International Boarding Solutions

IATA 2018 GAPS Startup Innovation Awards

We design solutions to improve your passenger experience
Who we are?

We are a design and innovation startup that provides solutions to improve the passenger experience and doing so, improve the airlines and airports operations and increase the ancillary revenues.
Our value proposition

Using artificial intelligence, our solution is an electronic sizer that analyze weight and size in relation with the airlines cabin baggage policies and doing so:

➔ Solve one of the most important pain points for passengers, airlines and handling companies.
➔ Help to improve the airport operations
➔ Introduce innovation in an outdated process
➔ Treat all the passengers in the same way
➔ Help to automate some tasks that now are done by hand (fillings bag tag at gates)
➔ One devices fits all the airlines hand baggage policies. Common use kiosk
➔ Help to charge the hand baggage fee if applicable and due to this help to increase revenues for airlines and airports.
Our story

Some years ago we were waiting for a flight to Paris and we saw a woman having a discussion, or rather, a fight with a handling agent about the size of her hand baggage. The discussion was not really about the size, because the hand baggage was clearly oversize but because she saw that other passengers in the same situation were not controlled by the handling agent. At the end, it was the inability to control all the passengers carry on baggage which was the core of the discussion.

<table>
<thead>
<tr>
<th>MILESTONES</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>We started to analyze the problem, develop the concept and talk to the customers.</td>
<td>We devoted the whole 2017 to develop the new model</td>
<td>Expand our footprint throughout the airports but also at Hotels, train stations, malls, etc</td>
<td></td>
</tr>
<tr>
<td>The first prototype was ready during December 2015</td>
<td>Strategic agreement signed or analyzing</td>
<td>One of the most important test that we are going to develop during 2018 are with Swedavia, JetBlue, La Guardia Airport, Avianca, SATS, Swissport, Hamburg, Düsseldorf, Frankfurt, etc</td>
<td></td>
</tr>
<tr>
<td>February’16: We created International Boarding Solutions, S.L. and boards.com as registered mark.</td>
<td>➔ AHS Aviation Handling Services</td>
<td>➔ etc</td>
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</tr>
<tr>
<td>May’16: first company test:</td>
<td>➔ Corporación América</td>
<td>➔ etc</td>
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<tr>
<td>During June 2016 Alitalia decided to install our services at Rome Fiumicino Airport.</td>
<td>➔ Groupe ADP</td>
<td>➔ etc</td>
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<td>➔ Ikusi</td>
<td>➔ etc</td>
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<td>➔ Smarte Carte</td>
<td>➔ etc</td>
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<td></td>
<td>➔ Google</td>
<td>➔ etc</td>
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</tr>
</tbody>
</table>
Our history in images

2016
The idea and the Prototype

2016
First test

2017
New design

2018
Airport operator test
The problem we are trying to solve

The hand baggage weight and size control is one the most disturbing steps in the airport process.

Why do the boarding process and specifically the carry-on baggage weight and size control continue to be one of the most badly rated processes in the airport flow? It is not a problem of procedures it is a problem of the lack of tools to enforce the airlines carry-on baggage policies.

01 | Generate incidents

02 | Subjective because is the handling agent who decides

03 | Inefficient and time consuming

04 | Hassle inside the cabin

05 | Wasting time doing task by hand

06 | Incidents between passenger and ground handling staff
Our business model is the renting model where the customer don’t need to invest and we receive a monthly flat fee per device. The rental price per unit it will depend on the number of devices rented.

We include In this business model hardware, software licences and maintenance in the monthly price.

Our renting business model include:

➔ Support system architecture and communication equipment
➔ Devices network connections independent from the airport (3G).
➔ Software licenses and updates
➔ Cloud licenses and updates
➔ Airline exclusive cloud access to manage data
➔ Monthly report
➔ Connection to the DCS
Eligibility of the Application
Our submission address the following topics

Our solution is an electronic sizer that using artificial intelligence analyze weight and size in relation with the airlines cabin baggage policies.

Our Cabin Baggage Checker addresses the following topics determined by IATA:

- Artificial Intelligence
- Baggage
- Disruption
- Personalization
- Passenger tracking
Innovativeness of Business Idea
Product/service addresses a clearly-identified need and target users.

There is a clear need of solving the hand baggage problem and with our Cabin Baggage Checker we have introduced innovation and automation in one of the most outdated processes. Our solution is a step further in the hand baggage weight and size control. From the traditional metal sizer to an artificial intelligence machine that can improve the passenger experience and helps the carriers to do business as well.
Our Cabin Baggage Checker is a new way of doing the hand baggage weight and size control having in mind the passenger experience. The airlines will have the possibility to apply their cabin baggage policies, improving the quality process and the safety of passengers inside the plane cabin.

- Process automation (bag tag at gate)
- Track all the verification (real time information in order to manage the boarding process)
- Reduce hand baggage at gates
- Reduce passengers looking for room for the HB inside the cabin
- Night curfews can be met more often when using iboardings due to faster boarding processes
- Optimize and save space and time moving sizers around the airport.
- With our device the passenger won’t have to fight with the sizer. The compliant hand baggage it won’t depend on the passenger strength.
- The non compliant hand baggage it won’t depend on the handling agent decision. It would be a machine.
Benefits for the airport

FINANCIAL REVENUES

- Provide the service to the airlines to enforce the hand baggage policy, no matter how complicated these policies are and charge for it (fee, fee per verification or fee per checked baggage).
- Payment platform commission
- Charge for access to the cloud for data management
- Use the device as an advertising platform

SAVINGS

- Less hand baggage at the gates. That means improve OTP
- Save of space devote right now to stock up the sizers
- No more sizers around the airport
- Save time during boarding process.
- You can modify the hand baggage policy without changing all the sizers
- Save time printing bag tags that now are filling by hand

Benefits

- Processes innovation and automation
- Improve passenger experience. No more hassle inside and outside the cabin
- Contribute to the airline business Increasing the handling agents and airlines revenues
- Help airlines develop tasks that are currently being developed by hand.
- No more arguments between passengers and handling workers
- Improvement of the health of the handling agents
- Control weight on board.
- Boarding agility.
Benefits for the airlines

➔ Enforce the hand baggage policy, no matter how complicated this policy is.
➔ Control the hand baggage and generate ancillary revenues.
➔ Improving the boarding process and the OTP.
➔ Use the device to pay the hand baggage fee.
➔ Use it as an advertisement platform.
➔ Save time during the boarding process.
➔ Save space devote right now to stock up the sizers.
➔ Save time. You don’t need to move around the sizers.
➔ Less hand baggage at the gates. That means improve OTP.
➔ No more sizers around the airport.
➔ You can modify the hand baggage policy without changing all the sizers.
➔ Save time printing bag tags that now are filling by hand.

FINANCIAL REVENUES

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➔ Control weight on board.
➔ Boarding agility.
Features

- Baggage Classification under several categories (cabin approved, check-in baggage, two pieces of hand baggage, etc), designed to withstand a complex variety of baggage policies.
- Weight Measurement Certification under CE Standards.
- Multiple Airline Choice upon boarding pass recognition or Airline Selection Buttons.
- Access identification with User Login control.
- Possibility of assessing complex new conditions in order to emulate the decision of a human-made visual inspection, such as considering oversized bags with a low weight/volume ratio as Cabin Bags (soft bulky bags).
- Bag Tag printer for baggage to be sent to the airplane hold.
- Automatic/manual printing.
- Data Servers System distributed in order to guarantee availability.
- Central Cloud Platform that allows analyzing passengers data, statistics and behaviors in order to improve decision-making processes.
- Baggage photo storage for several purposes, such as lost-and-found baggage process improvement.
- Optional sound alarm if check-in baggage detected. Optional Cabin Space Limit sound alarm. It warns when a certain limit is reached (adaptable to flight number or airplane model).
- Optional for check-in areas or security checks: Cabin Approved Tag printing with flight number and date.
- On Screen Advertising when screensaver is on or between flights.
- Remote Software updates.
- Introduce a payment platform.
Product/service holds substantial and lasting appeal to target users

The hand baggage management is a hot topic around the world. Every airline and airport need to handle this problem. We are receiving request for testing from airlines and airports around the world.

IATA choose our device as one of the three most innovative products around the world.
Product/service is clearly differentiated from existing offering

At the moment our CABIN BAGGAGE CHECKER is the only product in the market with this features and with the possibility to be connected to the DCS and be used as a common use kiosk to analyze all the airlines hand baggage policies at the same time and at the same kiosk.

This differentiation can be seen around the whole document.
Drawbacks significantly minimized

As the hand baggage management is one of the most important pain points for passengers, airlines and airports the only drawbacks that we see at the moment is the maintenance of the status quo from the airports side.
Risk clearly identified with mitigation strategies

Our risks are based in the maintenance of the "status quo", the will to do nothing. Our company has the design of a product in which until now there was nothing. Taking into account this reality and taking into account the characteristics of the service under a contract between each of the interested customers for a currently non-existent service.

Entry barriers:
- Customer sector and customer knowledge (airports and airlines).
- Software development.
- The financial needs

Threats:
- The rapid technological evolution.
- The possible rejection of passengers
- The manufacture of larger aircraft to make luggage control unnecessary.
Mitigation strategies

**Threats:**

➔ **The rapid technological evolution.**
We are developing new measures systems and try to move faster than the future competence in order to have always the most innovative solution.

➔ **The possible rejection of passengers**
Our solution has been rated by the passenger as the solution they need to solve their pain points. Passenger experience drives our company business.

➔ **The manufacture of larger aircraft to make luggage control unnecessary.**
The future in the aircraft business is moving forward only single aisle aircraft.
The cloud

The main tool to manage the info generated by the devices
Financial Viability of Business Idea
Financial Viability of Business Idea

We create value by improving passenger experience, speeding up the boarding process, eliminating the fights between passengers and handling agents, increasing ancillary revenues, applying the cabin baggage policy, etc.

Right now, an airline can charge on average between 1 to 5 carry-on baggage fee per flight using the traditional metal sizer. With our Cabin Baggage Checker you could charge more than 30 hand baggage.

If you can speed up the hand baggage weight and size verification process you will get more opportunities to charge the non-compliant hand baggage.

Our financial feasibility is demonstrated due to we can assure you that our service can be paid with the benefits of ONLY ONE DAY OF USING IT. We are making money from the beginning with our first customer: Alitalia.
Timeline of Development and Implementation
Our strategy is our promise to deliver value, the things we do for customers, now and in the future, that no other company can do as well.

Our execution occurs in the thousands of decisions made each day by people at every level of our company.

Our strategy is based on these three pillars:

➔ **TEAM**: Tech and sales team expansion in order to develop better product and better service

➔ **PRODUCT**: Improve the hardware, the software (speed, reliability and the functionalities). Develop four new products in the next four years.

➔ **MARKET**: Identify key players to partner with to speed up the market expansion. Be present in the five continents.
# STRATEGY & EXECUTION HIGHLIGHTS

<table>
<thead>
<tr>
<th>STRATEGIC GOALS, FOCUS ON:</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
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<tbody>
<tr>
<td><strong>TEAM</strong></td>
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<tr>
<td>Tech and sales team expansion in order to develop better products and better services</td>
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<td>Project to retain and expand it.</td>
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<td>Hire 3 “test manager” and 2 Software engineer</td>
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<tr>
<td>Improve language skills</td>
<td>2 software engineer</td>
<td>2 software engineer</td>
<td>Sales support</td>
<td>Sales support</td>
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<tr>
<td>Other benefits for employees (15% NET )</td>
<td>1 Industrial engineer</td>
<td>1 Sales manager</td>
<td>2 Software engineer</td>
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<td>USA Country manager</td>
<td>1 office support</td>
<td>1 payment specialist</td>
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<td>Sweden Country manager</td>
<td>USA Country manager</td>
<td>Data manager</td>
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<tr>
<td>Improve team skills related to innovation and creativity (Stanford dschool)</td>
<td>Hire 3 “test manager” and 2 Software engineer</td>
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<tr>
<td><strong>PRODUCT</strong></td>
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<tr>
<td>Develop new device design and improve hardware and the software.</td>
<td>New measure system, speed, reliability and new functionalities</td>
<td>New patents for new products. (“Lost &amp; Found” product and prototype)</td>
<td>Big data and cloud revenues</td>
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<tr>
<td>System to attend customers 24/7</td>
<td>System to attend customers 24/7</td>
<td>Better cloud for better data management (start to analyze the generated data and their value)</td>
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<td><strong>MARKET</strong></td>
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<tr>
<td>Identify key partners. Agreements with global players that allow us market expansion. Priorities: Germany, Sweden, London Italy and United States (specially NY City Airports)</td>
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<tr>
<td>Agreement AHS: German speaking countries; Eastern Europe?</td>
<td>GERMANY (AHS)</td>
<td>Continue to devote time to North America (USA and Canada)</td>
<td>Asia year</td>
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<tr>
<td>South America: Corporación América</td>
<td>USA</td>
<td>Some trials in Asia</td>
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<tr>
<td>Asia: SATS</td>
<td>Canada</td>
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<tr>
<td>North America: Google, Sabre, etc</td>
<td>Mexico</td>
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<tr>
<td>Spain, Portugal, Middle East: IKUSI</td>
<td>South America</td>
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<tr>
<td>WEWORK office in NY during 2018</td>
<td>SWEDEN EUROPE (UK, France, Italy, Spain, Portugal, etc)</td>
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<td></td>
<td>Test in ASIA Embassy facilities</td>
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</tbody>
</table>
Strategic partnerships

Our go to market strategy is based in a number of agreements to expand the business.

<table>
<thead>
<tr>
<th>REGIONS</th>
<th>COMPANY</th>
<th>PHASE</th>
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</thead>
<tbody>
<tr>
<td>EUROPE</td>
<td>AHS AVIATION HANDLING SERVICE GROUP</td>
<td>German Speaking countries</td>
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<tr>
<td></td>
<td>Aéroport de Paris</td>
<td>Proposal</td>
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<tr>
<td></td>
<td>Materna</td>
<td>Proposal</td>
</tr>
<tr>
<td>SOUTH AMERICA</td>
<td>CORPORACIÓN AMÉRICA</td>
<td>Commercial</td>
</tr>
<tr>
<td>ASIA</td>
<td>SATS (Ground Red Team)</td>
<td>Test phase and commercial</td>
</tr>
<tr>
<td>SPAIN, PORTUGAL, MEXICO, ARABIA SAUDÍ, etc</td>
<td>IKUSI</td>
<td>NDA signed</td>
</tr>
<tr>
<td>NORTH AMERICA</td>
<td>JetBlue Ventures</td>
<td>Investment</td>
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<tr>
<td></td>
<td>Sabre</td>
<td>Comercial</td>
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<tr>
<td></td>
<td>Smarte Carte (could become an investment agreement as well)</td>
<td>Analysing Investment agreement</td>
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<tr>
<td></td>
<td>Google</td>
<td>Proposal</td>
</tr>
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</table>
Achievements
IATA IGHC Innovator Competition Prize. Doha (Qatar)

IATA has chosen our Cabin Baggage Checker as a finalist to the IATA IGHC Innovator Prize during the Ground Handling Conference held in Doha (Qatar). May 2018
Group ADP. Aéroports de Paris Innovation Hub

We’ve been invited by Aéroport de Paris (ADP) to participate in their Innovation Hub and in the Paris Air Forum. June 2018
Certifications

We have a global agreement with DEKRA in order to be up to date regarding any certification in any market.
Proof of concepts
# Proof of concepts

<table>
<thead>
<tr>
<th>DONE</th>
<th>DOING</th>
<th>TO DO</th>
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<tbody>
<tr>
<td>Alitalia</td>
<td>Hamburg Airport</td>
<td>Frankfurt Airport</td>
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<tr>
<td>Athens International Airport</td>
<td>Dusseldorf Airport</td>
<td>Iberia</td>
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<tr>
<td>Venice Airport</td>
<td>Hannover Airport</td>
<td>British. Heathrow T 3</td>
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<tr>
<td>Swedavia</td>
<td>Lux-Airport</td>
<td>La Guardia Airport</td>
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<tr>
<td>Air France</td>
<td>Aéroport de Paris. CDG</td>
<td>Swissport. Basel</td>
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<tr>
<td>Brussels Charleroi Airport</td>
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<td>Dubai. Flydubai</td>
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<tr>
<td>JetBlue. T5 JFK</td>
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<td>Avianca. Bogotá</td>
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<tr>
<td>Corporación América. Buenos Aires.</td>
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<td>La Guardia Airport</td>
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<tr>
<td>Groundforce Portugal. Porto Airport</td>
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<td>OMA Aeropuertos. México</td>
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<td>Nice</td>
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<td>Cancún. México</td>
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<td>Krakow Airport. Poland</td>
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<td>UTG. Moscow</td>
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<td>Ground Red Team.</td>
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<td>Singapore</td>
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</tbody>
</table>
These are the regions where we are going to concentrate our efforts. In each of these regions we want to have a partner in order to develop the business with.
Our early adopters: the airline point of view

ALITALIA results after 18 months of working with us:

➔ OTP Improvement: 4 minutes on average.
➔ 50% less hand luggage at the boarding gates
➔ 900 % increase ancillary revenues
JetBlue proof of concept

We are testing our Cabin Baggage Checker with JetBlue at New York JFK Airport T5
Experiences

We present in the following pages the benefits of our device from the point of view of an airport operator.
Swedavia proof of concept: the airport operator view

During January 2018 and for 30 days we performed a test for the Swedish airport operator, Swedavia, which raised a series of hypotheses to contrast during its development.

- At least 4 airlines and their ground-handlers shall have participated in the test
- PAX do understand what “hand baggage” refers to (80%)
- PAX do measure and tag their hand baggage (60%, soft test)
- Impression with PAX shall be that the machine does not extend the time to gate (50%)
- Machine reduces amount of controversies/complaints (30%)
- Machine is easy to use for Pax (95%)
- Machine is easy to use for Swedavia/personnel
- Machine is reliable and available
_Passengers thinking_

➔ 85% of the passengers thinks that the control is positive

_Reduce controversies_

_Easy to use for the passenger_

➔ Most of the passengers who used it transmitted ease of use.
➔ Sometimes the passenger does not have BP at hand.
➔ The gym bags are sometimes difficult to analyze
Easy to use for Swedavia

➔ The device is easy to move and start it
➔ The device requires little of the staff.
➔ Staff availability
Lessons learned from Swedavia

➔ Less discussions
➔ Less baggage to handle
➔ Common use
➔ Easy to use
Swedavia airports management meeting: attendee impressions

→ Great
→ Necessary
→ Effektiv
→ Smidigt (smooth)
→ Nyttig (useful)
→ Interesting
→ Fabulous
New machine to determine whether your hand baggage is allowed

2016-01-23, kl. 16:26

Hand baggage that is too large or too heavy is a problem for airlines. So a new pilot project – a cabin-approved test – is now being launched at Malmö Airport, which will make it easier to check the size of baggage.

"Airlines have long pointed out to us that something has to be done about problems with hand baggage. With this test, we want to see whether an automated hand baggage gauge can be part of the solution" says Jannick Nehls of Swedavia.

The idea is to use five common-use machines, which will work for a number of airlines, for three weeks. The devices read the size and weight of the bag and match them with the airlines’ regulations.

The hope is that the test, which Swedavia is carrying out in partnership with Funktions Fabriken, will be able to show a faster, easier boarding process.

"By conducting this test with Funktions Fabriken and the airlines, we want to learn whether this technology can be part of a future solution for handling hand baggage," says Fredrik Carlsson at Malmö Airport.
What can we do the devices at different set up airport positions
Check-in

- The passenger proceed to the check-in counter and use the device to know if their hand baggage need to be checked.
- The passenger goes directly to the security.
- In this position you could check whether the carry-on baggage is compliant by scanning the boarding card or clicking on the button / logo of the airline with which you are flying.
- Our device serves to accelerate the process of self bag drop.
- In addition, it could be located outside the airport (stations, hotels, etc.)

Security

- At this position we can verify the web check-in passengers.
- Diminish the number of hand baggage at the gates and as a consequence, less hassle inside the plane cabin.
- Improve the boarding process.
- Payment process.
- Print the checked bag tag.
- Allow to know the passenger fare.
- Print the “Cabin ok bag tag”.

Gate

- Fast track mode: print bag tag without analyzing the hand baggage.
- Identify passenger and fares.
- Allow the limit in cabin mode: from a determine amount of hand baggage start to print bag tags.

Compliant

- Print the Cabin OK.
- Print the bag tag and sent the hand baggage to the check-in counter and pay the fee.
- The passenger verify his hand baggage.
- Proceed to boarding.

Non-compliant

- Print the checked bag tag and leave the hand baggage at the self bag drop system or at the check-in counter.
- Print the bag tag and sent the hand baggage to the check-in counter and pay the fee.
Iboardings Team

A high qualified team of industrial engineers, software engineers and designer to provide the best hardware solutions to airports and airlines to improve the passenger experience.
José Luis Cámara
CEO

Professional Experience

➔ Founder and CEO of International Boarding Solutions
➔ General Manager. European Institute of Political Studies. Spain
➔ Executive Director. Málaga Emergency and Fire Service Department
➔ Consultancy Managing Director. AT4 Wireless. Dekra Group
➔ Director “Environment Transport & Planning”.

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