The leader in self-service bag drop solutions

The perfect integration of design, technology and process

ICM
an amadeus company

auto bag drop
ICM Airport Technics

The future is self-service

Airports and Airlines benefit from self-service bag drop solutions as they enhance capacity, lower operational costs and improve the passenger experience.

To fully utilise the benefits of these solutions, they must be non-intimidating and intuitive for the infrequent flyer to operate without agent assistance.

With over **1100 units sold** across the globe, ICM's Auto Bag Drop (ABD) units process over **2 million bags each month**. Our advanced technology is uncompromising on safety and security, with a design that ensures efficiency and ease-of-use.

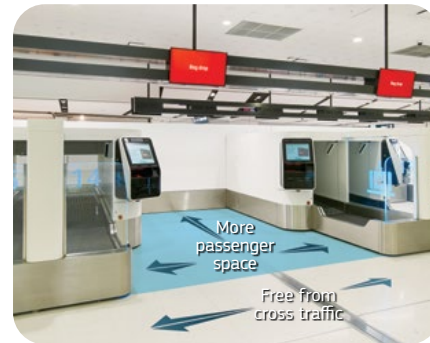ICM's Auto Bag Drop is leading the way in self-service baggage solutions.

Superior design

Easy side loading

More passenger space
Free from cross traffic

ABD status indicator
Easy visibility

Edge lighting
Solid surface material
Double glazed safety glass
Stainless steel kick plates

Easier side loading

The side loading system* reduces body strain, as the low height of the side guard only requires a gentle lift to get luggage onto the belt. The open-sided design allows passengers to easily reach their bag if needed, and provides a welcoming space for passengers to drop their bags.

All ABD units are Disability Discrimination Act (DDA) and Passenger with Reduced Mobility (PRM) compliant.

More passenger space

The ABD design better utilises space that is traditionally taken up by check-in desks, providing more room for passengers to comfortably manoeuvre luggage, trolleys and wheelchairs.

It also eliminates congestion in front of the ABDs, improving accessibility.

The space between units allows easily accessible baggage tubs to be stored.

Easy agent visibility

The low profile and use of glass increases visibility, allowing one CSA** to easily monitor multiple units, thereby reducing the long-term operational resource costs.

Status indicators signal the need for CSA** assistance or if a unit requires servicing.

The units can be installed in flexible layouts to accommodate various configurations (island, walk through, and back wall).

Built to last

Designed with outstanding durability and industrial strength, all ABD components are made with premium quality materials, and are ASIAD*** Blast-Proof compliant.

The outer shell of each ABD is made of solid surface material, whilst the stainless-steel kick plates protect the unit from baggage trolleys and general wear and tear.

Cleaning, maintenance, and repair are easily facilitated by the side roll-out conveyors.

* Patents Pending   ** Customer Service Agent   *** Aviation Security In Airport Development
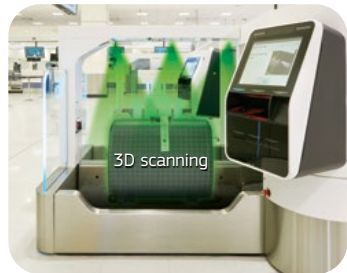
Aesthetically pleasing

From the rounded edges of the console to the use of lighting and glass, the ABD shape and style is modern in design and pleasing to the eye.

With optional outer shell colours to suit airport décor and easily configurable lighting colours, the ABD units also have multiple open surface areas and screen displays which provide branding opportunities for airports and airlines.

The contemporary design of the ABD contributes to the aesthetics of any airport terminal.

Advanced technology

3D scanning

Dynamic virtual box

2nd light curtain
1st light curtain

Automatic conveyability check

Advanced 3D scanners detect non-conveyable items which prevents possible BHS* bag jams, that may cause delays.

Bags are prevented from being inducted if they are:
• Upright • Multiple
• Loose Straps • Round
• Irregular (eg. stroller)

The use of tubs will be prompted and tub detection is automatic.

With access to full bag imaging**, no-show bags can be found and off-loaded faster to reduce flight delays.
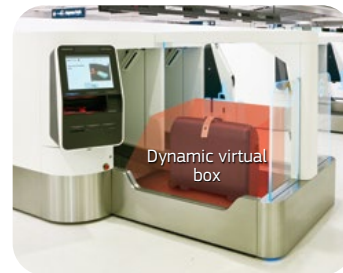
Damaged luggage claims can be more easily verified.

Fast processing on first belt

The bag is fully processed (weighed, scanned, activated) on the first belt, resulting in fast transaction times.
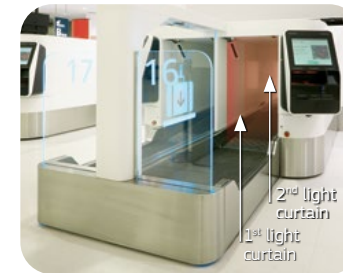
The passenger can respond immediately to adjust the bag tag if needed. Once the bag starts moving, the bag drop process is complete.

Safe and secure intrusion detection

During processing, a Dynamic Virtual Box*** surrounds the bag, adjusting to its specific size. Any foreign object (passenger, handbag) that enters the virtual box will halt moving conveyors ensuring passengers are safe from moving parts.

This prevents bag weight tampering, and ensures the accuracy of baggage weights so that excess baggage fees can be accurately applied.

High-security light curtains

Dual light curtains operating in an "air lock" type arrangement detect any unexpected intrusions into the BHS*, ensuring uncompromised security and safety.

With the option of a roller door at the back of the ABD tunnel, after-hours security is assured.

Integrated biometrics

Biometric verification (face, fingerprint, iris etc) is seamlessly integrated to confirm the passengers identity.

ICM was the first company to roll out face-to-passport biometric validation for self-service bag drop for Air New Zealand, at Auckland Airport in December 2015.
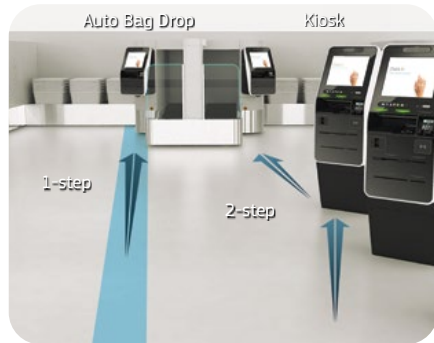
ICM now has operational biometric bag drop units at airports .across the world including Singapore Changi, Minneapolis-St. Paul International Airport, Wellington Airport and more.

*   Baggage Handling System
**   A full colour bag image/video database can be provided

***   Patents Pending

Efficient process

Flexible 1- or 2-step process

Both 1-step and 2-step check-in options are available, in accordance with client requirements.

A 1-step process allows bag tag printing and bag drop at the one location, whereas a 2-step process consists of check-in and bag tag printing at a kiosk, then bag drop at the ABD.

Fast and intuitive process

Passengers are guided by an intuitive user interface that is easily configurable for airline and airport requirements.

After the passenger is identified, each bag is automatically checked for weight, dimensions, volume, shape and conveyability and the presence of a matching barcoded or RFID bag tag.

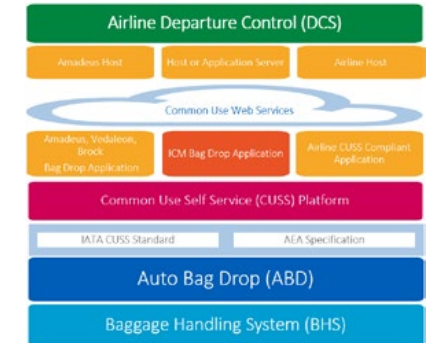The bag is processed in a matter of seconds, resulting in much faster transaction times.

Real-time process monitoring

The real-time dashboard provides information on the process and operational performance, enabling proactive management.

The powerful reporting and analytics engine uses metrics logged in the Bag Drop Server database to generate various graphical or tabular reports. These reports are invaluable for monitoring the operation of the ABD units, for management reporting and for system improvements.

Comprehensive performance reports can be automatically sent out to various stakeholders or accessed over secure web portals.
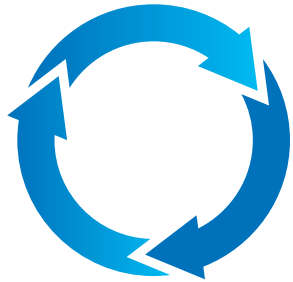

Easily deployed

ICM provides a comprehensive end-to-end solution from the BHS to the DCS* interface.

With an IATA CUSS** certified platform, airlines can integrate their chosen CUSS compliant airline application.

Multiple airline applications can be hosted on the same ABD.

* Departure Control Systems
** Common Use Self-Service

Comprehensive support

Lifecycle support services

ICM has an extensive service portfolio to support self-service ABD units throughout their lifecycle. This includes:

- Full service contracts offering availability based responsibility encompassing on-site support, remote support, comprehensive incident reporting, software upgrades, spare parts provision, documentation and training.
- Tailored support solutions to meet individual clients' needs

Our systems are constantly refined by field data and site learnings, enabling upgrades that are responsive to operational change and new technical capabilities. This ensures a long product life and maximises ROI.

ARMS
(Active Remote Monitoring Support)

Supervisory Control and Data Acquisition (SCADA) hardware and software is used to provide real-time visibility of system availability and performance, allowing proactive management of all ABD issues.

The system can be fully integrated into existing client support service.

LEGS
(Local Engineering Ground Support)

Our team of experienced engineers provide specialized on-site support, with options for:

- Fault resolution and part replacement services; or
- Complete operational and maintenance full service contract.

Preventative and Corrective Maintenance tasks, spare parts stock management, refresher training courses and Occupational Health and Safety compliance are all part of the comprehensive support offered by ICM.

Managed services and AWS*
cloud hosting

ICM's professional services assist throughout the project lifecycle, from consultation and planning through to project management, installation, support and product enhancements.

ICM has unparalleled experience in facilitating a smooth and successful process transition for airports, airlines and ground handlers.

ICM's subject matter experts will work with your processes and customer experience experts to ensure all options are considered when introducing ABD solutions into your operations.

* Amazon Web Services (options available)

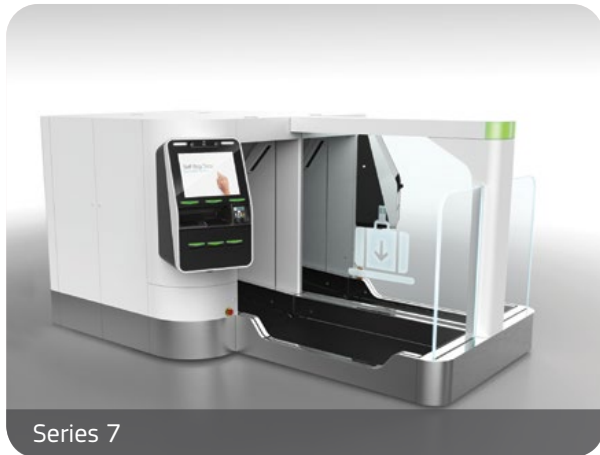# ABD product suite

Retrofit Solutions

Series 1 Type 1

Series 1 Type 2

Series 3

Replacement Solutions

Series 7

Series 7 Rotating Desk Hybrid

Series 7 Fixed Desk Hybrid

Feature list

Features	Series 1	Series 3	Series 7	Hybrid	Comments
General					
Single Unit Available	✓	✓	✓	✓	Left and right handed versions available.
Double Unit Available	✓	✓	✓	✓	Double configuration Series 7 replaces two traditional check-in desks.
Recommended Pitch	E	E	4.0m	4.0m	Centre-to-centre distance between two ABD doubles. The minimum pitch for the Standard Series 7 unit is 3.4m.
Supports Agent-Assisted Processing	✓	✓	O	✓	Retrofit (Series 1, 3, 4) units natively support traditional agent-assisted processing. Hybrid unit is designed for the integration of a full set of CUTE equipment. This allows rapid switching between Agent-Assisted and Self-Service operational modes.
Console					
Receipt Printer	✓	✓	✓	✓	Baggage receipt printing per transaction (multiple bags on the same receipt). Facilitates excess baggage charging by printing excess payment advice.
Heavy Tag Printer	O	O	✓	✓	Allows bags over 23kg (OH&S limit) to be dropped off. Barcoded heavy tag stock enforces the application of the heavy tag.
Paper Bag Tag printer	O	O	O	O	Supports 1- and 2-step processes.
Passport Scanner	O	O	O	O	Supports conventional and e-Passport RFID reading. Visible, IR and UV scanning enables advanced forgery rejection. 1D/2D barcode support allows for enlarged boarding pass scan area.
Boarding Pass Readers	✓	✓	✓	✓	Face-up/face-down reader layout is available and improves usability of all paper & device-based (e.g. cell-phone, 10" tablet) boarding pass formats.
RFID/NFC Boarding Pass Reader	O	O	O	O	Future proofing - supports RFID/NFC. Allows flexibility for airlines wanting to use a "Permanent Boarding Pass" process for improved PAX experience. Contactless RFID staff override feature allows for easy exception and fault handling.
Hand-held Barcode Scanner	✓	✓	✗	✗	PAX operated IATA bag tag scanning using a tethered, robust, hand-held scanner.
17" Capacitive Touch Screen	✓	✓	✓	✓	Responsive and generously sized for ease of use.

✓ - Provided │ ✗ - Not provided │ E - Existing │ O - Optional

*Please note that these features can be changed at any time by ICM without notice.

Feature list

Features	Series 1	Series 3	Series 7	Hybrid	Comments
Baggage Processing					
Bag Processed on First Belt	N/A	✓	✓	✓	Weighing, 3D baggage profiling (Series 3, 4, 7) and bag tag barcode reading intuitively occurs on the first belt.
Virtual Box Technology (Patents Pending)	✗	O	✓	✓	Prevents intrusion onto the ABD conveyors whilst bag is being processed. Benefits include increased passenger safety, security and baggage weighing integrity.
Security "Airlock" Sensors	✗	✗	✓	✓	Dual security sensors in the ABD tunnel provide for comprehensive detection of unwanted items (e.g. bags, people, animals) entering the Baggage Handling System.
Bag Tag Barcode Readers	✗	Minimum 4	3-5	3-5	Multiple barcode readers result in minimal blind spots and extremely high read rates. Advanced conveyor "jiggle" function allows for higher read rates and throughput by making slight adjustments to the scanner-to-tag relative positioning.
Variable Speed Drives for Conveyors	✗	✗	✓	✓	VSDs smoothly control the movement of the bag by varying supply frequency.
Over-length Baggage Detection	E	✓	✓	✓	Over-length baggage articles are rejected.
Upright Baggage Detection	✗	✓	✓	✓	Less likely to cause damage to passenger's bag. Facilitates smooth transition into downstream baggage system.
Multiple Baggage Detection	✗	✓	✓	✓	Prevents unknown bags from being injected into the downstream Baggage Handling System.
Detection of Non-conveyable Bags	✗	✓	✓	✓	Baggage acceptance/rejection rules and thresholds (e.g. straps, small bags, round bags, irregularly shaped etc.) can be configured on a site by site basis. Prevents damage and stoppages to downstream BHS and PAX's bags.
Detection of Baggage Tubs (if used)	✗	✓	✓	✓	ABD automatically informs PAX when a tub is required. Tubs are automatically detected without the need of barcodes or RFID labelling and the net weight adjusted.
UHF RFID Bag Tag reader	O	O	O	O	Supports UHF RFID (ISO 180006) disposable or permanent baggage tags.
Over Belt CCTV	✗	O	✓	✓	Facilitates analysis of passenger behaviour – especially useful during trials. Footage could be used for training & process/ system improvements.
Roller Shutter Door at Back of ABD Tunnel	✗	✗	O	O	Closes based on "End-of-Day" and other non-operational states. Alternatively, a Fast Door can be supplied which opens every time a baggage article is injected into the BHS.
Fast Processing Time	✓	✓	✓	✓	<30 seconds for non-biometric, non-passport scanning, fully automated 2-step bag tagging process.

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Feature list

Features	Series 1	Series 3	Series 7	Hybrid	Comments
Form Factor					
Open, Non-intimidating Form	E	E	✓	✓	The PAX can view bag while being processed and thus feels in control. The PAX is able to adjust the bag tag, if required, without waiting for a door to open and close again.
DDA and PRM Compliant	E	E	✓	✓	User access points on the console need to be wheelchair accessible. Side loading is required for People with Reduced Mobility (PRM) compliance.
Flat Scale Conveyor	E	E	✓	✓	Eliminates risk of damage or injury resulting from toppling bags on a slanted conveyor.
Side Loading of Bags (Patents Pending)	✗	✗	✓	✓	Low height side loading provides an ergonomic experience when compared to front loading solutions.
Solid Surface Shell Material	✗	✗	✓	✓	Industrial grade, aesthetic durable material that allows for easy repair through filling and buffing. Airport/Airline differentiation is possible through a variety of colour choices.
Stainless-Steel Skirting	E	E	✓	✓	Aesthetic, long lasting and robust.
Provides for Passenger Comfort Zone	✗	✗	✓	✓	Side loading design shields the passenger from cross traffic. Back area can be used for tub storage for easy passenger/agent access.
Integration					
IATA CUSS Compliant Software	✓	✓	✓	✓	Multiple certified (e.g. ICM, Amadeus, Vedaleon) airline applications available.
Biometrics	O	O	O	O	Supports wide range of ICM-supplied or 3rd party biometrics technologies.
Excess Baggage Payment Support	✓	✓	✓	✓	Multiple options exist including the use of an optional payment terminal, or the ability to print a payment advice and redirect PAX to a centralised payment counter.
Wayfinder Interface	O	O	O	O	Wayfinding display situated above each ABD with ABD status displayed on screen.
BHS Integration via Standard Interface	✓	✓	✓	✓	Complete baggage transfer logic, E-Stop and intrusion integration into any BHS system.
Airline Application					
CUSS Compliant	✓	✓	✓	✓	Centrally hosted (local or remote) web application supports a thin client architecture.
Customisable	✓	✓	✓	✓	Options exist for screen design, workflow sequence, animations, branding, etc.
Multi-lingual	✓	✓	✓	✓	Natively supports the use of multiple languages.
Local Process Rules	✓	✓	✓	✓	Flight table, bag weight excess, and other local rules can be easily configured by an authorised user.

✓ - Provided | ✗ - Not provided | E - Existing | O - Optional

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