Johnson Controls is powering the safe recovery of the airline industry

Solutions and capabilities to safeguard airport buildings and reimagine passenger travel

Reopening solutions

- BAS, lighting and security systems adjustments
- Life safety inspections and maintenance
- Mechanical equipment inspections and maintenance
- Safety, compliance and risk inspections
- Energy cost control
- Disinfectant lighting solutions
- Air quality assessments and strategy
- Water testing, cleaning and treatment

Resilient/flexible infrastructure support

- Infrastructure readiness for "pandemic mode" or other emergencies
- Flexible facilities and space repurposing
- Technology resources and expertise
- Energy and operational saving strategies

Safe and healthy environment solutions

- Elevated skin temperature screening
- Space planning and occupancy strategies
- Location based services
- Social distancing strategy and enablement
- Preventative cleaning strategies and enablement
- Occupant hygiene strategies and enablement
- Frictionless, touchless environments
- Office, meeting and collaboration space management
- Enhanced wayfinding solutions
- Enhanced communications
- Staff duress options

Passenger, staff and visitor screening solutions

- Elevated skin temperature screening
- Visitor screening and management
- Credentials management
- Parking garage enhancements

Remote services

- Remote monitoring and maintenance of building systems
- Preventative and predictive maintenance programs

As states begin to emerge from shelter-in-place restrictions, economies slowly reopen, and people cautiously resume traveling, airports must respond by adjusting to the new normal of airline travel.

Just as with the aftermath of 9/11, travel may never be the same after the COVID-19 pandemic. Air travelers in particular can expect enhanced pre-flight preparations, longer wait times and new well-check procedures. Airport capabilities need to include capacity to provide safe travel in facilities that are dynamic, flexible and resilient for what the future holds.

Airport administrators concerned with retrofitting their airports to welcome the safe return of travelers are confronted with the following challenges:

- What do I need to do to retrofit my airport infrastructure?
- How can I keep the buildings and people inside them safe, comfortable, healthy and satisfied with their experience?
- What opportunities do I have to reduce my operating costs, improve terminal efficiency and tap into new revenue streams?
- How can I ensure flexibility and resiliency of my terminals to support a spectrum of future states, including pandemics and alternative travel environments?
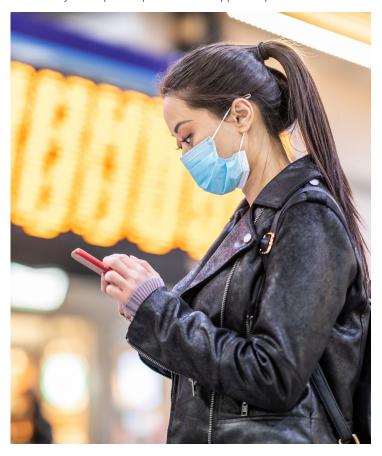
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Guidance on relief funding and financing options

Currently, CARES Act funds may be used as follows, and we will work with you to ensure the facility improvements you choose to make align accordingly with funding.

- Temporary structures
- Facility modifications required to support COVID-19 passenger safety
- Technology and supplies required to support COVID-19 customer and staff modifications for safe operations of facilities

Airports can streamline major renovations through financing options available through Johnson Controls designed to help you preserve valuable cash while improving the operational efficiency of your airport. You can bundle needed upgrades and leverage a variety of funding mechanisms to put the improvements within financial reach. Our experienced, dedicated Structured Finance Team is available to ensure your airport improvements happen as planned.

Smart, connected technology helps deliver a safe traveler and staff experience

Johnson Controls solutions and capabilities support airports during recovery and the new normal. The checklist follows much of the guidance offered by the Centers for Disease Control and Prevention and World Health Organization on controlling potential health risks during recovery and retrofitting of airports.

Retrofit your buildings

As you prepare terminals to welcome passengers and staff , steps should be taken to ensure environments have the agility to transform to meet a variety of needs while remaining safe, secure and healthy for occupants. Consider the following guidelines for operational readiness:

- ☐ Verify HVAC system performance to provide proper airflow, temperature and humidity
- ☐ Ensure preventive maintenance inspections are up-to-date on all building systems
- ☐ Ensure fire/life safety inspections are up-to-date per NFPA and other regulatory bodies, and equipment is performing properly
- ☐ Flush out air and water systems and replace filters
- ☐ Review new occupancy levels, schedules and update:
  - Fire/life safety systems/services based on new fire risk profiles
  - Security systems/services based on new security risk/loss profiles
  - Sequences/schedules in security, building automation and lighting control systems

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Keep airport occupants safe, secure, comfortable and well

Consider the different ways travelers will be required to interact with the airlines, other travelers, staff and the terminal. These suggestions can help maintain the safety, security and wellness of people, buildings and spaces:

☐ Initiate ventilation, filtration, humidification and air cleaning strategies to control the risk of airborne infectious contaminants to building occupants

☐ Utilize zoning to allow treatment of individual spaces to avoid re-circulated air and airborne pathogens from being transmitted

☐ Update software (BAS, Security & Fire) to ensure the facility is minimizing risks around cyber-security

☐ Validate access control settings and reinforce new policies for entering the building with:
  · Additional visitor management processes/technologies
  · Elevated skin temperature screening

☐ Use security, video surveillance, lighting and building automation systems to:
  · Enforce social distancing policies, monitor occupant activity and intrusion detection
  · Reduce density or enforce maximum occupancy policies
  · Optimize cleaning practices

☐ Add disinfectant lighting systems

☐ Enable location based services for social distance monitoring and contact tracing

☐ Create touchless environments:
  · Cover and lock thermostats
  · Replace light switches with occupancy sensors
  · Create mobile/web-based interfaces to allow occupants to control lighting and temperature
  · Use access control, sensors and interlocks with doors and elevators to provide "frictionless" movement throughout the building
  · Install hands-free fixtures in bathrooms and kitchens

☐ Enhance communications systems:
  · Expand temporary network (wired/wireless)
  · Expand building, business and clinical system installation for hospital infrastructure
  · Install mass notification systems to support both routine and emergency communications
  · Install wireless duress buttons
  · Use unified communications to support an airport-wide emergency response

Ensure open spaces operate safely

Large, open spaces like bag drops, check-in areas, gates, food courts, baggage claim and parking structures present unique challenges for safely hosting travelers and staff. Consider these steps:

☐ Use video surveillance and access control to define and support separation

☐ Leverage occupancy/access control data to evaluate new usage patterns

☐ Enable location based services for social distance monitoring and contact tracing

☐ Parking garage upgrades to include additional HVAC, video surveillance for occupant tracking, thermal detection and public safety

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Ensure cost-effective operations

The need to reduce costs and improve operational efficiency is more important than ever. We help you do both with these suggestions:

☐ Seek guidance on funding sources and financing options to preserve valuable cash and improve the safety of your facilities in these difficult times

☐ Add remote monitoring of HVAC and security systems to diagnose and resolve many systems issues quickly over the phone, minimizing staff requirements

☐ Enable preventative and predictive maintenance programs to ensure equipment uptime and reliability

☐ Employ self-testing of fire alarm equipment using addressable notification to ensure compliance

☐ Explore energy cost control measures through optimized equipment and lighting strategies

Prepare for resilient, flexible spaces and operations

Finally, no one knows what the future holds, but we can take what we've learned to prepare airports for future states, including pandemics and emergencies, and optimize the building infrastructure to support air travel as required in the new normal. Consider these modifications:

☐ Enable dynamic and flexible control of building systems to handle a spectrum of future states:
  - Add additional modes of operation to the building automation system, lighting control, and security systems for pandemics, energy efficiency, air quality, minimal occupancy, demand response or other specialized conditions

☐ Add additional capability to monitor, operate and service the building and building systems remotely

Using technology to support the new normal and optimize buildings for the future

Johnson Controls can help digitally transform your airport, ensuring the necessary systems, platforms and technologies are implemented to support the new normal and optimize terminals for the future. The process of creating a smart, safe and secure airport requires more than just installing a few sensors or smart applications. Creating a truly smart airport from top to bottom requires a more holistic approach that looks beyond the physical infrastructure. The vision and purpose for the various buildings should drive the planning, design, construction and operations in order to achieve business outcomes.

Johnson Controls can rapidly mobilize technical resources – including planning and design engineers, project managers, installers, service technicians and more – to create safe, secure and healthy work environments and buildings. When you partner with Johnson Controls, we treat your mission as our own. We put our deep expertise, leading technology and world-class products to work for you, never resting until you achieve your goals.

Learn more when you visit us: www.johnsoncontrols.com

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