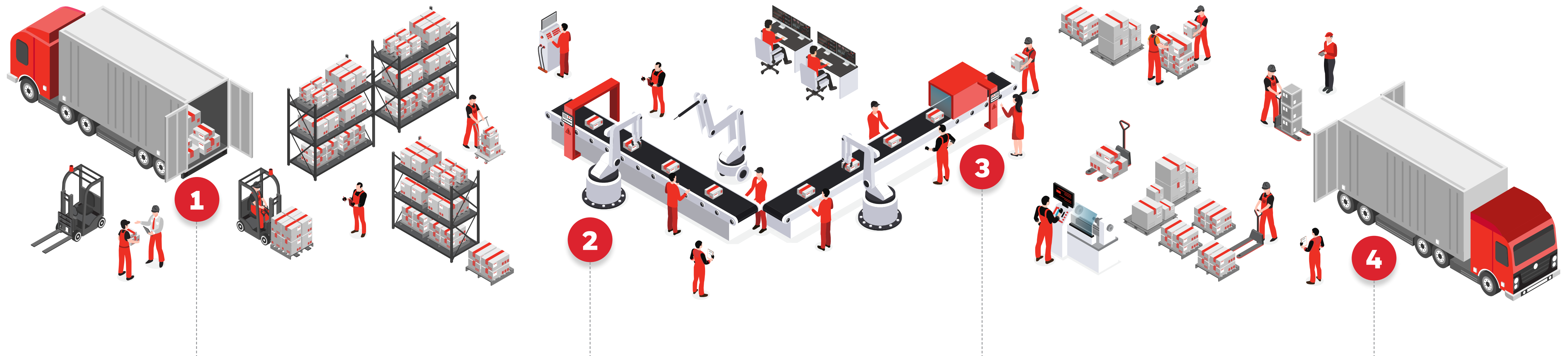
Inaccurate barcode labels hinder delivery of goods and achieving SLAs. Our high-performance industrial printer, with integrated label verification, produces verified shipping barcodes to minimize rejections and losses. Packed products are scanned again before shipping, to update the system for downstream tracking and ensure timely billing. Track and trace software can be used for end-to-end transparency of goods produced.

*Service Level Agreements

INDUSTRIES THAT CAN BENEFIT FROM IT

AUTOMOTIVE | ELECTRONICS | CONSUMER-PACKAGED GOODS (CPG) | FOOD PROCESSING

4 WAYS TO IMPROVE MANUFACTURING HONEYWELL AIDC SOLUTIONS



GOODS RECEIVING, STORAGE & REPLENISHMENT

- Speed up receiving with a barcode printer and general duty handheld scanners
- Offload, scan and tag goods at the truck, with a portable mobile label printer.
- Equip your storage facility with a laser scanner for high density bar codes and long-range scanning.
- Voice automated solution can enhance picking and kitting efficiency.

PRODUCTION, ASSEMBLY & WIP/JIT

- Keep production and assembly smooth flowing with a combination of an industrial printer (with integrated label verifier), laser scanner for high density bar codes, and mobile devices running MES software.
- Deploy industrial fixed mount scanner (with DPM) at the conveyor to improve scanning efficiency.

QUALITY CONTROL

- Conduct QC investigation efficiently with a scanner for high density bar codes and desktop printer to mark and tag items with either a passed or a rejected label
- Heads-up for upcoming AIDC products featuring AI, ML, and Machine Vision enhancements.

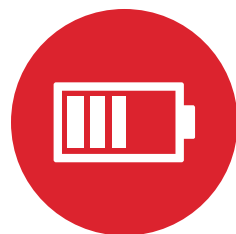
PACKING & SHIPPING

- Prepare accurate and well-printed shipping labels from an industrial printer with integrated label verifier to ensure compliance.
- A handheld scanner or ring scanner will deliver the flexibility and performance to scan outgoing goods with speed and accuracy.



SEE BEYOND JUST DATA WITH HONEYWELL'S DEVICE MANAGEMENT SOFTWARE

Missing or misplaced equipment is a very common issue for manufacturers that use mobile AIDC technology. It is easy for workers to set down and lose devices during breaks. Honeywell's Device Management Software can help you locate your missing device and provide insights into their movement, usage, state of battery health and even network connectivity.



BATTERY HEALTH NOTIFICATIONS

- Keep tabs on device battery health with details like:
- Charge level, on/off status, and how many charge cycles the battery has gone through
 - Early warning of deteriorating battery with a battery replacement alert



DEVICE CHECK-OUT/CHECK-IN

- Full visibility and accountability:
- Know the usage of each device in every shift
 - Account for the return of devices at the end of a shift
 - Audit daily transactions to review incidents



DATA CAPTURE EXCELLENCE

- Collect performance data points of active devices to discover:
- How your AIDC devices are being used
 - What are the common problems faced
 - Improvements for greater productivity



NETWORK INSIGHTS VIA ACCESS POINTS

- Discover network "dead zones" in warehouses:
- Ensure digital continuity by knowing where mobile workers usually lose network connection



DEVICE LOCATION TRACKING

- "Find My Device" feature:
- Operation managers can use it to track lost devices
 - Devices will ping when they come into range





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