



Honeywell

PREPARING AIRPORTS FOR SUSTAINED RECOVERY



As of spring 2021, air travel remained one of the hardest-hit global industries according to Airports Council International (ACI).¹ The situation is changing dynamically, though, and ACI sees potential for improvement. Long months of ‘vacation deprivation’ combined with an upsurge in confidence in air travel and safety measures should result in more people starting to travel – even abroad.

As flying resumes, airports must be mindful of their broader obligations. The most pressing of these is the need to provide passengers and staff with a safer environment that protects them from increased risk of exposure to contaminants. At the same time, European governments are working to achieve the aims of a Green Deal that will cut the continent’s carbon emissions to net-zero by 2050,² and airports are expected to play their role in this deal. In United States president Joe Biden announced on April 2021 a new target for his country to achieve a 50-52 percent reduction from 2005 levels in economy-wide net greenhouse gas pollution in 2030. He emphasized that the United States can reduce carbon pollution from the transportation sector by reducing emissions.³ Airports Council International World and the five ACI regions – in collaboration with members – have created a long-term carbon goal for their member airports: “ACI member airports at a global level commit to reach net zero carbon emissions by 2050 and urge governments to provide the necessary support in this endeavor.”⁴

Likewise, the United Nations World Tourism Organization – UNWTO – has outlined its vision⁵ for the responsible recovery of the tourism sector, which encourages decarbonization and better monitoring of emissions.

BALANCING COMPETING EXPECTATIONS

Airports are in an unenviable position. They must play their part in reducing global emissions while at the same time providing safer environments for passengers and staff. This requires better air quality and constant monitoring of air filtration and conditioning as well as cleaning systems – all this at a time when they will have to work on reduced budgets. While airports are seeking to recover the losses of 2020, the International Civil Aviation Organization projects that worldwide passenger numbers for 2021 will remain 62% to 75% below⁶ what they were in 2019. This suggests that the industry’s recovery will be a gradual uptick over several years, rather than a sharp incline in a short time period.

Yet savings – both financial and environmental – can be made using solutions tailored to airports’ needs. With accurate, real-time analysis of metrics gathered from across an airport estate, operators can track changing environmental factors

as usage patterns evolve and also perform proactive, predictive maintenance, addressing potentially troublesome issues before they become expensive points of failure.

Honeywell Sustainability Suite is one such solution. It presents a unified view of building usage so that HVAC (heating, ventilation and air conditioning) settings can be tailored to adjust to live passenger flows. This reduces running costs while allowing passengers and airport staff to benefit from cleaner, safer and more comfortable air. Advanced video analytics can allow for monitoring of PPE use and social distancing compliance – two measures that have consistently recommended by health organizations like the CDC⁷ – while thermal cameras can detect passengers with elevated skin temperatures. Honeywell’s ThermoRebellion scanning solution has been installed at New York’s JFK airport, where it’s screening 60 passengers every minute to identify and isolate potential infections before a flight manifest disperses after baggage claim and immigration.





UNIFIED SOLUTIONS FOR DIVERSE DEMANDS

Honeywell has committed itself to becoming carbon neutral in its operations and facilities within the next 15 years, and its Sustainability Suite delivers the tools required by like-minded businesses treading a similar path. The Suite's functions encompass energy optimization, implementation of renewable energy where possible, adoption of renewable fuel technologies, and ongoing audit and assessment using comprehensive dashboards.

Such solutions are not only available to new sites. Aging infrastructure may be coping with suppressed passenger flows – but will become increasingly inefficient as traffic starts to recover. At that point, the imperative for operators will be to rely less on point solutions and move over to integrated systems. Doing so needn't require an end-to-end refit. The Honeywell Sustainability Suite is a holistic framework that can integrate with existing systems to deliver quantifiable improvements to processes and energy use. Upon its initial implementation, it is tailored to the specific environment in which

it is used and a benchmark for assessing improvements to this environment. By monitoring the effect of automated changes to HVAC, lighting and other systems over time, the system quickly becomes more proficient in making a positive contribution to achieving sustainability goals for the site.

The Honeywell Command & Control Suite (CCS) further simplifies the task of isolating and managing incidents by providing map-based navigation. By improving situational awareness, it puts data into context so that operators can visualize knock-on effects and quickly allocate resources and staff where required. Optimized to work on any screen, CCS provides data that is portable, so personnel travelling from a command post to a point of action are always working with the latest information and can make better informed decisions when on site.

These systems are fed by the Honeywell Enterprise Buildings Integrator (EBI), a key component of the connected airport, to provide an all-in-one overview of metrics gathered from sensors deployed both airside and landside, sitewide. At Pittsburgh International Airport, EBI has centralized

management of 9,000 fire detection points and 17,000 HVAC units across a 10,000-acre site. It gives passengers an insight into how improvements to the airport's ongoing energy use have succeeded in operating costs. These include turning off escalators at night and using occupancy sensors to reduce power to systems in vacant areas.

Other components, like Honeywell Energy Manager, analyze and minimize energy consumption, while Honeywell LifeSafety Manager detects potential dangers and automates public address and voice announcements.

Announcements have an important and often overlooked role to play in reducing carbon production, as they can minimize at-gate delays and the knock-on environmental and financial impact of burning fuel while waiting. Pristina International Airport in Kosovo uses LifeSafety Manager to integrate its public address and automatic flight announcement systems to deliver important, automatic, manual or emergency calls that are uninterrupted and stores flight announcements for rebroadcast when the system is once again available for use.



AIRSIDE IMPROVEMENTS

Aviation has an environmental impact even when standing still. Aircraft idling on aprons, delayed departures and congestion that requires planes to circle each have quantifiable outcomes. Airports that are serious about becoming more sustainable need to implement solutions that extend beyond the terminal building to create shorter turn-arounds and reduce waiting time through better alignment of airport stakeholders and the use of integrated systems.

New Delhi's Indira Gandhi International Airport has done precisely this. It's cutting expenditure by switching to LED and using Honeywell's Light Manager. This gives it more granular control and localization of potential faults, allowing it to better manage expenditures and to implement repairs more quickly, avoiding disruption. In addition, Honeywell Navitas Turnaround Manager enables the airport's airside operations to better use ramp and apron assets by optimizing uptime and visibility of operations.

The more data an airport has at its disposal, the more informed the decisions made by its operators. Capturing a broader range of data allows them to gauge ongoing performance

against KPIs and use it in managing tower operations, engineering, passenger experiences and workflows. Systems can be used to forecast bottlenecks, allowing management to coordinate solutions that may never be noticed by passengers. Using data to improve the process of positioning aircraft on the ground reduces fuel burn to help airports meet their obligations in accordance with ICAO and Eurocontrol Standards for Advanced Surface Movement Guidance and Control Systems.

BUILDING BACK BETTER

Airports are no longer collections of individual buildings performing discrete functions. They are connected environments that use site-wide connectivity, data sharing and the automation of workflows through artificial intelligence (AI) and machine learning to increase security and make flying a more enjoyable experience for passengers, while at the same time improving collaboration and efficiency.

AI-driven analytics systems, sensors and IoT solutions provide better management of ground traffic and airport facilities and help reduce fuel consumption between the gates and runways. As a result, connected airports can become more efficient and cost-effective

operations and also safer and more pleasant places to visit as a passenger or employee.

2021 can give airports the opportunity not only to build back but build back better by partnering with a solutions provider that has the reach and experience to implement tried and tested solutions to meet the unprecedented challenges airports face today.

Additionally, in the United States, the government Airport Improvement Program (AIP) provides grants to public agencies (in some cases, to private owners and entities) for the planning and development of public-use airports that are included in the National Plan of Integrated Airport Systems (NPIAS). Projects include improvements related to enhancing airport safety, capacity, security, and environmental concerns.⁸

More than 500 airports worldwide employ Honeywell solutions, including South Korea's Incheon International Airport, which has engaged Honeywell as an advisor since 1997. Honeywell solutions have been in use both landside and airside since the airport's opening, helping to deliver more efficient operations, user friendly interfaces and greater energy efficiency.

1 Source: [The impact of COVID-19 on the airport business and the path to recovery](#), ACI, March 25, 2021 [Accessed June 22, 2021]

2 Source: [A European Green Deal](#) European Commission, Priorities 2019-2024 [Accessed June 22, 2021]

3 Source: [President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies](#), White House, April 22, 2021 [Accessed June 22, 2021]

4 Source: [ICAO Statement on ACI World's Long Term Carbon Goal Study](#), Airports Council International (ACI), June 8, 2021 [Accessed June 22, 2021]

5 Source: ["ONE PLANET VISION FOR A RESPONSIBLE RECOVERY OF THE TOURISM SECTOR"](#), UNWTO, 2020 [Accessed June 22, 2021]

6 Source: [ICAO, Effects of Novel Coronavirus \(COVID-19\) on Civil Aviation: Economic Impact Analysis](#), ICAO, 15 June 2021 [Accessed June 22, 2021]

7 Source: [Public Health Activity Guidance](#), CDC, April 8, 2020 [Accessed June 22, 2021]

8 Source: [Overview: What is AIP](#), Federal Aviation Administration, March 16, 2021 [Accessed June 22, 2021]

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