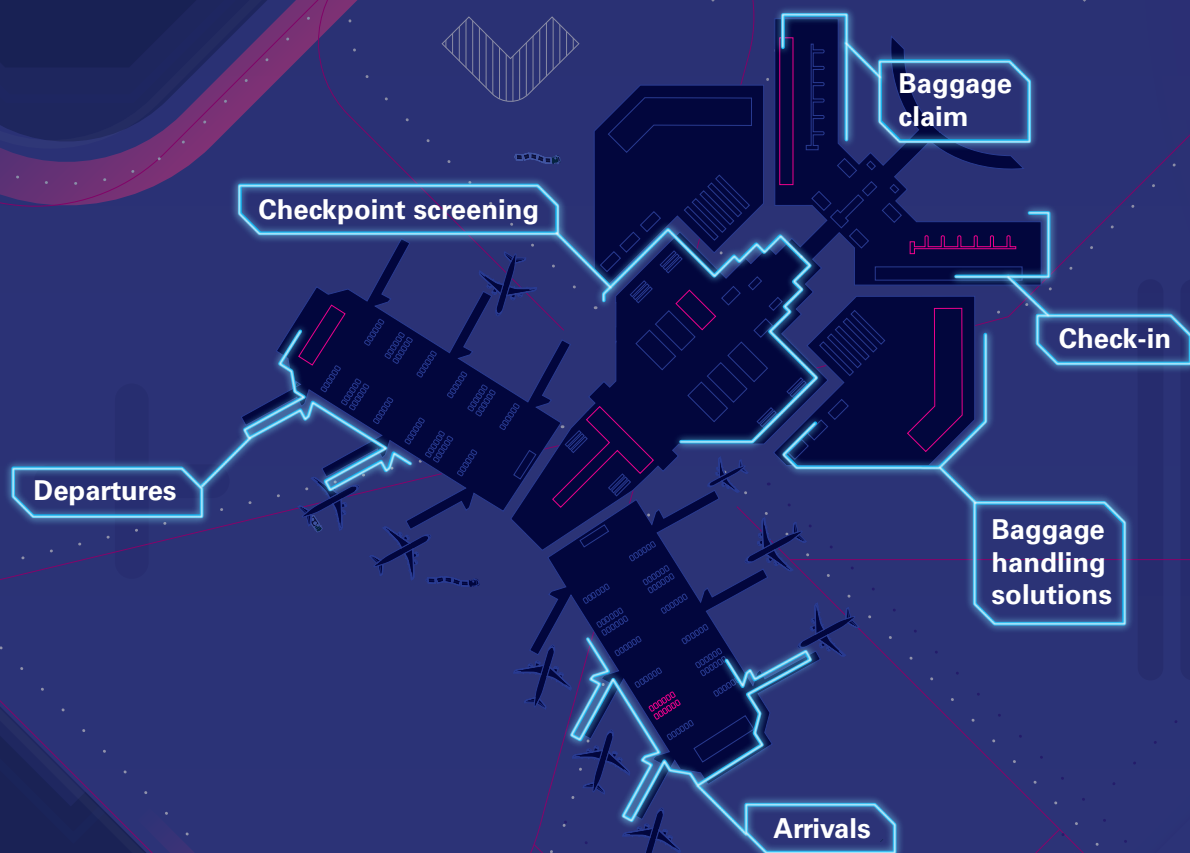# Seamless operation from arrival to departure

Enriching your end-to-end passenger experience through intelligent solutions.

Daifuku Airport Technologies | DIGITAL SOLUTIONS

Baggage claim

Checkpoint screening

Check-in

Departures

Baggage handling solutions

Arrivals

DAIFUKU | Daifuku Airport Technologies

Our story

10.9 billion yen
Spend on R&D
for fiscal year 2021

72,474
CO_2 reduction
contribution from
environmentally
friendly products

12,436
Employees globally

26 countries
And regions as part
of Daifuku's global
network

Drop-UX H Series

Generation 6

Features

- 17" touchscreen and integrated boarding pass reader and speaker
- 1,2 or 3 printers
- Sensor arch with intrusion detection by 3D stereo sensor and camera automated tag reader (ATR)
- 2 stage 2.5 meter long inclined conveyor & scale
- Illuminated RGB LED panels for branding / theming
- IATA CUSS or Native CUWS
- 1 or 2 step process

Optional peripherals

- Passport reader, Biometrics, Payment devices, ADA accessibility keypad, RFID, NFC
- Flexible modular system with ability for customisation
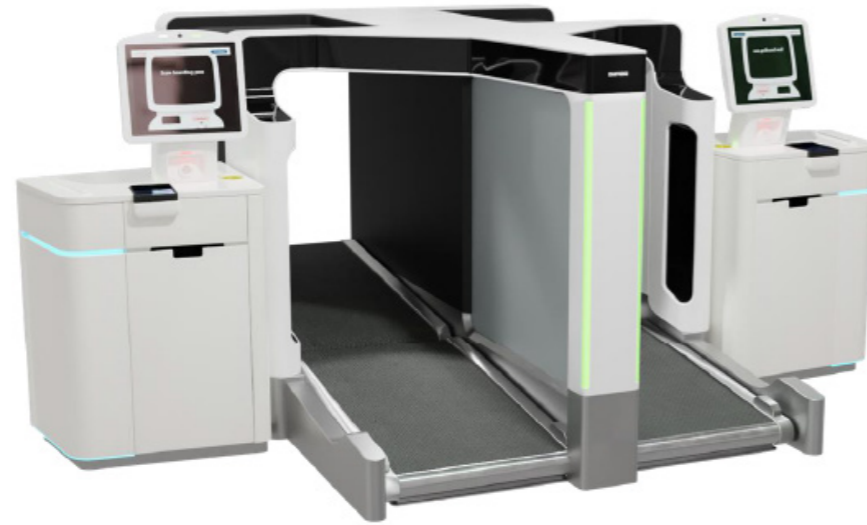
The unique design of the H Series provides a dynamic, flexible solution for airports requiring both bag drop and traditional desks in the same zone. By rotating the screen, airline staff can process passengers with the CUTE / CUPPS check-in system built into the desk and is fully compatible with the Collins CUTE/CUPPS platform proposed.

Drop-UX H Series offers a complete self-service solution for fully automated self-service bag drop in 1 or 2 step configuration and offers the same AI and OCR technologies as the P Series for baggage analytics.

Our H series is unique in the market, providing a true hybrid solution in one desk, reducing power, equipment and environmental impacts.

Hybrid bag drop solution

Convenient access

- Printers output to the desk top for access by passenger or airline staff
- Access doors to replenish stock and consumables
- Simple lighting controls
- Lockable doors

Small footprint

- 2.58 m length
- 3.38 m width
- 1.47 m height
- 4 m pitch

Self-service to a full desk

- Transform in seconds from a self-service bag drop to a full check-in desk
- Mix and match modes depending on airline requirements and time of day

Incline scale belt

- Provides higher throughput and shorter length bag drop
- Prevents passengers placing bags incorrectly with wheels down
- Low profile (100mm) front and side loading capability for ease of passenger use

Drop-UX P Series | Dual mode

Our alternate Hybrid solution is the Drop-UX P Series dual-mode that consists of a fully automated P Series unit with our swing desk, a traditional check-in counter that can swing closed along the unit when in self-service mode.

As this project utilises two separate sets of hardware for SBD and traditional check in, we usually refer to this as a dual mode design rather than a true hybrid design sharing the same set of peripherals. So it is compatible with any CUTE/CUPPS or native airline check in system and integrates cabling, power and controls in a standard manner. The desk design may be customised to suit the desk design used in the terminal to match with the overall design.

On the left side of the render above, the SBD is "Open" which means in the Agent Assisted, traditional check-in mode. In this mode, passengers can be checked in by the airline staff using the traditional method.

Information can also be displayed on the bag drop screen for security messages, biometric process approvals, or other airline messages, reducing clutter and other information usually placed on check-in desks by airlines.

In the traditional agent assisted mode, airline staff have access to the standard CUTE/CUPPS applications and traditional check in tools. They can access the bag on the conveyor to tag it, or passengers may also pre-tag their bags at kiosks.

The printers are housed in the drawer below the desk and additional space is available for storing other consumables. Our standard roll out tub holder is optionally available at the rear for the airline staff to place the bag in a tub if required.

The control display has controls to configure the scale display, see the bag weights, control the conveyors (inject / forward and reject / reverse), reset the unit and switch modes between self-service and agent assisted.

Integrated desk for traditional check-in or self-service bag drop

Overview

On the right side, the self bag drop (SBD) is in the "Closed" which means in self-service mode. In this mode, passengers can check-in and drop their bags using the self-service passenger interface on the SBD unit. The desk may be left in the open position, however it provides more space for tub holders if the desk is closed when in self-service mode.

The desk can be rotated open and closed and the side of the SBD unit has a tambour shutter that can be open to allow the agent access to the bag or closed to secure it.

Daifuku's solution leverages our many years of experience in BHS and SBD solutions to create a flexible dual or hybrid mode bag drop solution for Melbourne Airport. Our desk design can be customised to meet the terminal design and provide a common look and feel between the standard check in desks and the hybrid SBD desks.
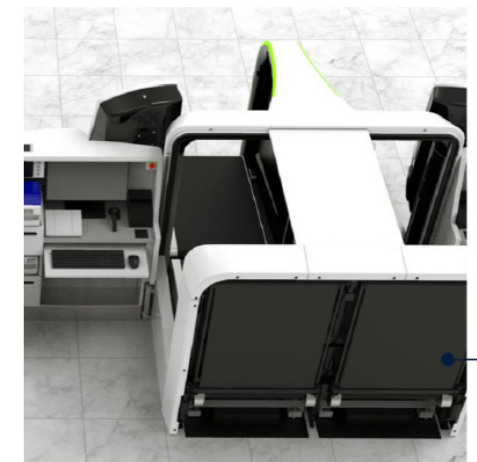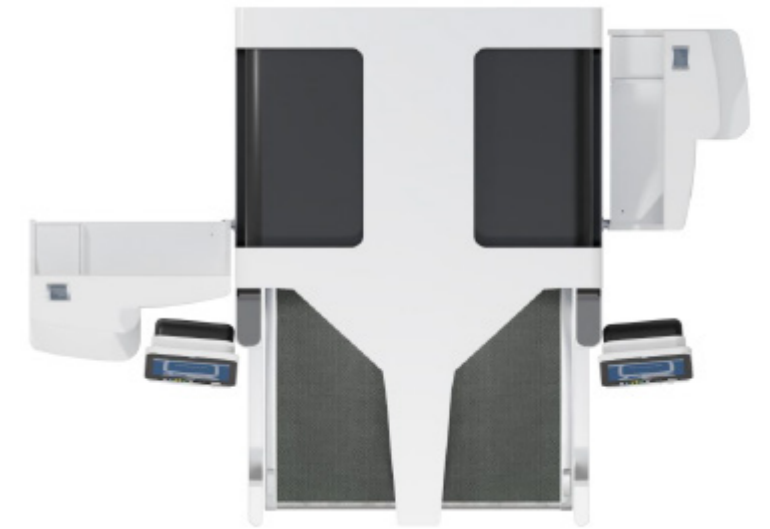
Back Curtain: Closed after each luggage injection or only when system offline

Side Curtain / roller shutter for Manual Check-in Mode

The new Drop-UX P Series dual mode is already deployed in China, where 88 units are in operation at Chengdu Tianfu International Airport.
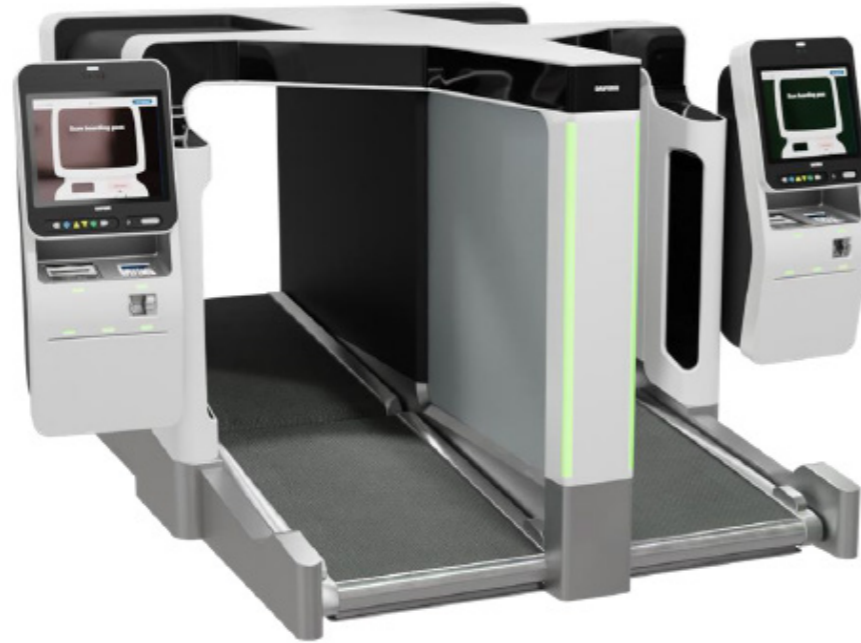
Drop-UX P Series

Generation 6

Standard features

- 17", 19" or 24" touchscreen
- Boarding pass reader with lighting
- 1, 2 or 3 printers
- Sensor arch with intrusion detection by 3D stereo sensor, bag camera, status LED
- Advanced AI based baggage analysis and camera automated tag reader (ATR)
- 2 stage 2.5 meter long inclined conveyor & scale
- IATA CUSS or Native CUWS
- 1 or 2 step process

Optional peripherals

- Passport reader, Biometrics, Payment devices, ADA accessibility keypad, RFID, NFC
- Flexible modular system with ability for customisation

The generation 6 design of the Drop-UX P Series follows our standard kiosk design and allows for a consistent passenger experience between touchpoints along with common parts and provides a lower cost without the additional digital signage compared to the N series.

The new P series also includes our advanced AI baggage conveyability analysis and multi-point camera OCR technology for fast, accurate bag tag reading.

P Series offers a complete self-service solution for fully automated self-service bag drop in 1 or 2 step configuration.

Our latest design builds on our previous generations and offers advanced features in a compact design that can provide throughput up to 100+ bags per hour.

Full service bag drop solution

Advanced bag analysis

- Dedicated AI deep learning processor trained on thousands of bags
- Multi-camera bag tag detection and recognition
- Intrusion detection by 3D stereo sensor
- Software undateable features and detections

Small footprint

- 2.57 m length
- 2.69 m width
- 1.43 m height
- 3.7 m pitch

For 17" screen variant
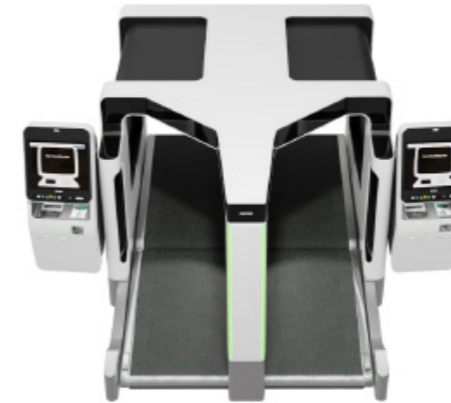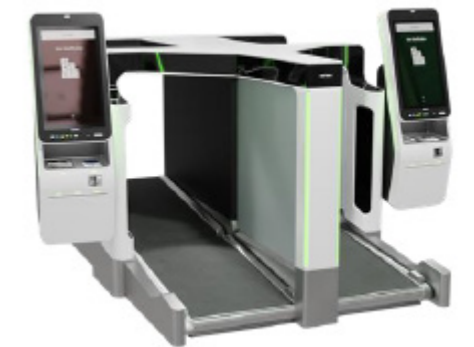

Inclined scale belt

- Provides higher throughput and shorter length bag drop
- Prevents passengers placing bags incorrectly with wheels down
- Low profile (100mm) front and side loading capability for ease of passenger use

24" variant

- Additional screen space for customised applications
- Consistent look and feel with our kiosks and bag drop range
- Custom application design for advertising, avatar assistants or other use cases

Drop-UX N Series

Advanced next generation features - improving passenger experience

Key features

- Large, 24" portrait style passenger interface-touch screen
- Convenient low-profile side loading conveyor with large bag capacity
- Additional passenger instruction screen directly above the bag and synchronised with voice prompts
- Integrated tub holder and passenger alert lights
- Large digital signage screen at the end of the unit for instructions, advertising/branding and other signage
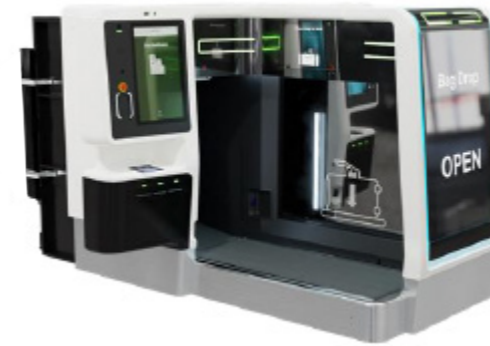

Our top tier SBD employs multiple screens and a large touchscreen interface to provide passengers with feedback aligned to their process steps and swiftly guide the passengers through the bag drop process. Our design prioritizes safety and baggage throughput along with efficiently using space.

Additionally, it serves as a flexible platform for an airport or airline to introduce bag drop, promote its brand or advertising and deliver core messages to its customers.

> Our N Series bag drops are deployed over Japan Airlines domestic network at the five major airports in Japan.

24" touchscreen interface

- Additional screen space for customised applications
- Consistent look and feel with our kiosks and bag drop range
- Custom application design for advertising, avatar assistants or other use cases

Small footprint

- 2.97 m length   Large bag capacity:
- 2.76 m width   1,300l x 550w x 700h
- 1.75 m height
- 4 m pitch

Improve passenger experience

- Integrated digital signage and content management system for branding, instructional videos, call forward messages
- Integrates with SBD API to allow interactive content display on SBD status or events

Advanced bag analysis

- Dedicated AI deep learning processor trained on thousands of bags
- Multi-camera bag tag detection and recognition
- Intrusion detection by 3D stereo sensor
- Software updateable features and detections

Check-UX Series

Key features

- Modern & flexible design
- Boarding pass & Receipt printer
- Bag Tag & Heavy Tag printers
- Chip and pin payment solution
- Biometric Modules
- Passport reader
- Weighting Scale
- Easy Front Access for paper loading and maintenance
- Built-in Maintenance Application
- With CUSS 1.5

Our latest kiosk offers a fully integrated solution optimising space for increased passenger capacity in a variety of use cases.

As part of Daifuku's Self Service portfolio, Check-UX also pairs perfectly with our Self-Service Bag Drop solutions. Providing a trusted solution for all passengers, flights and destinations, Check-UX is shaped for success and built to perform.

The human centric design increases passenger adoption, enabling airline staff to deliver added value services, resulting in shorter lines, and less waiting time — meaning happier passengers, smoother travel and smarter business.

Standard features

Many airports and airlines have different requirements for their self-check-in solutions. Daifuku Check-UX offers a modular design adaptable to different peripherals designs.

Future ready

Our kiosk can accept a wide range of modules allowing multiple configurations as well as ready for future evolutions with integrated payment module as well as a biometric solution.

Smart design

Its smart design with front access allows flexible installations of kiosks such as back-to-back or against a wall while allowing easy access for paper loading and maintenance.

Standard features

- Touch screen 19 inches
- Boarding pass printer
- Bag tag printer
- 2D bar code reader

Optional features

- Passport scanner
- Heavy bag tag printer
- RFID card reader
- Accessibility keypad
- Overhead display & CMS
- Baggage scale

Check-UX

Check-UX with overhead display and scale

Tag-UX Series

Key features

- Modern design and small footprint
- Face-up and down bar code reader
- Bag tag or receipt printer
- Flip out panel for stock loading
- Built-in maintenance application
- CUSS 1.5 compliant self tagging application.

Tag-UX is designed as a micro kiosk enabling bag tag issuance in multiple locations around the airport, resulting in improved baggage throughput with reduced departure floor footprint when used in conjunction with self service bag drops.

By simply scanning a boarding pass, a bag tag will be issued. Easily scan again for a second bag tag, up to the limit stipulated by the airline.

Versatile, the Tag-UX can be utilized across a number of usages relating to passenger processing; including boarding pass, lounge entry; and passenger at gate validation points. Tag-UX can also be linked with passenger tracking systems for a low cost, simple to deploy solution.

Easy use and maintenance

Tag-UX kiosk is designed for plug and play setup in Daifuku's cloud based platform, while providing ultra-quick and efficient tagging functions.

Integration

Our kiosk is integrated with the Daifuku Online cloud, and plugs straight into your existing DCS broker connections. Supporting native or CUSS modes, Daifuku can easily provide the right solution for you.

Smart design

The Tag-UX's smart design with front access allows flexible installations such as back-to-back or against a wall while maintaining easy access for paper loading and maintenance.

Software

Daifuku's Management Software Suite allows direct monitoring of passenger and kiosk status from a tablet web based device and fully integrates with our Self-Service suite.

Standard features

- Touch screen 19 inches
- Boarding pass printer
- Bag tag printer
- 2D bar code reader

Optional features

- Passport scanner
- Heavy bag tag printer
- RFID card reader
- Accessibility keypad
- Overhead display & CMS
- Baggage scale

Tag-UX with scale

Bag-UX Series

Key features

- The Sensor Pod height is adjustable with an inbuilt slide rail so that it can be placed at the optimum height above the conveyor.

- Dual direction sensor pod to analyse bags moving towards and away from the unit.

- 3D sensors for baggage orientation

Approximately 25% of all delayed bags are the result of loading errors, failure to load and tagging errors.

Source: SITA 2020 Baggage IT

Bag-UX analyses individual bags by shape and type before being introduced to the baggage handling system. This crucial step prevents incorrect items from being directed into the system or other vital locations within the airport.

Baggage jams, throughput issues, and items requiring further identification for IATA Resolution 753 are all common problems resulting in delays or the misplacement of bags.

Bag-UX leverages Daifuku's Self Bag Drop 3D and Optical computer vision technology for Baggage Analysis. Combining a deep learning artificial intelligence model to quickly and accurately analyse bags in motion on a collector conveyor, Bag-UX can detect unwanted items entering the BHS.

Functionality

Bag-UX set up can pause the collector conveyor allowing staff to remove or reorient the bag, or the system can redirect or automatically handle the bag, depending on the capabilities of the BHS system.

Integration

When bags must be scanned on inbound BHS routes for IATA Resolution 753, Bag-UX is used for inbound baggage analysis to read and identify bag tags or baggage types for analysis or redirection.

Smart design

Bag-UX has the ability to classify bags in accordance with the IATA Baggage Identification Chart providing improved tracking and identification of baggage.

Software

Bag-UX's imaging capabilities allow a bag's condition to be seamlessly compared pre departure and on arrival for loss / damage waivers.

Baggage issues that can be identified by Bag-UX include:

- Bag conveyability - orientation, dimensions, handle extended
- Multiple bags / baggage spacing issues
- Tray / tub detection / usage
- Bag tag presence and location *
- Detection of documents left on baggage *
- Open or spilled baggage *
- IATA Baggage Classification Type *
- Conveyor control signal to stop / start conveyors
- Images of bags for loss / damage

Forward sensor view →

← Rear sensor view

Conveyor direction →
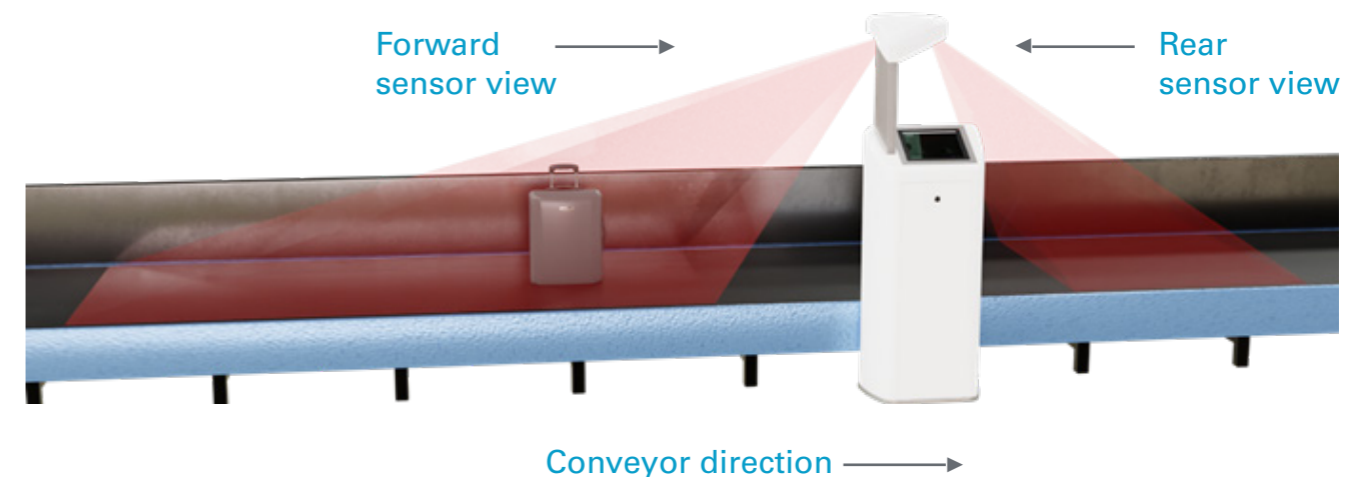
Self bag drop

Reference projects

Summary

Over the last five years, Daifuku has embarked on an aggressive development program within its self-service suite of products.

The program has seen the incorporation of way-finding, branding/advertising, touchless technologies, biometrics, multi-tenant payment, industry-leading bag tag reading and AI bag assessment onto our bag drop suite.

Technology that has proven to deliver real-world operational advantages to our partners.

As we rebound from the impacts of Covid-19, these features are proving even more vital to ensure operational capacity and a seamless experience.

H Series

Qingdao Jiaodong Airport
Qingdao, Shandong, China

52 UNITS

- 17" Touchscreen, barcode reader, passport reader, payment device, biometrics, custom integrated HVAC and desk
- Automated bag tag barcode reader with RFID and 3D scanner
- Floor level conveyors and integrated X-Ray and tub return system
- Generation 4 design plus customisation

Kunming Changshui Airport
Guangzhou, Guangdong, China

20 UNITS

- 17" Touchscreen, barcode reader, passport reader, payment device
- Automated bag tag barcode reader, laser ATR, RFID and 3D scanner
- Integrated to X-Ray machines at rear
- Generation 5 design

DAIFUKU

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P Series

Chengdu Tianfu Airport
Chengdu, Sichuan, China

88 UNITS | DUAL MODE

- 17" Touchscreen, barcode reader, passport reader, payment device, biometrics
- Automated bag tag barcode reader with AI, camera ATR and 3D scanner
- Integrated dual mode swivel desk
- Generation 5 design

Guangzhou Baiyun Airport
Guangzhou, Guangdong, China

26 UNITS

- 17" Touchscreen, barcode reader, passport reader, payment device
- Automated bag tag barcode reader, laser ATR, RFID and 3D scanner
- Integrated to X-Ray machines at rear
- Generation 4 design

N Series

Haneda Airport T1
Tokyo, Japan

38 UNITS

- 24" Touchscreen, barcode reader, passport reader, biometrics ready, dual printers, integrated tub holders
- Automated bag tag reader, baggage AI analysis and 3D sensor with tub detection
- Customised software, cloud platform and signage

Chitose Airport Domestic
Chitose/Sapporo, Japan

6 UNITS

- 24" Touchscreen, barcode reader, passport reader, biometrics ready, dual printers, integrated tub holders
- Automated bag tag reader, baggage AI analysis and 3D sensor with tub detection
- Customised software, cloud platform and signage

Okinawa Airport
Naha, Okinawa, Japan

14 UNITS

- 24" Touchscreen, barcode reader, passport reader, biometrics ready, dual printers, integrated tub holders
- Automated bag tag reader, baggage AI analysis and 3D sensor with tub detection
- Customised software, cloud platform and signage

Daifuku Common Use Platform

Member of IATA Common Use Working Group

Daifuku Common User Platform Summary

- Device / Component Manager
- Application Manager
- System Manager
- Multi Airlines

DAIFUKU

Daifuku Common User (CU) Platform

Daifuku Airport Technologies is an IATA Strategic Partner, and member of the IATA Common Use Working Group, focusing on the industry standards including Common Use Self Service (CUSS), Common Use Passenger Processing System (CUPPS), AEA - now IATA Technical Peripheral Standards (ITPS) and Common Use Web Services (CUWS).

Global experience

Daifuku's Common Use Platform combines our extensive experience in CU and bag drop installations with our BAGgate and Drop-UX platform and our native software and web service environments used globally.

Single touch

Daifuku's CUSS platform allows you to run multiple airline applications simultaneously, with the ability to quickly switch between them through a common launch screen. The common launch screen presents the various airline logos / applications available to passengers allowing them to select and launch the app by touching the relevant airline logo.
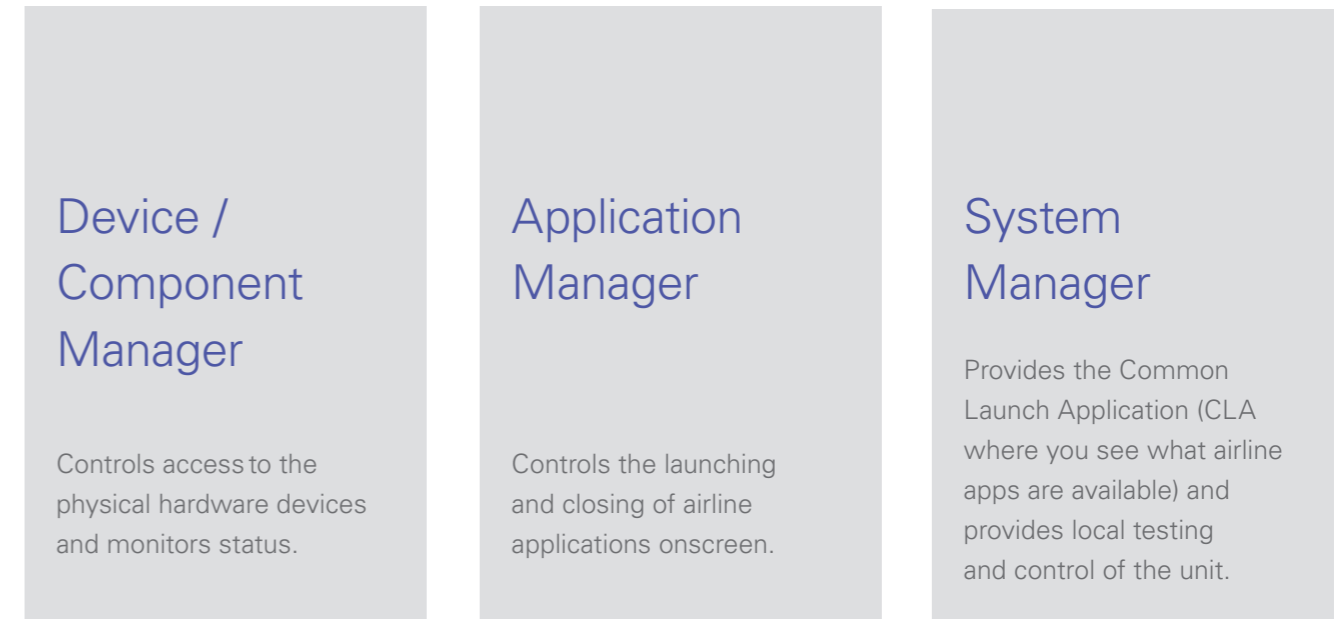
One platform, many uses

Provides a single basis for both kiosks and bag drops to run white label application or CUSS compliant applications and interact with the peripherals and other devices in the kiosk or bag drop unit in a consistent and controlled manner.

Timed to suit

Applications available on the launch screen can be configured on a per unit basis; and timed to fit airline / flight schedules so they are only available when a relevant flight is open.

Daifuku's CU Platform contains three main elements on the kiosk or bag drop unit.

Device / Component Manager

Controls access to the physical hardware devices and monitors status.

Application Manager

Controls the launching and closing of airline applications onscreen.

System Manager

Provides the Common Launch Application (CLA where you see what airline apps are available) and provides local testing and control of the unit.

These three components provide the functionality to standardise the access to peripherals and run multiple airline applications in parallel on the same kiosk or bag drop in a controlled and secure environment.

The Common Launch Application (CLA) presents the available applications and can be controlled by the management platform. Applications that are unavailable are dimmed out or not shown. The available applications can be controlled through the management platform or via AIDX/AIDM data feed from a FIDS, AODB or Resource Management System.

Our kiosks and bag drops have a built-in proximity sensor that is integrated with the CLA. Whilst the system is not in use, the CLA can switch to an "attract" or standby screen where it can show videos or animations to attract passengers to use the unit. When a person gets close to the unit, the proximity sensor will detect the person and switch the airline selection screen or launch a pre-configured application.
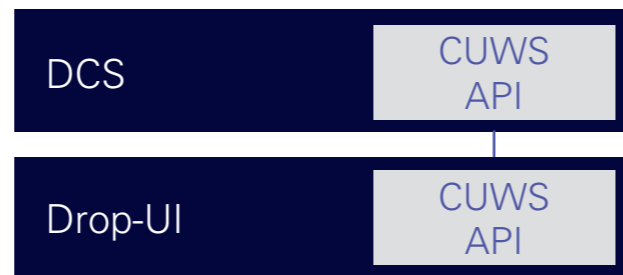
White Label Application

Daifuku can offer our SBD white label bag drop application, which is a Multi-Airline app for Airports or for individual Airlines.
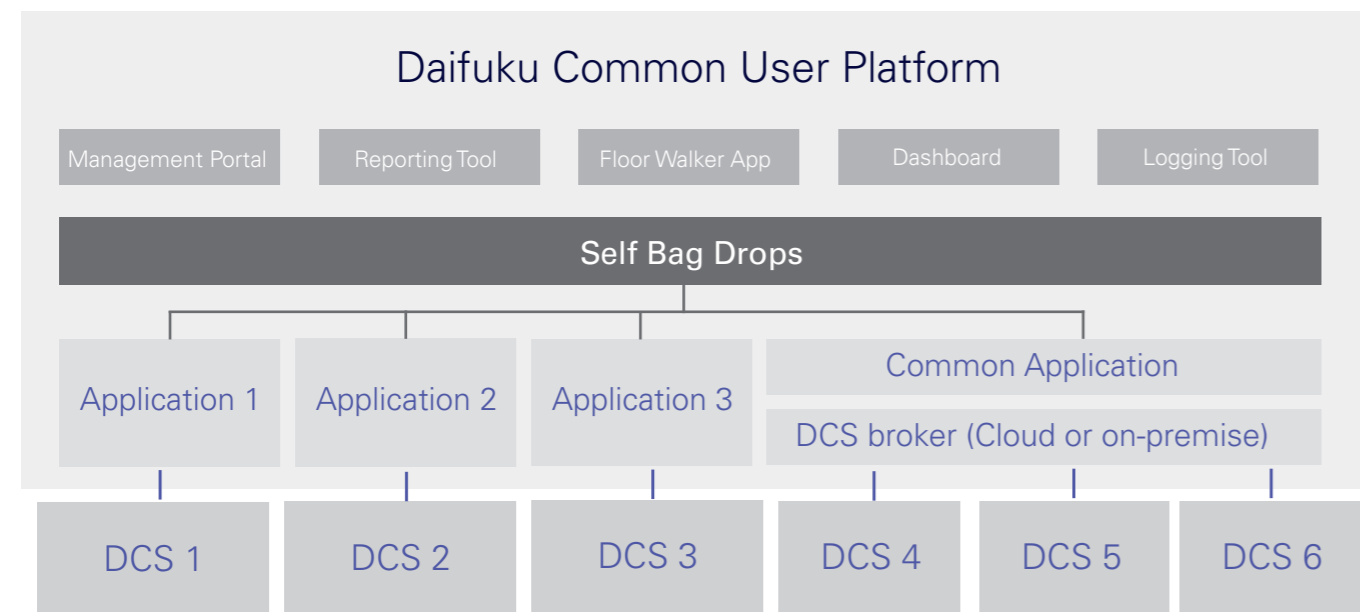
The SBD Airline application runs on the passenger interface to guide the passenger through the bag drop process. It is customised to the airport/airline requirements such as branding and local/airline business rules.
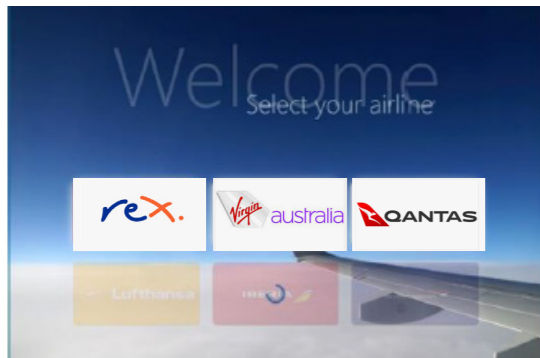
Interface to the airline DCS is typically done via a CUWS API (Common User Web Service). Other interfaces can be made if the airline DCS does not support CUWS.

DCS	CUWS API
Drop-UI	CUWS API

When used for multiple airlines in common use, (CUSS or native), the white label application provides a common format application with the ability to connect from back end to multiple airlines. The airline code is read from the passenger boarding pass, allowing the application to switch to the matching airline's branding and business rules.

Daifuku Common User Platform

Management Portal	Reporting Tool	Floor Walker App	Dashboard	Logging Tool

Self Bag Drops

Application 1	Application 2	Application 3	Common Application
			DCS broker (Cloud or on-premise)

DCS 1	DCS 2	DCS 3	DCS 4	DCS 5	DCS 6

Platform Management

Daifuku's CUSS Platform Management system is a cloud-based solution, hosted in Microsoft Azure. This provides a robust, scalable, and highly secure environment that can cater to almost any current or future requirement.

Due to the design of our architecture, we only require an internet connection from the airport SBD or Kiosk units to the cloud service, and the airline DCS CUWS interfaces or CUSS interfaces. This allows for rapid deployment and ease of scalability. Legacy airline host connections and WAN circuits may also be used if preferred for CUSS services.

The use of internet-based connections also provides for additional redundancy vs traditional host-based connections. Our global traffic managers allow for re-routing of traffic to other geographical zones should there be a major failure in a local region. Within our local regions we already have automated load balancing, failover and scaling based on pre-configured limits. The design also allows for real time deployment of new features and services without interruption as it waits for the existing transaction to finish then switches across to the new service.

Our cloud platform is distributed across a number of global zones to provide for geographic redundancy and latency reduction. Additional zones can be rapidly spun up if required to address data sovereignty challenges or latency issues, however it is important to note that we do not store personal data and our overall application / bag drop performance is not affected greatly by datacentre location.

In order to manage the environment and provide support, the customer shall provide a VPN service to provide remote access to the SBD or Kiosk units for assistance in managing and supporting the onsite applications and services. This may be via the same Internet connection and network that the units are using for access to the management platform and DCS broker, or an alternate connection to provide out of band management.

The technologies in use within our solution leverage the latest advances and are designed "cloud first" with the ability to also run onsite for challenging environments.

Further information

More information is readily available on the Azure platform security and redundancy; and data privacy and security for the Daifuku platform. Please ask your Business Solutions Manager for details.
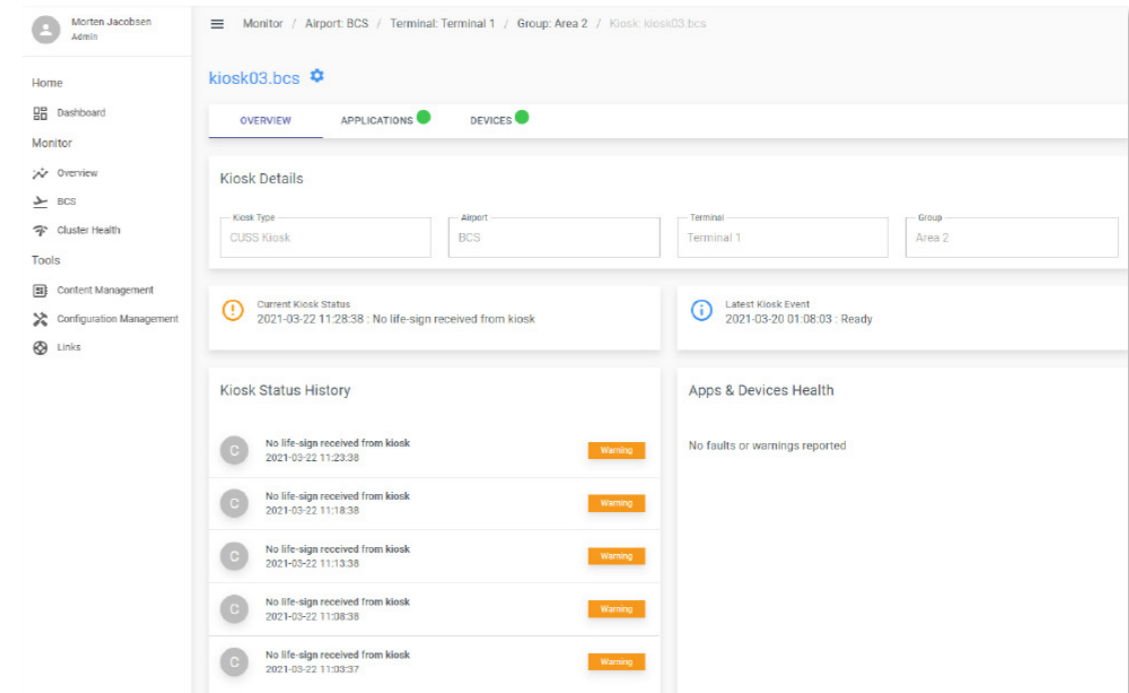
Management Portal

Daifuku's Management Portal provides complete control of all self service assets across all terminals or even multiple airports. The dashboard gives an immediate view on the status of each unit as well as interconnected network (such as cloud services), ensuring that support teams can resolve any issue before it impacts operations.
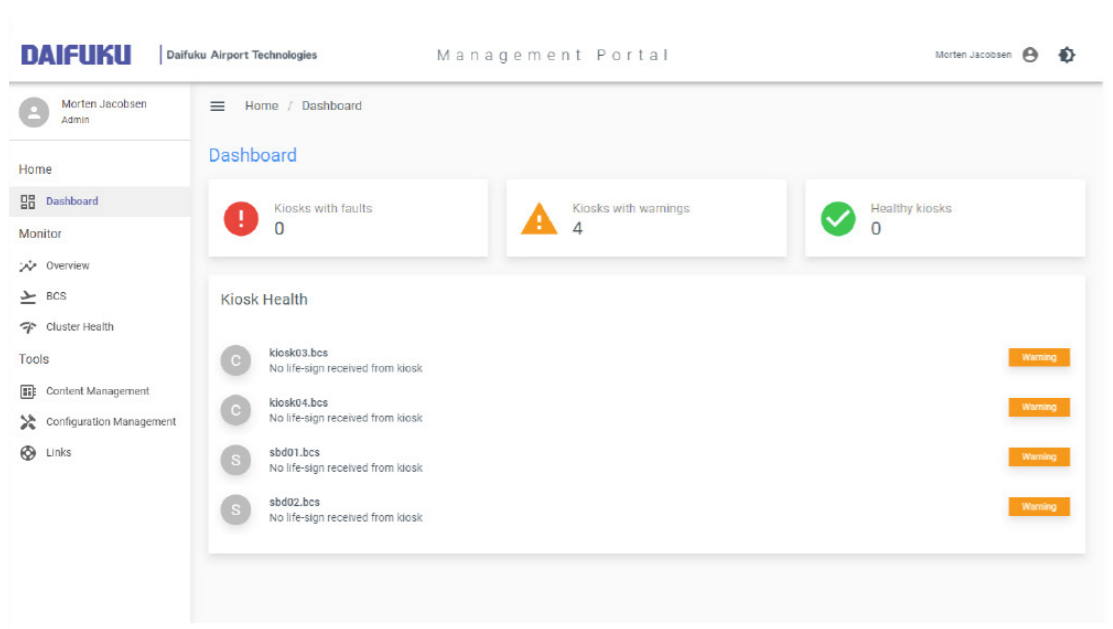

System Management Dashboard

In addition, all system and unit configurations can we be updated with one-touch across all units or a specific selection of units. Changes such as language translations or operational parameters can be made without on-site resource updating each unit manually meaning continuous improvements can be immediately utilised by passengers. This portal also allows the deployment of application updates enabling quick and easy addition of new features and security management thus lengthening the life of the hardware assets and ensuring passenger's data is managed safely and securely.

Management Portal

Kiosk / SBD Device Management

At a device level, faults and complete history are recorded ensuring Daifuku's remote support team can identify and resolve issues immediately.


Device Status

DAIFUKU | Daifuku Airport Technologies
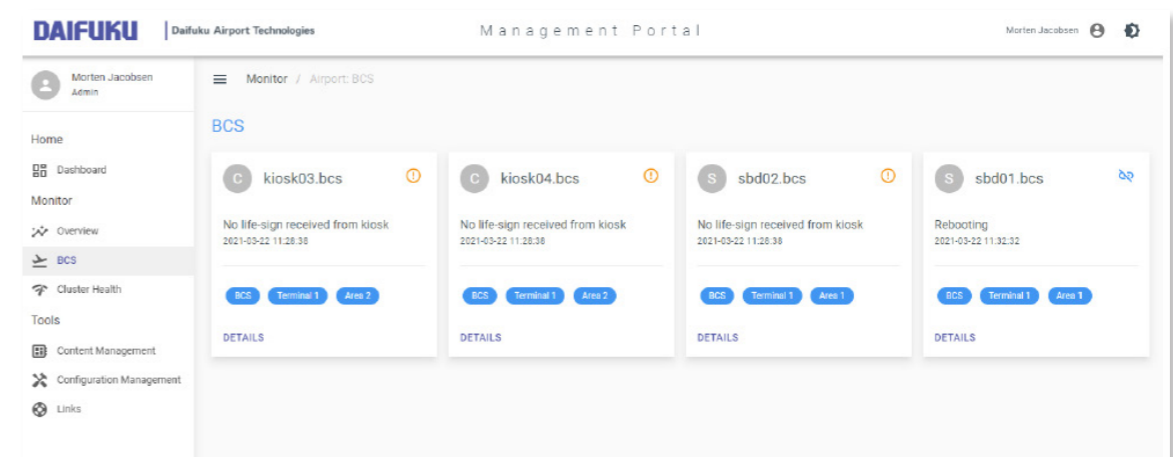
**DAIFUKU** | Daifuku Airport Technologies

Advanced Reporting

Reports available include

- **Bags Checked-in:** In this report, we display the general information regarding how many bags are checked in with basic filtering options.

- **Bags rejected:** This report provides data relating to baggage rejections and the reason why they were rejected and how these rejections are divided through the system.

- **Delivery Times:** To get an overview of time passengers and the system uses to process a bag, this report is particularly insightful. The difference for the system time which is the time used by the system to verify each step, e.g. booking, analysing bags, etc. and Passenger time which is the time needed by the passenger to perform the requested task/action.

- **Destinations:** Since an airport is a key hub for travel, the "Destinations" report provides information on where people are traveling, what language they prefer to interact in and how much baggage they are bringing to each destination.

- **Demographic:** The demographics report is complementary to the Destinations report and allows for a deeper understanding of "who" is using the bag-drop system and how they behave.

- **System Load:** This report is a combination of historical load and a prediction of future load. Here you will find information relating to the various "components" in the system. (e.g. BHS Dispatch time, DCS Response Time, Rear Processing Time, etc.)
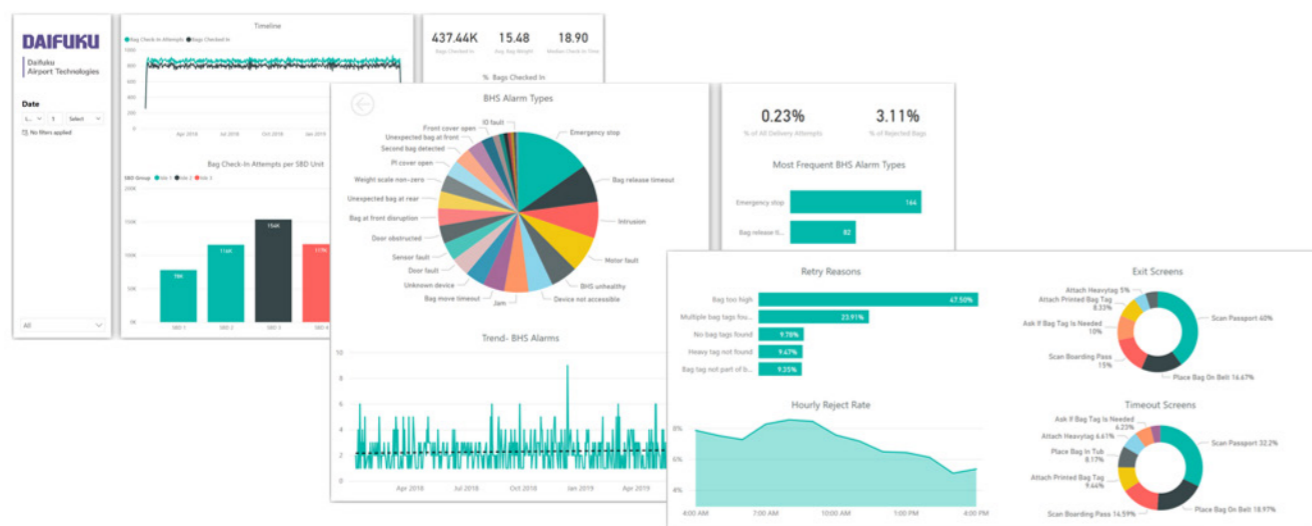

Daifuku has an optional tablet-based web application available to allow supporting airline staff at the bag drop to monitor the bag drop units and passengers using them. The application is running on a tablet and connected to Drop-UX Manager via Wi-Fi (by others).
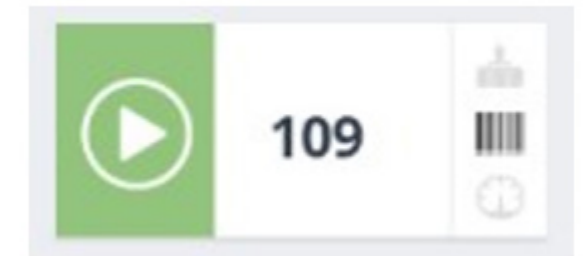
On one page, the airline agent assisting the SBD process can see all the SBD units or just the units in one zone. Each SBD cell shows the SBD status and the progress of the passenger in his transaction.
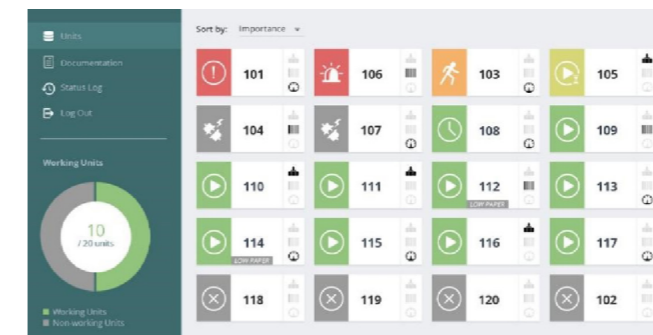
< If one transaction is longer than usual, the cell color will change color to attract the agent's attention. The agent can then go to the passenger requiring assistance.

When clicking on the Drop-UX icon, a popup image shows more details and controls on this particular unit.

A help menu assists the user >
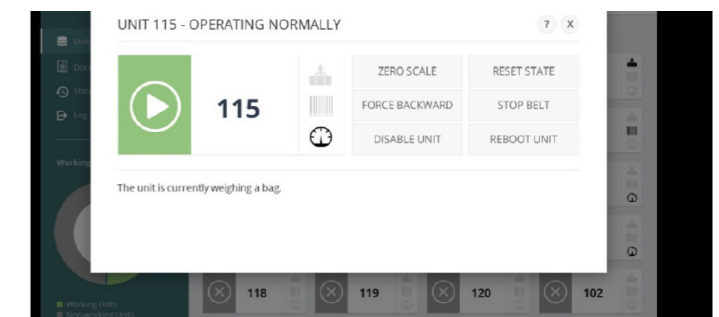
Daifuku Advanced Logging

Daifuku's cloud hosted logging service receives live log streaming from Bagdrops, Kiosks, and other Daifuku Self Service devices including Bag-UX AI analysis engine. This cloud service receives millions of log lines daily and provides an interface to search, parse, sort, and monitor the results and operations of devices in the field.

This cloud service is intended to be used by Daifuku or other approved support personnel to aid in diagnosis and resolution of issues arising from units in the field.
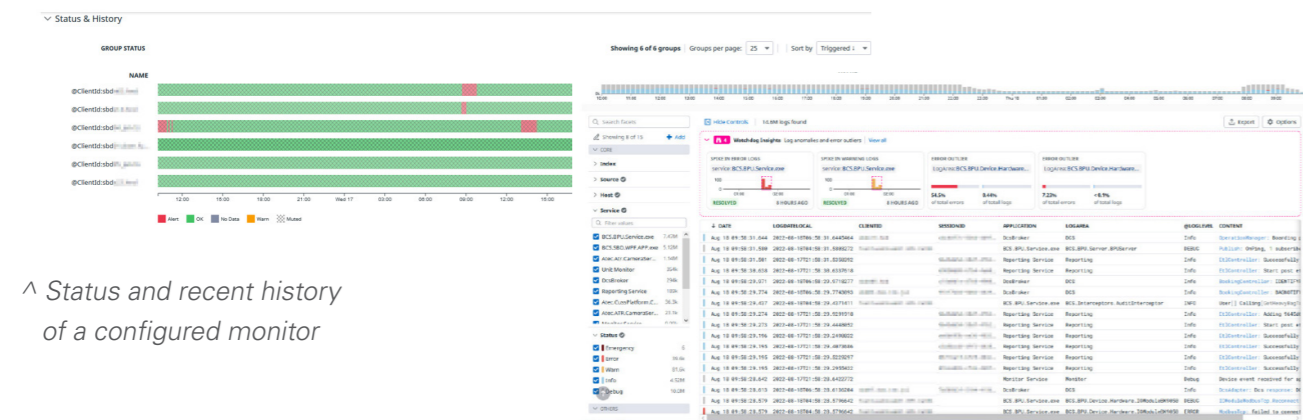
Log View

The main log view allows a view of all logs from all connected SBDs and other devices. These logs can be searched and filtered in a variety of ways:

- By time period
- By software package
- By client site

- By individual unit
- By log severity
- By custom search term

In response to an event, or to get a proactive view of real-time operation, logs can be filtered on demand or the filter saved as a view for easy reference. This allows immediate information on any area of investigation.

Live Monitoring and Alerts

Just as logs can be filtered for viewing and analysis, these filters can be configured as real-time monitors of status and trigger when a pattern is matched.

^ Status and recent history of a configured monitor

^ Main log view

Daifuku Advanced Logging

These monitors can be assigned a severity and send customized email reports to allow for either critical incident response, or to log a required point of maintenance to be performed by on-site maintenance staff.
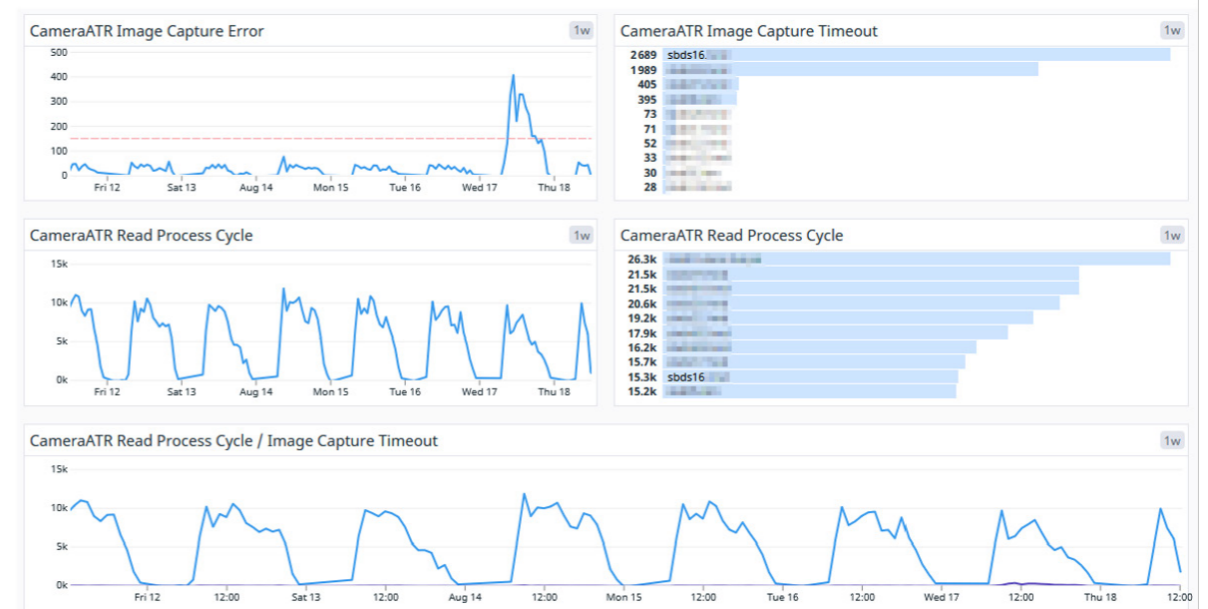
Reports and Trends

Daifuku's cloud logging service includes powerful log analysis tools allowing any query to be captured and plotted as a core metric. These metrics may then be analysed in real time and triggered by the automated monitors to be actioned, or plotted on a report for historical review of these metrics.

As a case study example, Daifuku Drop-UX units featuring the Camera ATR would capture metrics around camera image failures but also balance this raw count against total read attempts to get a failure rate.

This allows for multiple actions:

- Any SBD unit or camera which dips below a set performance metric can trigger a monitor alert to be sent to operations staff by email.
- A weekly summary report on ATR performance can be generated and emailed, or viewed at any time.
  - o This report can clearly display the trend and overall performance of SBD ATR readings.
  - o This report can be easily drilled down to identify any SBD, or individual SBD camera, which is performing poorly and requiring maintenance.

Camera ATR Performance Metrics

Daifuku Airport Operating Systems (AOS)

Our dynamic suite of integrated digital systems offer a range of operational benefits ensuring high-value information can be communicated faster and more efficiently.

RapidFIDS

RapidFIDS is the most advanced Flight Information Display solution in-market, offering real-time display of information across flights, check-in counters, boarding gates, visual paging, baggage carousels, in addition to other passenger and operational information.

With advanced rich-media capabilities, RapidFIDS gives complete control across the information communicated to passengers and when it is delivered, providing a true add-value experience.

Flight Manager

Used to view, insert and delete flights and their associated seasonal schedules, codeshares and ticket counter allocations.

Page Maintenance Utility (PMU)

Formats the type of data displayed to passengers and how it looks, including; flight, gate and check-in information, airline logos, text messages and other dynamic and static creative.

Device Maintenance Utility (DMU)

Tasked with monitoring and maintaining the hardware and software through the entire RapidFIDS network, preventing system failures and ensuring high quality service.

iDesk / iGate

Manages handler operational functions including the opening, closing and signage of check-in counters and gates.

RapidRMS

RapidRMS enables airport and airline personnel to plan and maintain mission critical activities including the scheduling, allocation, and real-time status of airport resources, incorporating gates, ticket counters, and baggage carousels.

The ability to act in real-time improves safety and workflow efficiencies, reducing the risk of error through redundant information and centralised validation, staff and passengers are kept up-to-date without delay or double entry.

System operators can reduce potential risks and errors through a single point of management, resulting in increased timeliness and reliability of information.

The flexibility of RapidRMS allows you to choose which features to include now, with the ability to add additional modules in the future, if required.

Our experienced team provide exceptional support to seamlessly integrate your existing systems, delivering comprehensive, cost-effective solutions.

Key features

- Real-time updates
- Schedule changes
- Allocation conflict detection
- Automatic notifications

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RapidHUB

The RapidHUB database collects, stores and distributes data collected from a myriad of data sources, including airline scheduling systems, airline detail tables, terminal resource capacity and capability tables, immigration statistics, active measurements of passenger flow, facility usage recordings and archived statistical data. The database serves as the central operation, administration and management utility, essentially building the administrative infrastructure for the airport as a whole. The database integrates flight scheduling, resource allocation, airline billing, retail marketing research, advertising displays, passenger information displays, and so on, depending on the needs of the specific terminal.

As the single point of interface for each of the integrated subsystems and data sources RapidHUB is able to: simplify interfacing requirements for airport subsystems, streamline interfacing requirements

and data flow models between various dependent subsystems, remove duplicate data, validate competing data sources to form a single version of the truth and optimise airport operational data flow by transmitting real-time data updates out to the various sub-systems.

Database

Uses an industry leading, enterprise grade relational database.

Integration subsystem

Collects, sorts, co-ordinates, redirects and retrieves information.

Interaction subsystem

Collects, sorts, co-ordinates, redirects and retrieves information.

RapidINSIGHT

Intersystems RapidINSIGHT provides airport management and key stakeholders with the ability to store and analyse big data throughout the airport to drive efficiency and maximise revenues.

RapidINSIGHT consolidates vast amounts of data from a miriad of collection points and creates detailed, accurate, timely reports with operational, commercial, marketing and financial focuses.

Extending the rapidsuite database to include support for commercial, marketing and financial system data inputs, rapidinsight transforms rapidsuite's operational reporting system into a comprehensive insights tool.

Big data is everywhere. Data is being generated by nearly every airport system constantly and harnessing it creates enormous value. Through a collection of specific data interfaces, rapidsuite's advanced algorithms combined with our powerful reporting engine and purpose built apps, result in rapidinsight delivering a scalable big data solution to your airport.

Download a copy of the
brochure by scanning
the QR code.

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