

# DEFINING A NEW STANDARD OF CLEAN AT U.S. AIRPORTS

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## INTRODUCTION

It is clear to America that one of the many industries heavily impacted by the COVID-19 Global Pandemic is the Airline industry. The collapse in demand is unprecedented and they are struggling to align their priorities of increasing the confidence of employees and passengers regarding their safety with the economic need to keep passengers flowing. Airports everywhere are doing their best to help contain the spread of the virus – protect people – and survive this global pandemic.



Prior to the global outbreak, more than 2.7 million passengers flew every day (over 1 billion annually) in and out of U.S. Airports. Those passengers were supported by more than 10.6 million employees across the aviation industry.

As we begin to practice “social distancing” in our daily lives there is a heightened sensitivity to maintaining our new standard of clean wherever we travel. In recent years, America’s airports have made great progress to enhancing the passenger journey experience at every touch point possible. Amid the recent global pandemic, airport facility managers must lean on new data driven technologies to be proactive in meeting the traveling consumers expectations.

This white paper explores the responsibility for defining and maintaining our nation’s airport cleaning standards and how new technologies can assist airport management in communicating consistent, real-time and safety focused confidence to the traveling public.

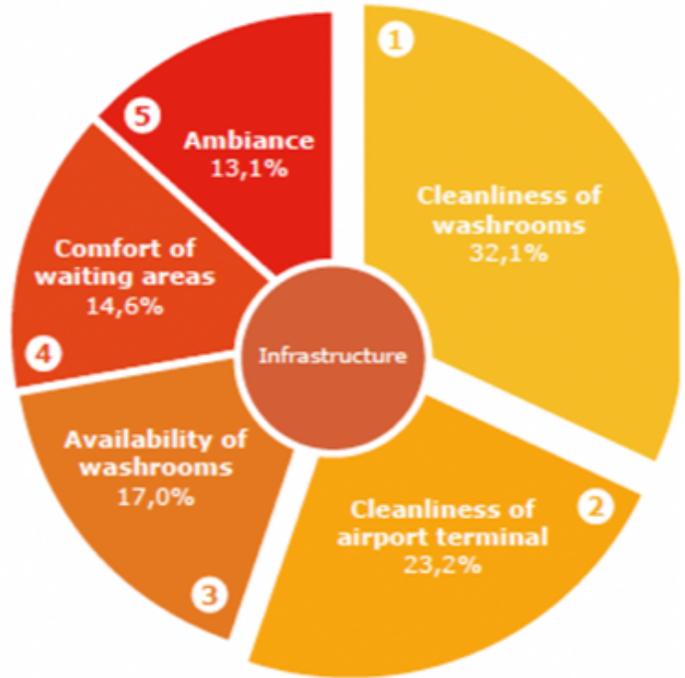
## COVID-19 IMPACT

The US Government's ban on air travel between Europe and the United States could cost the airline industry more than \$2 billion in lost revenue over the ban’s 30-day period. Many industry experts such as IATA (International Air Transport Association) have estimated an overall potential cost of this disruption and drop in travel demand, due to the pandemic, at well over \$200+ billion (nearly 40 percent).

In response, airport operators across the world have implemented enhanced infection control initiatives that include deep cleaning and disinfection procedures for objects and surfaces.

Airport owners across the country have targeted the increase of non-aeronautical revenue as a pivotal goal in their management of airport facilities. For example, Hartsfield-Jackson Atlanta International Airport, the world's busiest airport has tracked the fact that a bad restroom experience can affect its bottom line. A J.D. Power's study found that for large airports (at least 30 million passengers per year), "delighted" passengers spend up to 190% more in the airport than "disappointed" passengers.

Steve Mayers, the Director of Customer Experience at Hartsfield-Jackson Atlanta International Airport, shared a recent ACI (Airport Council International) ASQ Cleanliness Best Practices Report which shows that the traveling public ranked the Cleanliness of Airport Terminals and Washrooms as making up more than 50% of the most important items affecting an airport passenger's experience.



Airport Council International ASQ Cleanliness Best Practices Report 2017

It is crucial for the global economy, that the aviation industry recover as soon as possible. To help our country bounce back from this global crisis when travel restrictions are lifted, airports must provide a uniform **Confidence Indicator** to the public and airport employees. These indicators must ensure that the facilities and airplanes are sanitized and safe for everyone.

## WHO IS RESPONSIBLE TO DEFINE THE CLEANLINESS STANDARD?

As airport operations in the 20th century have evolved, standards and protocols became required to achieve operational capabilities. As we confront new challenges like the COVID-19 pandemic, a new set of cleanliness standards have moved to the forefront of our evolution.

A brief history, in October of 1966 President Johnson signed the Department of Transportation Act aligning 5 operating elements under the Department of Transportation. The Federal Aviation Administration was responsible for granting Airport Operating Licensing Rights to municipalities across the country. Those federal operating licenses came with a basic set of responsibilities along with ongoing federal funds to grow and develop the airport facilities.

When airport owners and operators accept federal grants, they agreed to preserve and operate their facilities in a safe and efficient manner and comply with certain conditions and assurances. These obligations can span different airport development grant programs, including the Federal Aid to Airports Program (FAAP), the Airport Development Aid Program (ADAP) and the Airport Improvement Program (AIP).

One of the 13 Major Obligations includes the owners' agreement to properly maintain the maintenance and operation of all airport facilities and keeping good records of maintenance to quickly reference incurred obligations. The challenge is that each airport owner gets to define their own standard.

While most airport agreements with the federal government impose an obligation on the local sponsor to preserve and maintain airport facilities in a safe and serviceable condition, **there are no specific standards that every airport must adhere to**, nor is there a way to compare each airport with a common rating.

In addition to the responsibilities of the individual stakeholders (aircraft and airport operators, ground service providers, etc.), several international bodies, such as the International Civil Aviation Organization (ICAO), the International Air Transport Association (IATA) and the Airports Council International (ACI), play an important role in protecting the health of passengers and crew. There are a host of federal agencies and industry groups that could be looked upon to help define a common standard of care across all nationwide airports.

The below box describes input that could be contributed from these groups.



Diseases such as COVID-19 pose a risk to the traveling public because they can be transmitted between humans. Therefore, it is important that all involved stakeholders assist in limiting its spread by air transport. ICAO, WHO, IATA, TIACA and ACI have worked in close cooperation in the development of this single source for aviation-specific guidelines with the objective of ensuring appropriate planning and action at all levels in order to mitigate the effects of a human outbreak.



Chapter 7 of the FAA Airport Operations manual contains guidance on an airport sponsor responsibilities for operation and maintenance of their airports. It is the responsibility of the FAA airports district offices (ADOs) and regional airports divisions to ensure that the sponsors under their jurisdiction operate and maintain their airports in accordance with federal grant assurances and federal transfer agreement obligations.



The Centers for Disease Control and Prevention issued updated guidelines for airlines as coronavirus continues to spread around the United States. Hard surfaces (think: armrests, tray tables, window shades, and the entertainment system) should be cleaned with special disinfectant products that have "EPA-approved emerging viral pathogens claims that are expected to be effective against the virus that causes COVID-19," according to the agency. As you can see this is very focused on the airplane and not the airport facility.



The transportation sector is the largest source of climate pollution in the United States. Our cars, trucks, ships and other vehicles also emit other dangerous types of air pollution - like particle pollution which contributes to asthma attacks and lung disease - when they burn gasoline and diesel, the most commonly used fuels. The DOT has no standards for cleaning of airport facilities.



The Occupational Safety and Health Administration (OSHA) provides additional information on the webpage "OSHA Assistance for the Cleaning Industry". Their guideline are not airport specific in as much as they are for specific cleaning organizations procedures for compliance by their employees.



The Environmental Protection Agency (EPA) has standards for safer cleaning products under the EPA's Design for the Environment (DfE) Safer Product Labeling Program ([www.epa.gov/dfe](http://www.epa.gov/dfe))

## STATE OF AVAILABLE TECHNOLOGIES

A recent study by Arthur D. Little on Airport Digital Transformation shared many of the top technologies that have the greatest potential to deliver costs and efficiency gains at airports.



While there are many technologies for an airport's management team to consider, there is no silver bullet. Some airports may take a more collaborative approach like Dr. Kofi Smith, President and CEO of the Atlanta Airlines Terminal Company (AATC), who has responsibility for the central passenger terminal complex (including domestic and international) at Hartsfield-Jackson Atlanta International Airport.

Leveraging the strength of his relationship with partners across the

top five technologies above using Big Data, Cloud Technology, Internet of Things (IoT), Mobile, AI, and Collaborative SMART machines, Dr. Smith has taken bold steps to integrate several solutions to make passengers feel confident and comfortable during their journey through his airport. Below are how these technologies can assist all airport managers in being part of a common strategy to keep our nation's airports safe and clean.

Dr. Smith uses the Conditions Confi-Klean platform for managing Big Data via a real-time dashboard showing the cleaning schedules and inspections for all of the airport spaces, assets, and washrooms. Each area and their associated inspections carry a ratings score that can be published and shared so an employee or traveling passenger can know the Confi-Klean score of the facility where they are traveling.

Leveraging the Internet of Things, the busiest airport areas and restrooms have sensors installed in SMART toilet paper holders, paper towels, trash cans and visual lighting sensors to assist the users in having a great experience. A system of wireless communication technologies from Infax, Georgia Pacific, TOTO and other partners share information via **cloud-based** processing and data storage to provide customized and secure communications between restroom fixtures and facility managers and their staff through **smartphones, tablets and desktop apps**.

The AATC has enjoyed improved sustainability, increased labor efficiency and increased costs savings in restroom operation. Further, the AATC has seen an increase in custodians' job satisfaction and waste reduction.

When paired with future **Artificial Intelligence (AI)** solutions like the Conditions Einstein module, an airport's management team can coordinate the anticipated resource schedule with the scheduled volume of passengers expected to come through their facility so that a standard of cleanliness may be maintained based upon the predicted volume of passenger traffic.

Many airports have introduced various forms of feedback mechanisms to obtain input from passengers to improve their travel experience. In our new “no-touch” world, Microsoft’s **Artificial Intelligence** solution may be considered to capture a customer’s facial expressions to know whether they are having a positive or negative experience near a restroom or other part of the airport. This data can be quickly analyzed in the cloud to activate enhanced services to the exact area where the passenger has been. This predictive analytics approach can assist airport facility management in driving an increase in non-aeronautical revenue as they correlate facility rating data and consumer purchasing data across common spaces.

## BASELINE FOR THE STANDARD

There is no single organization tasked with the responsibility to define and hold all U.S. based airports to the same standard of care for their facilities across the board. The FAA has a sub-group called the Airport Cooperative Research Program (ACRP), they are an industry-driven, applied research program that develops practical solutions to problems faced by airport operators. Should the ACRP have additional funding from the recent allocation to the airline industry, a worthy project award might be the definition of a recommended cleaning framework for all U.S. airports that can include a minimum of the following items:

1. Define a strategy to integrate data from anticipated passenger volume with actual resource scheduling to ensure there is an adequate ratio of service resources to passenger/employee for safe cleanings to occur.
2. Define a strategy to integrate Artificial Intelligence to lean into a safety first model versus a costs management approach when it comes to airport facility maintenance.
3. Define a common facility rating solution to give airport employees and traveling passengers the confidence to return to pre-pandemic traveling volume.
4. Define a strategic framework to re-align current contracts with actual requirements.
5. Deploy an integrated process and technology solution that supports an open architecture to share best practices, common procedures, and data driven decision making.

ACI President and CEO Kevin M. Burke and AAAE President and CEO Todd Hauptli recently sent a letter to House and Senate leadership explaining the dire situation airports are facing and requested \$10 billion in immediate assistance to deal with the COVID-19 challenges. These two groups represent more than eighty-percent (80%) of the Tier I - Tier IV airport leaders and their employees and the traveling passengers that must regain their trust and confidence. The Federal government has heard the cry of the airports by granting them the \$10 billion dollar request, with \$7.4 billion set aside to allow an airport to do anything they would like to do with the funds.

Another \$2 billion is reserved for AIP (Airport Improvement Program) purchases, which is the funding mechanism for airports to fund specific airport projects. This could range from terminals to ramps to runways. This money is not meant to be spent for any operations, but strictly for improvement projects. For perspective, the 2018 and 2019 AIP appropriations for airports was about \$3.3 billion annually. So the extra \$2 billion of AIP, dedicated to airport projects is a 60% bonus. It’s a big deal for the airport industry.

It is incumbent on the nation's airport leadership to work together against the new invisible enemy of COVID-19 and any future attacks on our aviation system which has become central to the way we live and do business, linking people from coast to coast and connecting America to the world.

As Dr. Kofi Smith expresses, “we strive to provide our passengers with a world-class experience — one that truly delights them. Not simply because it improves our bottom line, but also because it has a positive impact on their perception of our airport and our city as whole”. When our country's airports take this same approach to having a common standard of cleanliness across U.S. airports, we will quickly regain our position as the safest place to travel worldwide.

