

Johnson Controls is powering the safe recovery of healthcare

Solutions and capabilities for safer, more secure, healthier and resilient buildings

Retrofit 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

Remote services

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

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 communications

Patient, staff and visitor screening solutions

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

The pressure on healthcare workers and hospital facilities has been unprecedented these past few months. Hospitals were forced to flex their infrastructure, their staff and the manner in which care was provided. And they responded heroically.

As states begin to implement phased approaches for emerging from restrictions, and economies slowly reopen, healthcare facilities now need to respond by adjusting to the new normal of healthcare. Capabilities need to include capacity to provide outstanding routine healthcare in facilities that are dynamic, flexible and resilient for future states.

Hospital leaders are confronted with the following challenges:

- What changes do I need to make to my facility to support healthcare in the new normal?

- How can I keep the building and people inside it safe, secure and healthy?
- What opportunities do I have to reduce my operating costs and improve building efficiency?
- How can I ensure flexibility and resiliency of my hospital to support future emergencies, including pandemics and surges?
- How can I protect our ability to continue to serve patients and deliver routine healthcare services while supporting the next pandemic surge?

The power behind **your mission**



Johnson Controls is powering the safe recovery of healthcare

Johnson Controls can provide technology resources and expertise to support urgent clinical capacity expansion, and infrastructure modifications or additions to create the foundation for the new normal of healthcare. We can deliver solutions that help enhance patient and staff safety, comfort and wellness, while optimizing building performance. Working with healthcare facilities during this difficult time, our local Johnson Controls workforce can meet your immediate needs while streamlining operations and use of resources for the future.

We have proven to be a cornerstone of America's health infrastructure:

- Johnson Controls solutions are in nearly 85% of North American hospitals
- We continue to provide urgent COVID-19 healthcare solutions, successfully deploying USACE-compliant Alternate Care Site facilities across North America in weeks
- Streamlining visitor and new patient entry for COVID-19 screening
- Providing emergency HVAC equipment in less than 24 hours for triage units
- Providing space analysis and infrastructure modifications to provide more isolation rooms
- Providing technology resources and expertise to support urgent clinical capacity expansion and network infrastructure modifications or additions
- 120 branch locations in North America supported by 25,000 employees
- 13,600 field technicians and mechanics in North America
- Recognized by federal, state and local governments as a provider of essential products
- Adhere to safety measures prescribed by the CDC and WHO using detailed COVID-19 Site Safety Plans

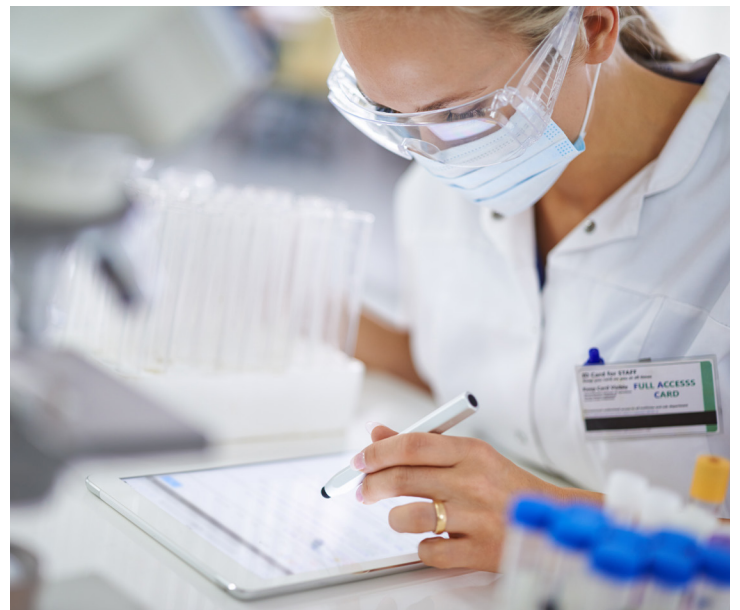
Guidance on relief funding and financing options

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 patient care
- Technology and supplies required to support COVID-19 patient care, safety and operations of facilities

Additional stimulus and grant funding will be available through the HEROES Act, and funding is expected in late 2020 to support infrastructure and IT projects preparing healthcare facilities for future states of emergency. Your Johnson Controls team will ensure you are kept up-to-date on all funding opportunities, and collaborate with you now so that your facility is positioned with shovel-ready projects when funding is available.

Healthcare facilities 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 facilities. 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 campus improvements happen as planned.



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Helping patients heal and clinicians cure

Johnson Controls solutions and capabilities help to support healthcare facilities during recovery, reopening and the new normal. The checklist follows many of the suggestions made by the ASHRAE Epidemic Task Force, Centers for Disease Control and Prevention and World Health Organization for mitigating potential health risks during reopening and retrofitting of healthcare facilities.

Retrofit your buildings

As you prepare to reoccupy buildings to provide routine care, steps should be taken to ensure the environment has the agility to transform to meet a variety of needs while remaining safe, secure and healthy for patients, staff and visitors. 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

Keep hospital occupants safe, secure, comfortable and well

Consider the different ways you'll be caring for patients, changes to occupancy, how staff interacts with patients, each other, visitors and the building. 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 infrastructures
 - Install mass notification systems to support both routine and emergency communications
 - Install wireless duress buttons
 - Use unified communications to support a campus-wide emergency response

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Ensure large spaces operate safely

Large, open spaces like cafeterias, laboratories, gift shops, pharmacies and parking structures present unique challenges for safely hosting building occupants. 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

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 hospitals for future states, including pandemics and surges, and optimize the building infrastructure to support routine care 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



Your partner for optimizing healthcare buildings

Johnson Controls can rapidly mobilize technical resources – including planning and design engineers, project managers, installers, clinical communication specialists, service technicians and more – to help hospitals meet their needs, protect staff and stay ahead of the crisis. Backed by our global Center of Excellence, we can immediately bring world-class expertise to your healthcare facility. Our solutions create a safe, secure, healthy and comfortable environment that helps keep patients, visitors and staff safe. 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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