

Trends Impacting Our Clients and the World at Large



WELLNESS CHALLENGES

- The low levels of flu activity 2020-21 have left experts with very little data to develop the flu vaccine for the 2021-2022 season, potentially leading to a more severe flu season.
- Loneliness has increased due to isolation. Lonely people are 6 to 40 times more likely to suffer from depression.

WORKPLACE CHALLENGES

- 70% of executives plan a return to office by year-end 2021, but **60.8% lack an office reconfiguration strategy.**
- 16% of remote workers report difficulty collaborating.
- Unplanned absenteeism from illness results in doubled productivity loss compared to PTO or vacation.

EDUCATION CHALLENGES

- Students missing 10%+ of classes has more than doubled in some districts, risking lifelong consequences.
- In fall of 2020, ERs saw a 24% annual increase in mental health related visits in children 5-11.

TRAVEL CHALLENGES

- 31% of travelers say the top impediment to travel is "safety concerns – contracting COVID virus."
- A Delta survey of its corporate customers finds that only
 57% plan to be back to full travel by the end of 2023.

Impacts of the pandemic on facilities will be long lasting ABM



Safety and health concerns illuminated will remain for years to come



New workplace protocols

- National, state, and local government guidelines and requirements for building protocols
- Employers face flexible work policies in the face of a 15-20% footprint increase to accommodate social distancing



Supply chain has been stretched thin

- Manufacturers worldwide continue to adjust to supply chain fluctuations
- As occupancy levels rise, this issue will only become more pronounced



Higher building services standards required

- Higher level of expectation on cleaning service providers for staffing and expertise in infection control methods
- Access controls for building management and vendors: schedules and deliveries
- IAQ challenges emerge as FMs assess risks related to air ventilation and filtration systems

Occupancy, generally, will remain low across many of the industries we serve

- Only 21.6% of American workers feel positive about returning to the office
- 85% report that they feel worried or anxious about catching an illness
- 75.6% are unclear about what actions they should take to manage risk, indicating the need for workplaces to communicate the actions that can be taken
- 66% of travelers across 11 countries report they would travel less for leisure and business in the postpandemic world
- 61% of Americans are concerned students will fall behind academically without in-person instruction

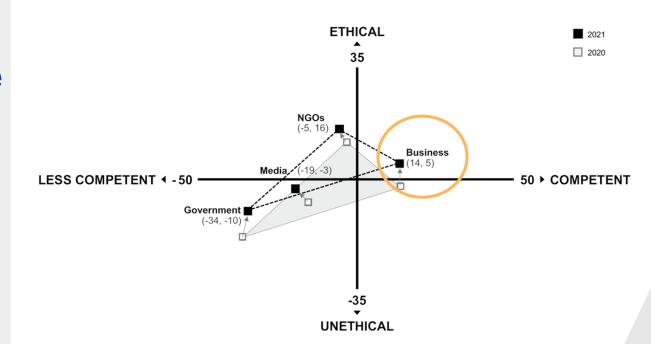




Community Trust Is At Stake

The Time To Build Trust Is Now

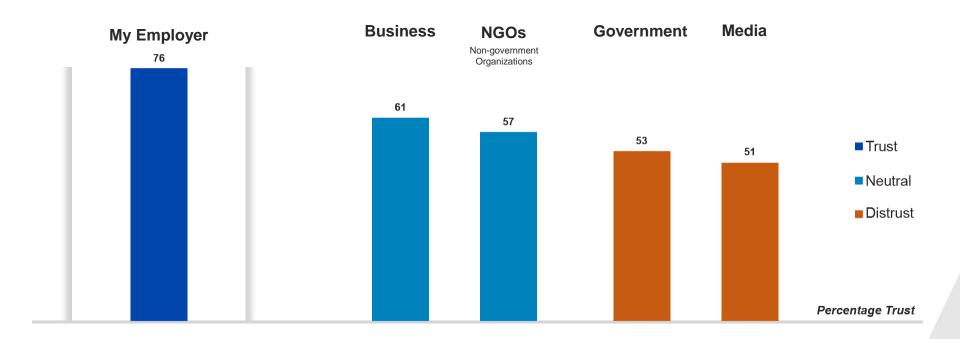
Institutions (business, government, NGOs, and media) are not viewed as being both competent and ethical.*



Trust has moved to the employer



My employer has become the most trusted institution



A Shift in Mindset to Ongoing Infection Protection





There is a **shift towards wellness** as industry trends highlight the need to provide building occupants with a safer environment.



Cleaning and disinfection services, which have been viewed as an operational expense, must be positioned as a **critical** component to employee health and part of the overall strategies to **minimize transmission risk**.



Building occupants are **hyper-aware of the safety** in their environment, including **indoor air quality** issues as well as the overall health of the facility.



Clients will continue to look to their facilities partner to provide long-term solutions. Communication will be key to **occupant confidence**.

The sheer volume of products available for infection control is overwhelming







Expertise of Our Advisory Council Members:



Infectious Disease/Epidemiology

The practice of epidemiology **researches the prevention and control of infections** and other significant organisms.

These experts help us **translate research into practice**, ensuring we are leveraging the **right procedures to fight** common and advanced infectious diseases.

Industrial Hygiene

Industrial Hygienists analyze, identify, and measure workplace hazards that can cause sickness, impaired health, or significant discomfort for workers.

Their expertise helps ABM implement the **right PPE**, **technology vetting processes**, **and safety processes** that keep our team members, clients, and their occupants safe.



Collectively, this interdisciplinary expertise enables ABM to offer best-in-class programs that deliver healthy spaces

Our Advisory Council:

- Reviews and validates our Standard Operating Practices
- Vets emerging technology for efficacy and safety
- Supports development of ABM's position on key topics
- Assists with development of robust training and certification

ABM Expert Advisory Council





Ruth Carrico
Professor, Global Health Program Director, Univ. of Louisville School of Medicine; PhD, DNP, FNP-C, FSHEA, FNAP CIC Key Specialty: Infection Prevention



Nancy McClellan
Chair of the University of Michigan Graduate School of Public
Health External Advisory Board; M.P.H., CIH, CHMM
Key Specialty: Industrial Hygiene



Cathy Campbell
National Director of Service Delivery (B&I); CHESP, CMIP
Key Specialty: Healthcare



Gordon Buntrock
National Director of Service Delivery (EDU)

Key Specialty: Janitorial



Kevin Brown
Vice President of Engineering; PE, EMP, HBDP, CEM, CMVP, LEED AP

LEED AP

Key Specialty: Engineering

Guidance and development of:



Standard Operating ProceduresReviews and validates all SOPs relevant for ABM's EF and EC offering



Program Development and Tech Vetting
Develops the framework for implementing IAQ
Testing and product vetting for UV light
technology



EnhancedFacility Risk Banding Assessment Reviews and assists with development of our Healthy Building Risk Banding Tool



Position Paper Development
Develops, documents, and reviews ABM's position on key topics, such as indoor air quality and UV lighting

Data-Driven Solutions for Total Building Health



From the things you touch to the air you breathe, ABM delivers measurably healthier facilities with the latest approaches and innovations backed by experts

DISINFECTING SURFACES



A Three-Step Approach for Cleaning and Disinfecting Surfaces

DISINFECTING THE AIR



A Comprehensive Program to Improve Healthier Indoor Air Quality

Together, **EnhancedClean** and **EnhancedFacility** help reduce viral transmission on surfaces and in the air.

We help you build greater occupant trust and confidence regarding your commitment to their health and safety, while improving building health during the pandemic and beyond.

Our Position On Recent CDC Cleaning Guidance



The CDC says surface transmission of COVID-19 is not a concern. Why should we continue disinfecting and/or cleaning high-touch surfaces?

- While the CDC says the risk is low for surface transmission, the CDC does not state that there is no risk.
- The CDC science brief specifically states: "The principal mode by which people are infected with SARS-CoV-2 (the virus that causes COVID-19) is through exposure to respiratory droplets carrying infectious virus. It is possible for people to be infected through contact with contaminated surfaces or objects..."
- COVID-19 can land on surfaces and it is possible for people to become infected if they touch the contaminated surface and then touch their eyes, nose and/or mouth.

The CDC says we can clean with soap and water. Why should we continue disinfecting?

- Cleaning with a multi-purpose cleaner or soap and water can remove COVID-19, but it does not kill the virus; disinfection can further reduce or eliminate the risk of transmitting viruses by killing germs left on surfaces after cleaning.
- The CDC science brief states: "Both cleaning (use of soap or detergent) and disinfection (use of a product or process designed to inactivate SARS-CoV-2) can reduce the risk of transmission."
- With employees going back to work, children going back to the classroom, and COVID-19 cases and variants on the rise in many states, there is no way to definitively know when a person has unknowingly spread COVID-19 and thus, disinfection and cleaning of high touch areas should be a part of daily cleaning. The CDC science brief states: "Disinfection is recommended in indoor community settings where there has been a suspected or confirmed case of COVID-19 within the last 24 hours."

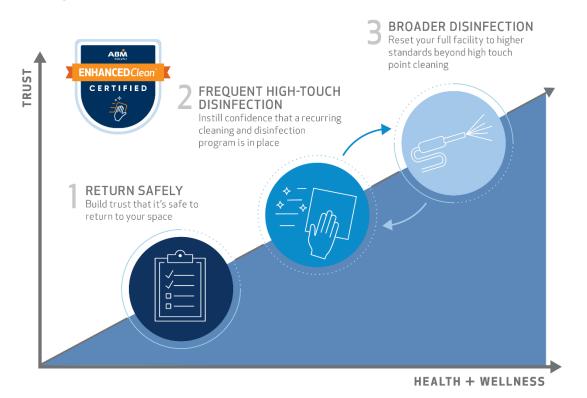
The CDC says that electrostatic spraying is not recommended. Should we stop?

- Actually, the CDC science brief states:
 "Cleaners and disinfectants should be used safely, following the manufacturer guidance. Some types of disinfection applications, particularly those including fogging or misting, are neither safe nor effective for inactivating the virus unless properly used."
- The disinfectants ABM uses in electrostatic sprayers (ESS) have been approved by the EPA for use against viruses and pathogens, and our team members are properly trained in the use of these chemicals. ESS is not typically the primary disinfection method and is used to disinfect hard-to-reach surfaces as a complement to high-touch disinfection.

Introducing ENHANCEDClean



ABM's EnhancedClean™ program is a three-step approach that delivers healthy spaces through disinfection specialists and expert-backed processes.



KEY DIFFERENTIATORS:

- Certified program with expert-backed processes delivered by Disinfection Specialists
- Hospital Grade Disinfectants
 & Specialized Equipment
- Innovative Solutions including Evidence Based Testing (ATP)

EnhancedClean case studies across industries





Industrial manufacturer and distributor

Factory



Airline at major US airport

Terminal



Corporate offices for national organization

Corporate office



Large K-12 school district

K-12 Schools

Challenge Faced:

How do we operate as an essential business and quickly ensure a safe workspace?

Solution/Benefits:

- Implement program quickly to ensure uninterrupted occupancy of critical spaces
- Incorporate services during the day to increase visibility
- Increase the frequency of high-touch disinfection and broad ESS disinfection

Challenge Faced:

How can we help our clients have a **safe end-to-end experience** and manage the high **volatility of traffic**?

Solution/Benefits:

- Increased high-touch disinfection throughout the day
- Implemented signage so flyers trust the organization
- Added broad disinfection during off-hours

Challenge Faced:

How can we re-enter our offices safely with consistent service delivery across the nation given our scale?

Solution/Benefits:

- Performed a deep-clean ahead of facility reentry
- Leveraged a daily disinfection program at office nationwide
- Trained 350 FTEs to support the new services

Challenge Faced:

How do we confidently reopen schools for the 2020 year while keeping our students and staff safe?

Solution/Benefits:

- Implement a three-step program with reentry services, daily high-touch disinfection, and ESS disinfection
- Incorporated signage and flyers to parents to instill trust

Introducing **ENHANCED** Facility



ABM's EnhancedFacility program delivers healthier indoor air and more efficient operations to take care of what's most important – the health and safety of the people in your spaces.

HEALTHY BUILDING RISK ASSESSMENT

- Risk Assessment tool
- HVAC inspection
- Turnkey financial solutions



HVAC PREVENTATIVE MAINTENANCE

- Promotes optimum filtration and disinfection
- Saves energy
- Prevents unnecessary repairs
- Extends the life of your system



ENERGY EFFICIENCY UPGRADES

Reduces operating costs to move funding into other facility improvements.



ELECTRICAL PREVENTATIVE MAINTENANCE

Mitigates life and safety risk, reduces downtime and increases reliability.



HVAC SYSTEM OPTIMIZATION

Methods for improving IAQ and overall building health.

- Ventilation and humidity control
- Proper filtration
- HVAC disinfecting technologies
- Building controls

DISINFECTING LIGHTING SOLUTIONS

Enables continuous disinfection of air contaminants.



TOUCHLESS FIXTURES AND DOORS

Reduces the number of high-touch surfaces within a facility.

KEY DIFFERENTIATORS:

- Fact-based approach based on expert-backed Healthy Building Risk Assessment
- Turnkey financial solutions
- Innovative solutions enabling continuous disinfection of air contaminants
- Expert Advisory Council vetting the latest technologies to sort evidence-based solutions from market noise

Our Expert Risk Assessment and Control Banding Process Building Brand Trust Through a Commitment to Healthier Indoor Air



Using our proprietary **Healthy Building Risk Assessment** developed alongside our Expert Advisory Council, we can **assess and identify IAQ challenges** and recommend the most effective and cost-efficient solutions.



First, your facility's exposure risk is categorized (low to very high).



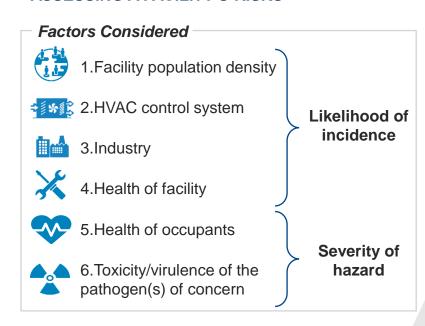
The most important and effective strategies for your facility's specific risk level are determined.



A report of fact-based recommendations based on risk level help you form **a comprehensive strategy** for reopening and operating safely.

Risk = Severity of Hazard x Likelihood of Incidence

ASSESSING A FACILITY'S RISKS



EnhancedFacility case studies across industries







Office space

Challenge Faced:

How do we get corporate buy-in after a **previous bad vendor experience**?

Solution/Benefits:

- Educated client on technology from EF playbook
- Customized solutions for all spaces
- Continued occupancy of critical spaces
- Improved IAQ for highlyoccupied small spaces



Higher education

University

Challenge Faced:

How do we offer fact-based reassurance to our students and faculty?

Solution/Benefits:

- Involved Expert Advisory Council member to explain the Healthy Building Risk Assessment
- Settled on a multi-step approach with EBT to prove benefits of IAQ solutions
- Higher quality air filtration and IAQ testing and verification



Museum

Office space & gallery

Challenge Faced:

How do we make HVAC upgrades under **budget constraints**?

Solution/Benefits:

- Focused on fact-based research the customer could present to their board
- Shifted the conversation from "justifying HVAC replacements" to "improving indoor air quality for their staff and visitors"; in the end, able to achieve both with a single investment.



K-12 school district

K-12 chools

Challenge Faced:

How do we reopen schools while keeping our students and staff safe?

Solution/Benefits:

- With a variety of building ages, systems, and conditions, each building was evaluated individually to make risk ratings.
- The best use of capital to improve IAQ was increasing filtration and making functional repairs.

Service offerings

outfitting

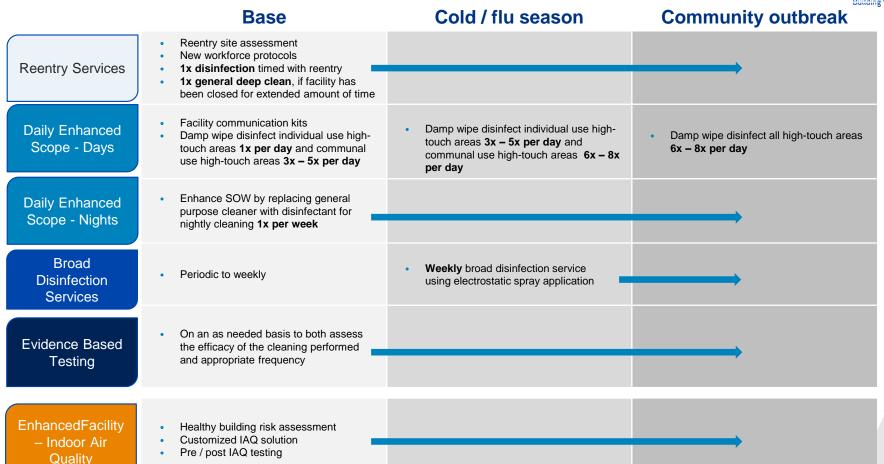
maintenance



	9			building value		
	Suggested Frequency	Methods Employed	Team Members Deployed	Potential Supplies and Equipment		
Return Safely Build trust it's safe to return to your space	Intervals based on timing of reentry	 Pre-opening site assessment(s) using reentry checklists and our Healthy Building Risk Assessment Workforce protocols (i.e., PPE and social distancing procedures) Implement preventative products strategy One-time enhanced clean disinfection service 	Certified disinfection specialists	Touchless fixtures, dispensers & door openers Centralized trash receptacles Sensor technologies Hand-sanitizing stations (based on availability) Disinfecting wipes for occupants (based on availability) EPA-registered disinfectants qualified for use against SARS-CoV-2		
Frequent High Touch Disinfection Instill confidence that a recurring cleaning and disinfection program is in place	Intervals range from hourly to daily	Site-specific SOW for each facility type based on occupancy levels Cleaning and disinfection of all high touch point areas in facility	Certified disinfection specialists	Occupant Communication Kits EPA-registered disinfectants qualified for use against SARS-CoV-2 Proper PPE Microfiber program		
Broader Disinfection Reset your full facility to higher standards beyond high touch point cleaning	Intervals range from periodic to weekly	Large area disinfection	Certified disinfection specialists	Electrostatic sprayers Hospital grade, EPA-registered disinfectants with faster kill time and broader pathogen spectrum		
Evidence Based Testing Assess both the efficacy of cleaning performed and appropriate frequency	On an as needed basis	ATP testing Phylagen SafeTraces	Trained swab collectors	Hygiena's EnSURE Touch technology Robust reporting suite for dashboards Swab test kits Mobile or tablet required		
Indoor Air Quality Ensure your facility indoor air quality is up to standards and your systems are working	One time assessment and outfitting	One-time healthy building risk assessment to determine risk level and recommended IAQ solution Pre / post IAQ testing HVAC system optimization and	EnhancedFacility specialists	 UV light Needlepoint Bipolar ionization Dry hydrogen peroxide Proper PPE 		

EnhancedClean™ + EnhancedFacility™ Minimum Recommended Frequencies **ABM**.





ABM Positions and Technology Vetting



How we separate fact from fiction



Five key considerations when vetting products



Is the product **effective in killing or inactivating** significant, notable, or other emerging pathogens?



Is the product **safe to install, deploy, and use**? Are there any safety impacts for facility occupants, the public, or our service workers?



Does the product **instill confidence in building occupants** that they are safe to enter the facility?



Will this product help **improve the efficiency** at which cleaning activities can be performed?



What are the **cost implications** of this product and is it **reasonable when accounting for** its efficacy, efficiency, and perception impact?

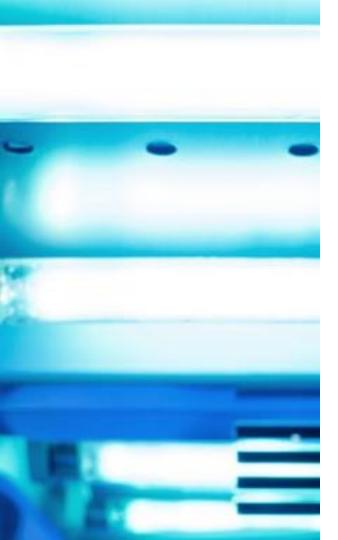




INNOVATION IN INFECTION:

Our Position on Evidence-Based Testing

- Evidence-Based Testing is **designed to quickly measure the cleanliness of surfaces.**
- Evidence Based Testing can be a useful addition to a disinfection program, as it provides an objective assessment as a way to measure the cleanliness of buildings and fine-tune cleaning frequencies.
- Evidence Based Testing must be tailored for a facility's size, industry, and occupancy in order to take statistically significant data that is meaningful and actionable.
- There are **two primary types** of Evidence Based Testing: Surface imaging solutions and ATP Testing devices. Surface imaging solutions have limitations for scalability, but ABM will continue to watch as these solutions evolve.
- ATP Testing is supported by ABM, however this approach will not test for a particle germ or organism. ATP Testing measures the amount a biomarker left on surfaces.

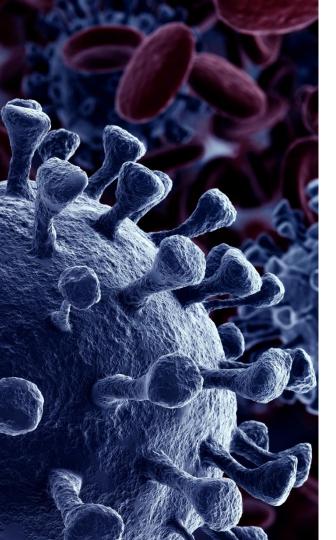




INNOVATION IN DISINFECTION:

Our Position on UV Disinfection

- Methods include installed lighting, HVAC systems, upper room systems, and mobile systems.
- The CDC has recognized UV-C (Ultraviolet Germicidal Irradiation) as effective for water, air, and surface disinfection treatments (in combination with proper cleaning, as heavy surface soil can block UV light).
- Multiple factors determine UV's efficacy against bacteria, including the **wavelength** of the UV, the **length of time** the microorganism is exposed to UV, and the **intensity** of the UV.
- To balance the critical need for air and surface disinfection utilizing UV technologies, products should be vetted for safety and efficacy.
- ABM does not recommend wand devices. A major challenge for these devices is the inability of the light source to emit the UV intensity and dosage required for disinfection.





INNOVATION IN DISINFECTION:

Our Position on Needlepoint Bipolar Ionization

- What It Does: The ions generated by NPBI technology within HVAC systems attach themselves to particles and unwanted gas molecules in the air, leading to multiple helpful effects:
 - lons attach to sub-micron particles, making them filterable or causing them to fall out of the air.
 - lons break down harmful volatile organic compounds (VOCs), rendering them into simpler, harmless compounds like oxygen and water.
 - lons kill or inactivate pathogens by creating oxidative stress that reduces bacterial survival.
- A 2020 study reported by one company demonstrated a 99.4% reduction of coronavirus at the 30-minute mark using ABM's preferred bipolar ionization solution.
- Needlepoint bipolar ionization technologies that produce no ozone hold substantial promise for effectively impacting indoor air quality during a time where optimization of strategies is critical.

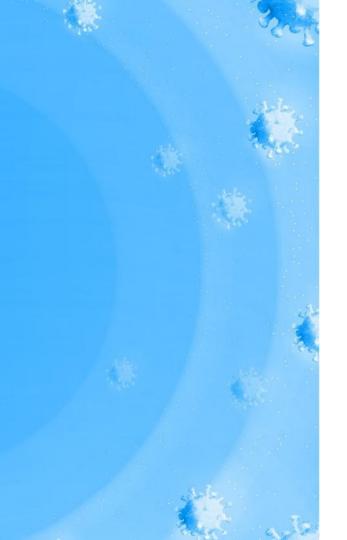




INNOVATION IN INFECTION:

Our Position on Electrostatic Spraying

- Electrostatic spraying uses charged particles to coat surfaces and provide for easy large-scale dispersal of EPA-registered disinfectants.
- This disinfectant dispersal method increases pathogen droplet attraction, which may be helpful to slow the spread of COVID-19.
- Manual cleaning is a necessary first step of any disinfection process. Surfaces must be cleaned immediately before electrostatic spraying.
- Although the EPA continues to study electrostatic spraying of disinfectants, there is evidence that electrostatic spraying is an effective method of disinfection, especially for hard to reach areas or that cannot be addressed with manual processes.
- This technology, as part of an overall cleaning and disinfection program, can help create a safe and healthy environment while decreasing the risk of cross-contamination.





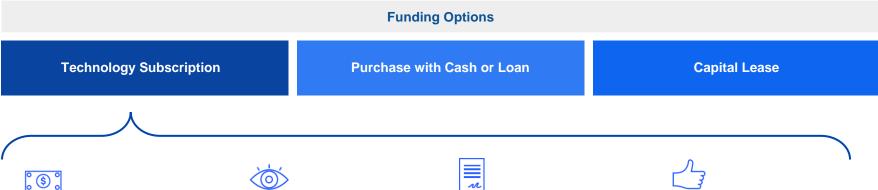
INNOVATION IN INFECTION:

Our Position on Antimicrobial Coatings

- Antimicrobial coatings and films have been around for more than 30 years. However, the science behind anti-microbial coatings and films continues to be studied and developed.
- Companies claim or imply that these products provide an extended barrier against the COVID-19 virus in some cases up to 90 days. There are no products on the market that have been independently verified for this claim.
- The Centers for Disease Control has not provided a recommendation that antimicrobial coatings offer enhanced protection from the spread of bacteria and germs.
- The EPA and CDC have stated that application of residual antimicrobials do not alter the frequencies required for cleaning and disinfection.
- ABM can install coatings, films, and 'self-cleaning' products in your facility
 if you find value in these products after considering the talking points
 above.
- As this topic evolves, **ABM will continue to review these products as** they come to market, and the science further develops.

We Can Provide Multiple Infrastructure & **Maintenance Funding Options**





One Monthly Cost

A single, monthly OpEx* payment covers your entire energy infrastructure. from maintenance and emergency repairs to new equipment and installation — all with no upfront cost.



System Visibility

We provide visibility into the operating status and performance of your equipment, so you'll always know how your systems are doing.

Simple Contract

Our short, easy-to-execute contract includes a simple list of the benefits that the new technology delivers to your space.

Technology Guarantee *

We ensure your technology works through the entire contract term. If it doesn't. you don't pay.

Tax Breaks May Be Available for HVAC Upgrades through CARES Act



Under Section 168 of the tax code, the cost of equipment and components of the "heating, ventilating, and air conditioning system" can be fully deducted for tax purposes in the first year it is placed in service versus over a 39-year period.

Impact of Section 168 Deduction	Without 168	With 168
Total cost (equipment and install)	\$1,000,000	\$1,000,000
First year deduction*	\$25,641	\$1,000,000
Corporate tax rate*	21%	21%
Cash Savings (deduction* tax rate)	\$5,384	\$210,000
Net equipment cost	\$994,616	\$790,000

Section 168 may help improve the financial return on investment for clients who install new HVAC components.

- Allows a tax deduction for the full amount of equipment and labor costs that are considered improvements to the interior of a non-residential or commercial building (new construction does not qualify).
- No limitation on the cost of equipment that can be purchased.
- Available for leased or purchased equipment, including installation labor.
- Combine with utility rebates to offset equipment cost.

^{*}Example is for informational purposes only and is not intended to be tax or legal advice. Prior to installing new HVAC equipment, business owners should consult a tax professional to ensure eligibility for the Section 168 deduction.

Not The First, Nor The Last

COVID-19 Compared to Other Major Viruses



VIRUS	YEAR IDENTIFIED	CASES	DEATHS	FATALITY RATE	NUMBER OF COUNTRIES
Marburg	1967	466	373	80%	11
Ebola*	1976	33,577	13,562	40.4%	9
H5N1 Bird Flu	1997	861	455	52.8%	18
Nipah	1998	513	398	77.6%	2
SARS	2002	8,096	774	9.6%	29
H1N1**	2009	>762,630,000	284,500	0.02%	214
MERS***	2012	2,494	858	34.4%	28
H7N9 Bird Flu	2013	1,568	616	39.3%	3
COVID-19*	2019	195,266,156	4,180,161	0.2%	221

*As of July 28, 2021

**Between 2009 and 2010

***As of Nov. 2019

Number of Countries refers to countries and and overseas territories / communities

Sources: CDC; UN; WHO; New England Journal of Medicine; Malaysia Journal of Pathology; CGTN; John Hopkins University; The Lancet; CIDRAP



The Delta Variant

- Delta is estimated to be 60% more transmissible than Alpha.
- 82% of current COVID-19 cases sampled in the United States are Delta as opposed to 2% two months ago.
- People infected with Delta have higher viral loads than with previous variants.
- Fully vaccinated people who are Deltainfected can potentially spread the virus to others.
- All 50 states are experiencing an increase in infections.



Next Steps

RECOMMENDED ACTION ITEMS

- Discuss needs
- Conduct facility assessment
 - Healthy Building Risk Banding Tool
 - IAQ Testing
 - HVAC Inspection
 - High-touch points
 - Space utilization
- Conduct financial assessment and secure funding (if needed)
- Draft and sign operating agreement
- Draft and execute transition plan





Thank You

ABM.com



Additional Operational Considerations

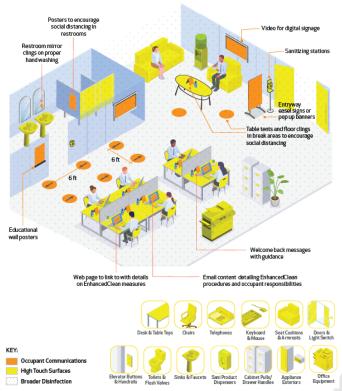


Social Distancing Occupancy Strategy & Enablement

Work with ABM to establish protocols that work for your individual facilities

- Reentry strategy and implementation plan
- Social distancing occupancy strategy and enablement
- Workplace foot traffic management and wayfinding
- Use of flexible space and de-densification
- Workspace, meeting & collaboration space management



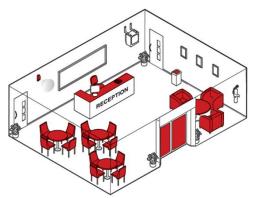


Frequent High Touchpoint Disinfection





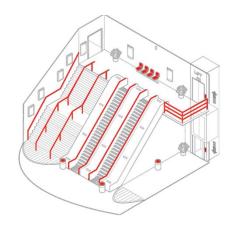
Public Areas / Reception / Lobbies



Touchpoints:



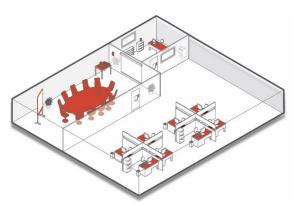
Lift / Stairs / Escalator



Touchpoints:



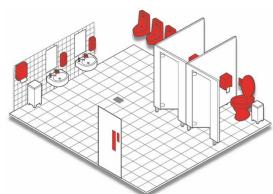
Office / Conference Areas



Touchpoints:



Restrooms



Touchpoints:

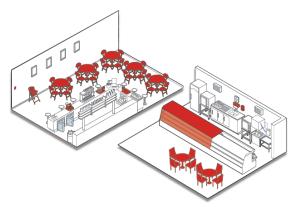


Frequent High Touchpoint Disinfection





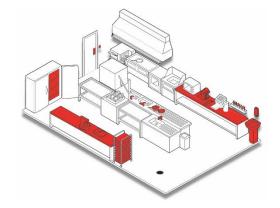
Food Service Area



Touchpoints:



Kitchens



Touchpoints:



















dispensers (loaded, in good order, clean)

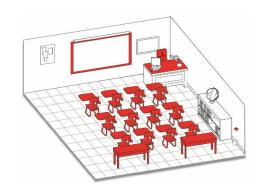


food contact surfaces



hand contact areas

Training Rooms

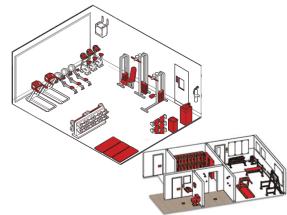


Touchpoints:





Gyms / Locker Rooms



Touchpoints:



door handles





water fountain



handle and seat of the



toilet seats and flush handles, splash walls



locker exterior



35