



The New Now: Life in the office in the age of COVID 19

Presented by:



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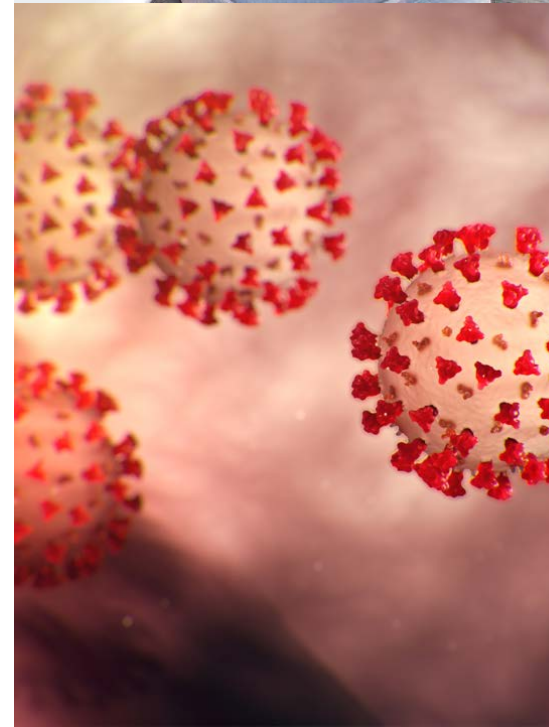


Introduction

The COVID-19 pandemic has impacted most office workers - although no one can say when **we will reach the light at the end of the tunnel, it is in view.**

For those who have been displaced from their normal workplace environments and required to work from home, the plan to return to the office will require thoughtful consideration and careful implementation.

The time to map out a plan to return to the workplace is now.



Who Are We?

Through a network of **24 offices worldwide**, we provide **design excellence + innovation to create places** that enrich people's lives and help clients succeed



1,800 Design Professionals
Worldwide

24 Global Offices

Markets

- Aviation
- Corporate Commercial
- Healthcare
- Hospitality
- Justice
- Science + Technology
- Sports/Recreation + Entertainment

Services

- Architecture
- Interiors
- Consulting + Workplace
- Strategy Planning
- Urban Design
- Landscape Architecture
- Structural Engineering
- M/E/P Engineering
- Sustainable Strategies

Panel

This panel is comprised of HOK's leaders in Architecture, Design and Engineering, who offer their respective viewpoints on the roles of strategic planning, interior design, building systems, and employee health and well-being.



Julia Cooper

Regional Leader
Consulting



Daniel Herriott

Director of Design
Interiors




Brian Johnson

Senior Project Engineer
Engineering




Mara Baum

Principal, Sustainable Design Leader
Sustainability Health & Wellness

A modern office interior with glass walls and wooden accents. In the foreground, there are two light-colored armchairs and a round white table with a laptop and some papers. In the background, several people are working at desks and in a meeting area. The text "Enabling good physical distancing doesn't have to equal social isolation." is overlaid in the center.

Enabling good physical distancing
doesn't have to equal social isolation.

A modern office interior with a glass wall on the left, wooden pillars, and people working. In the foreground, there are two light-colored armchairs and a round white table with a laptop, water bottle, and magazines. In the background, people are sitting on red armchairs, and one person is standing near a whiteboard. The ceiling has exposed ductwork and a large fan.

Why come back into the office?
And if we do, **what** might
the office become?

What Is The Office?



A Social Space Where
**IDEAS ARE SHARED
AND EXCHANGED**



A Place Where
**CULTURE IS
CREATED**



A Place Where
**INSTITUTIONAL
KNOWLEDGE
IS SHARED**



A Place Where
**FRIENDSHIPS
ARE FORMED AND
LONELINESS IS
STAVED OFF**

A modern office interior with glass walls, wooden pillars, and colorful seating. The space is open-plan with various work areas. In the foreground, there are two light-colored armchairs and a round white table with a laptop and magazines. In the background, there are red armchairs, a woman standing near a whiteboard, and a man sitting at a desk. The ceiling has exposed ductwork and lights.

We can still design spaces that
bring us together while
keeping us apart.

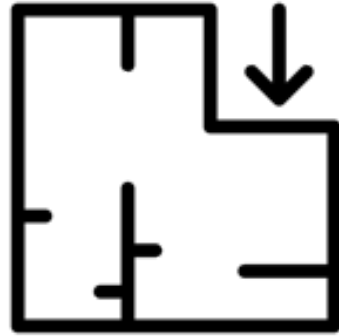
Planning Approach

Supply / Demand Modeling



Evaluate floorplans and space planning to understand occupancy capacities and model against prioritized business and employee wants/needs

Planning + Design



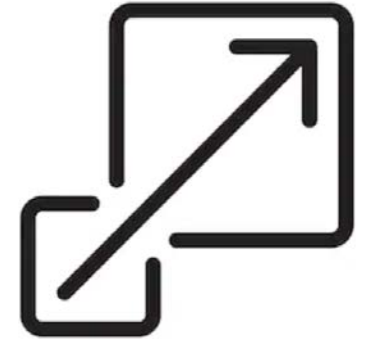
Develop strategies for workplace distancing based on work styles, furniture best practices and space configuration

Policy, Practice, Technology, Operations



Support development of new or evolved workplace and facility management practices and technology

Flexibility + Scalability



Develop solutions that are scalable and can respond to the potential impacts brought on by future health events

Hierarchy of Controls

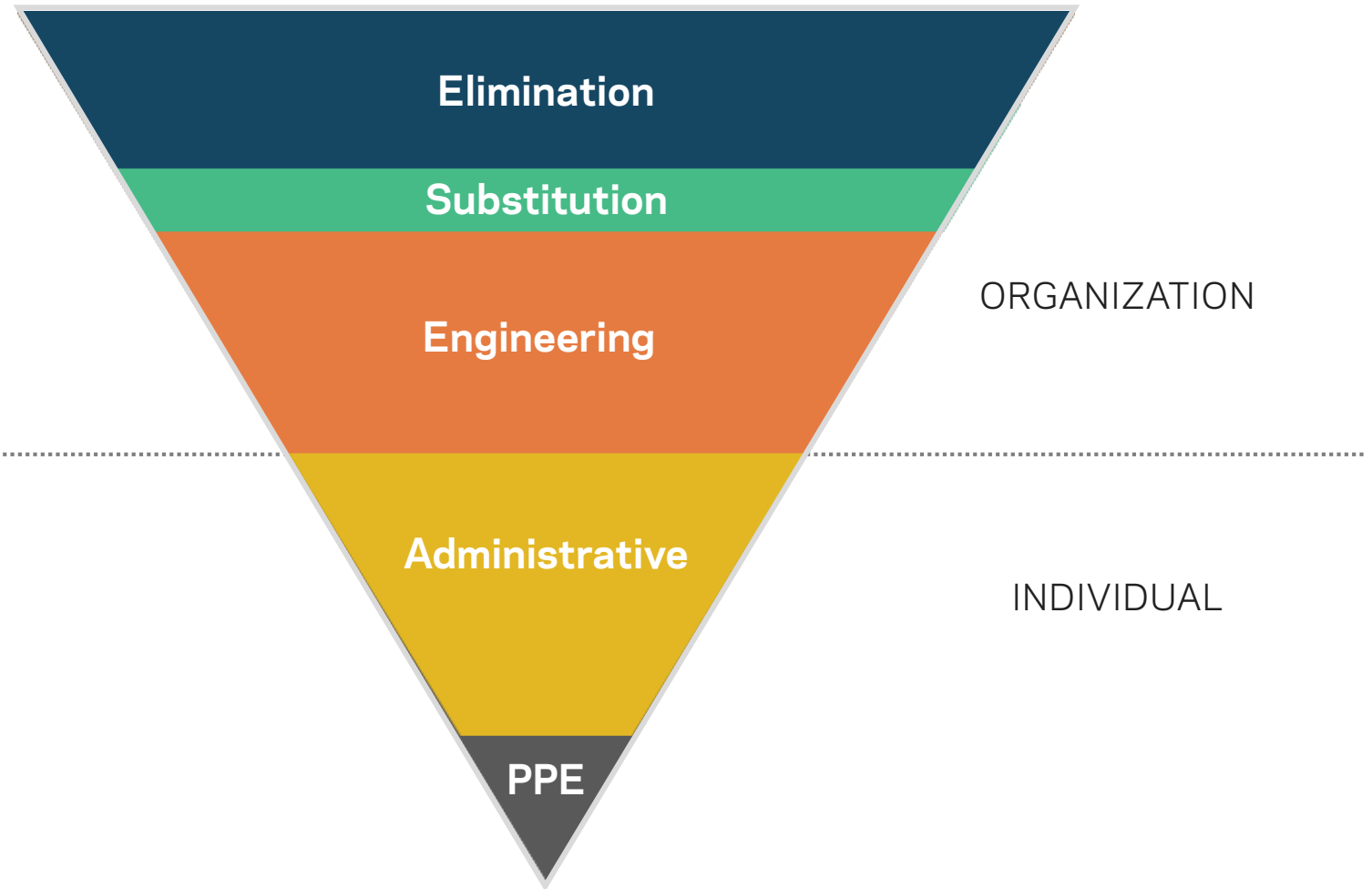
Physical Distancing

Furniture + Layouts

HVAC + Barriers + Technology

Protocols + Behavior

Protective Gear



Asking The Right Questions



1. What role will **employee mobility** play going forward?
What do you know about how well people are working right now?



2. How will the **purpose of** coming to **the office** change going forward? What factors are driving your perspective and decision-making?



3. What is anticipated to change about how people get to **the building**?
Into the building? Up to or between your floor(s)?



4. What has **building management** or your **landlord** conveyed about entry logistics, enhanced HVAC, cleaning protocols, deliveries, visitors?



5. What is your plan for allowing **clients/visitors** into your space?
How does this decision impact the reason people are in the office?



6. How do you currently track **space utilization** or other occupancy metrics for your space? What would make you better prepared to manage **seat or room booking**, track occupancy, and awareness of space use?



7. What **factors have driven** the existing configuration of space?
Could those be revisited on a temporary basis to accommodate changes?



8. Have you explored **spacing, reconfiguring**, or reducing the total number of **work points**?



9. Can you reduce capacity in rooms to enable distancing? Can you expand or add **meeting rooms** to increase **capacity**? What **technology** will be required to support hybrid participation? What **cleaning** protocols exist for meeting room turnover?



10. How well does your existing **technology** enable **remote work** or hygienic practices?



11. Do you have sensors or a booking system in the space that can help **monitor** utilization, spacing and/or which areas need cleaning?



12. What discussions have occurred regarding **personal belongings** in the space? Where can you provide lockers or storage units assigned to individuals?



13. How can you implement a **clean desk** policy to support more effective cleaning protocols?



14. How could introduction of **automation**, voice activation, or **hands-free controls** limit touchpoints and reduce germ exposure?

A modern lounge area with four orange armchairs arranged around a white, bowl-shaped coffee table. The room has a light-colored tiled floor and a large abstract painting on the wall. The text is overlaid on the image.

We can create spaces that
help people feel **safe** when
they return to work.

But work is **changing**.



from
WE SPACE

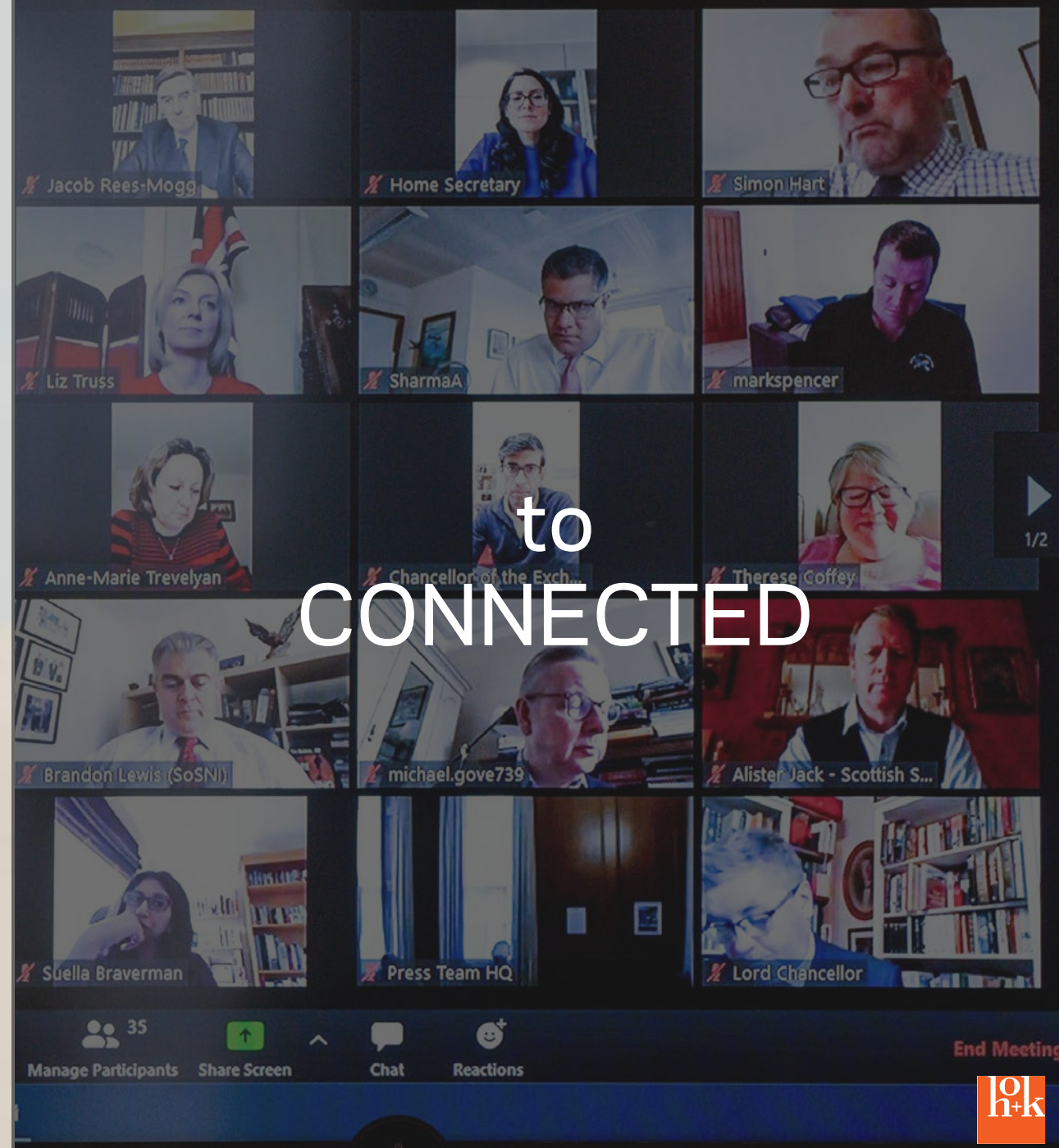


to
ME SPACE

from
ISOLATED



to
CONNECTED



A wide-angle photograph of a modern, open-plan office. Rows of white desks are equipped with black office chairs and computer monitors. Large windows in the background offer a panoramic view of a city skyline. The ceiling features a grid of recessed lighting.

from
OPEN

A photograph of a more private office space. In the foreground, a man and a woman are seated at a desk, working on their laptops. The man is looking at his phone. In the background, a person is walking through a hallway with a yellow wall. Large windows with blue curtains are visible on the right side of the frame.

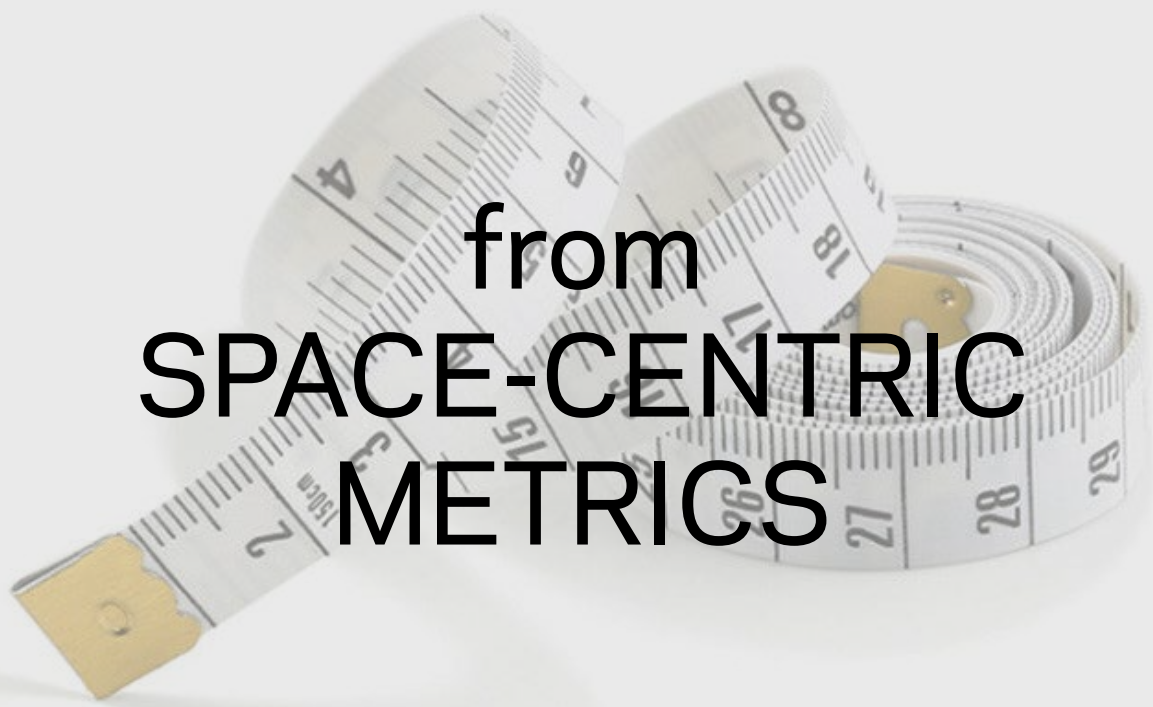
to
SHIELDED



from
HANDS ON



to
NO TOUCH



from
**SPACE-CENTRIC
METRICS**



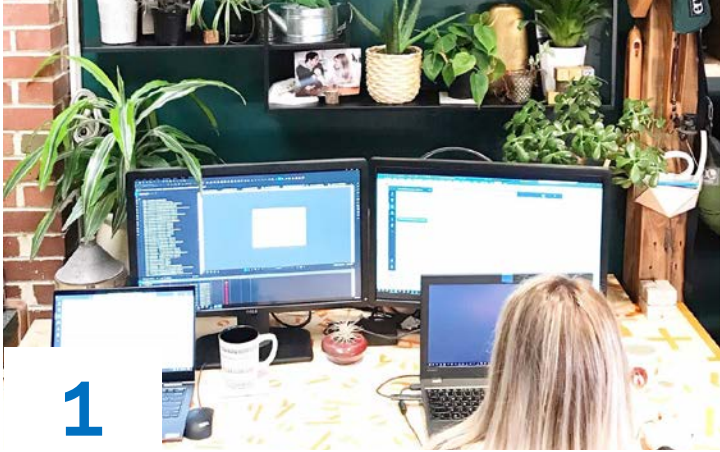
to
**HUMAN-CENTRIC
FACTORS**

2020 and BEYOND

Immediate Considerations in the Workplace, and Planning for the Future

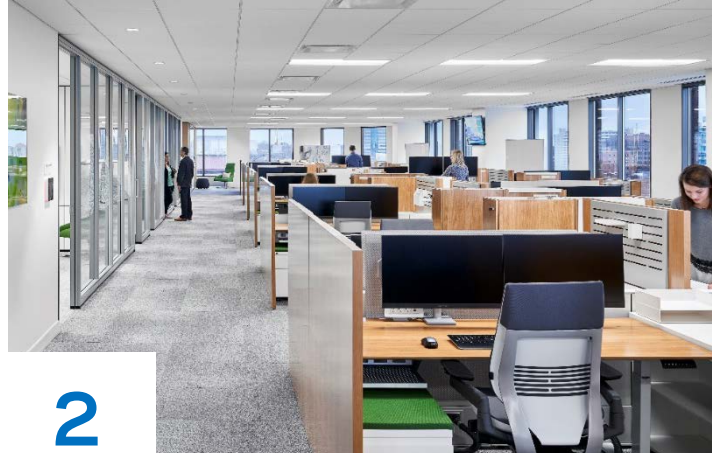


The New Now – Day 1



1

Distributed, Remote Work |
Work from Home



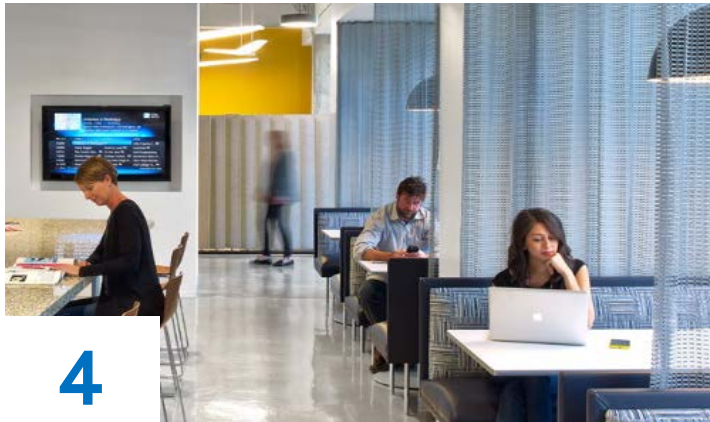
2

Workplace distancing



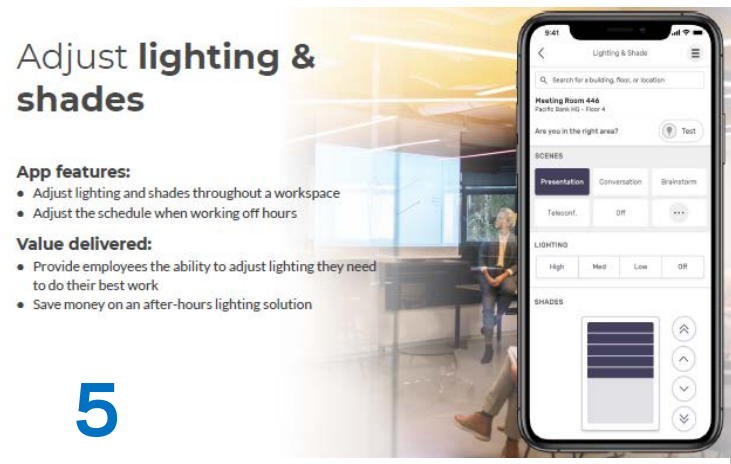
3

Sanitization and Cleanliness



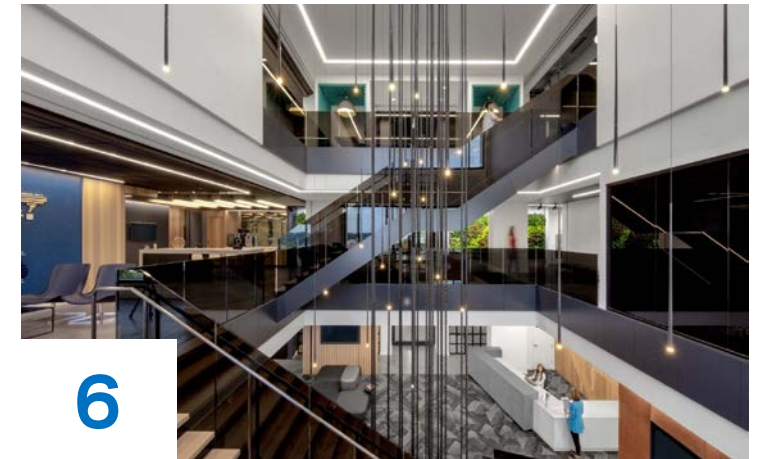
4

Shielding | Boundaries



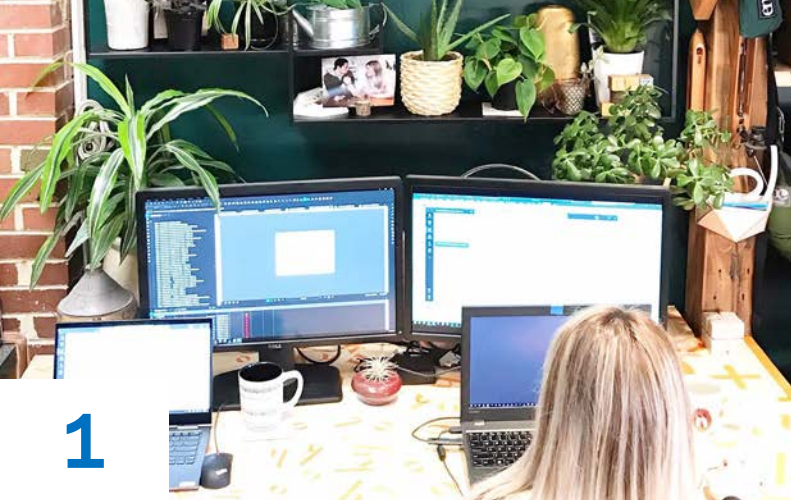
5

Autonomous, Hands-free,
Voice-activated Workplace



6

AI, IOE, Monitoring



1

Distributed, Remote Work, Work From Home

- COVID-19 lesson we CAN work remotely.
- Just because you 'can' do something doesn't mean you should.
- A new definition of "going to work" is emerging and the purpose of the office is shifting.



2

Workplace Distancing

Many companies are considering reducing density in the workplace including having

- staff go to a four-day work week but operating 5 day a week,
- extending remote work programs and staggering start times.
- spacing out work points to a minimum of 6', reorienting desks,
- enforcing one-way, circular passage within the space and
- leveraging booking systems.



3

Sanitization and Cleanliness

Enhanced cleaning protocols will be an essential component for a safe return to offices. disposable desk pads

- clean desk policies,
- reducing elements at work points that require cleaning,
- limiting touch points, and
- shielding,
- access to hand washing opportunities
- reviewing material specifications
- ensure surfaces and furniture are bleach cleanable.



Shielding and Boundaries

In an effort to reduce the spread of germs and provide added protection between individuals

- provide shielding between individuals and spaces.
- mobile marker boards and storage dividers
- mobile boundaries help teams shift and expand - provide control over open vs enclosed

Adjust lighting & shades

App features:

- Adjust lighting and shades throughout a workspace
- Adjust the schedule when working off hours

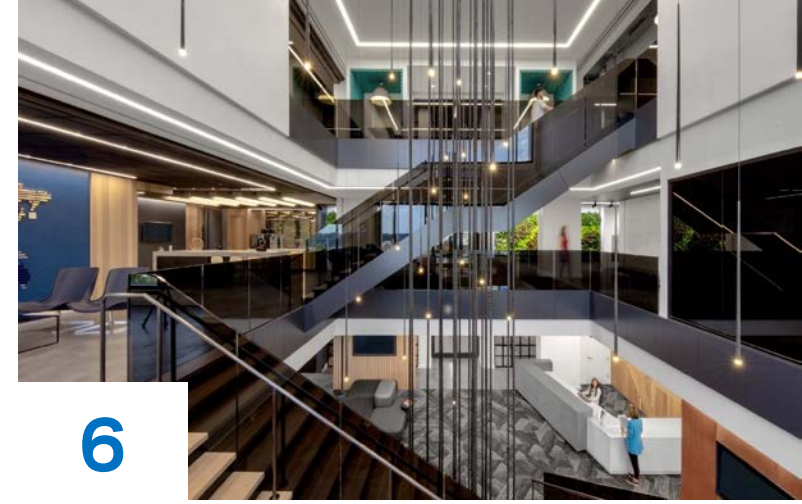
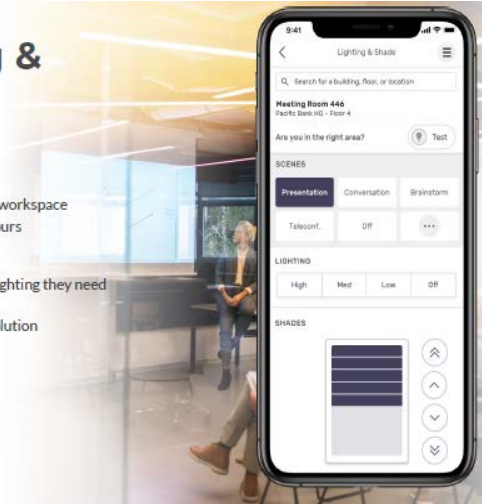
Value delivered:

- Provide employees the ability to adjust lighting they need to do their best work
- Save money on an after-hours lighting solution

5

Autonomous, Hands-free, Voice-activated Workplace

- reduce the number of touch points
- hands-free
- voice-activated
- smart tech, sensors and APPs



AI, IOE, Monitoring

Leveraging the IoTs and sensors within the space can help

- monitor space use
- target cleaning
- create user-experiences, Internet of Experiences = user's preferred
 - lighting,
 - noise levels,
 - temperature

What Have We Learned From Apac?

Building Centric

ENTRY/EXIT PROTOCOLS

- Temp/Health Checks
- QR Coded/Mobile Device
- No Personal Belongings
- Raincoats & PPE
- Hands Free Climate Controlled Elevators

FACILITY OPERATIONS

- Fresh Air/Operable Windows
- One-way routing
- Tea Points Closed

BUILDING EVACUATION AFTER A SINGLE CASE

Cultural Differences

STRICT NATIONAL
GUIDELINES & CODES

MORE COMFORTABLE
WITH TECH

LESS CONCERN FOR PRIVACY

LIVING CONDITIONS INCREASE
DESIRE TO BE IN THE OFFICE

A modern office interior with a high ceiling featuring a dark, grid-like acoustic panel system. The space is open-plan, with people working at desks and in a lounge area. A large, bold text overlay is centered in the image. The word "people" is highlighted in orange. The background shows a woman sitting at a desk on the left, a man walking in the center, and another man sitting on a red sofa on the right. Large windows on the right side offer a view of greenery outside. A large, gold-colored pendant light hangs from the ceiling on the right.

But how do we prepare for the
reentry of **people** into the space?



How can we design space
in a time of heightened sensory
awareness to help people feel **safe**
when they return to work?

Work Points...

- Expanding spacing between seats at work points.
- Transition to unassigned seating that allows employees to establish their own boundaries and pick a seat that enables distancing.
- Provide disposable desk pads for individual to use at work points and in meetings.
- Create clean desk policies that allow surfaces to be cleaned daily and update facility maintenance contracts to ensure these steps are taken.
- Incorporate plants to aid with air quality, acoustics, separation and wellbeing.
- Consider adding dividers, such as mobile markerboards, screens, planters, lockers or cabinets within the open space to increase shielding.



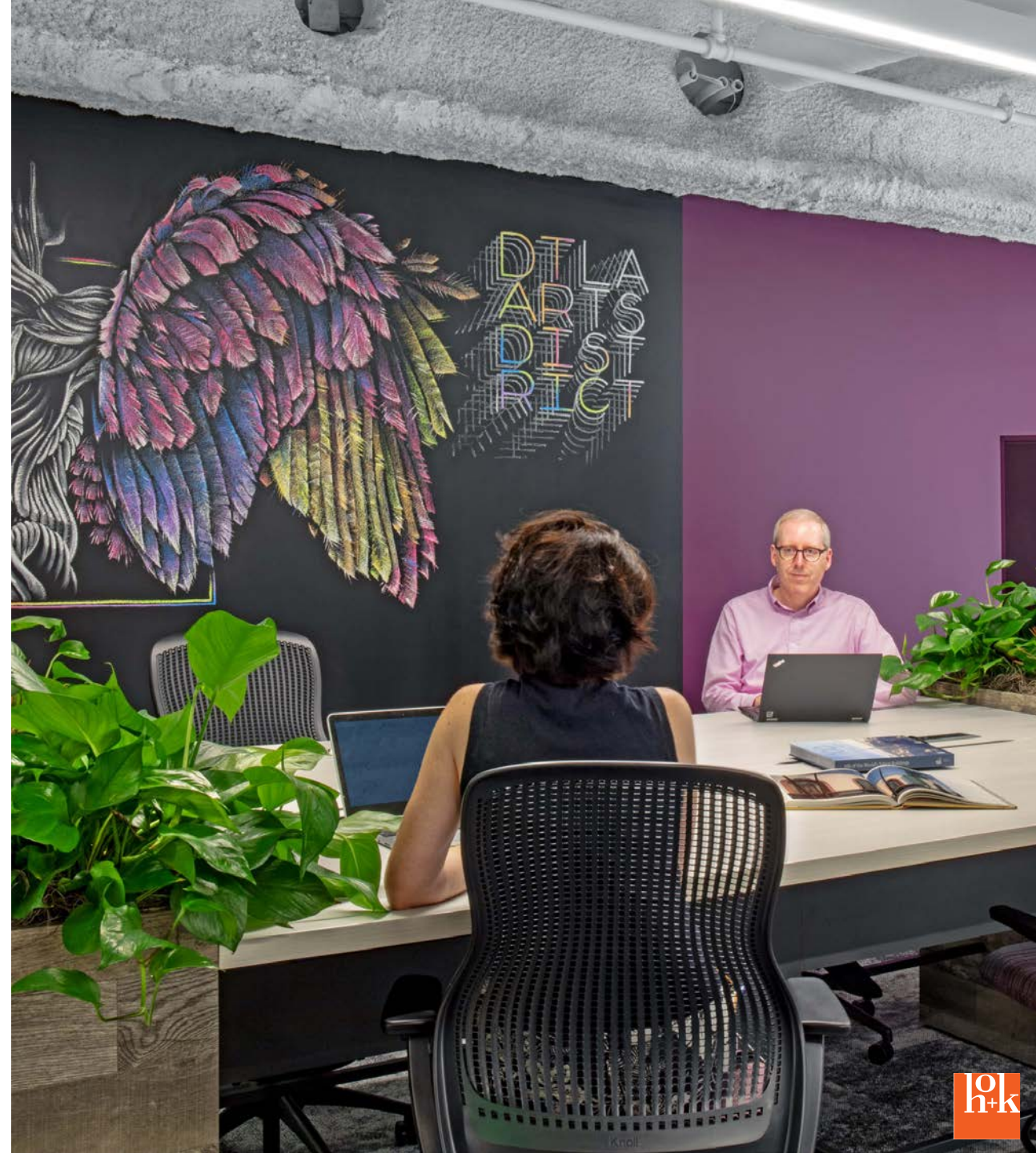
Shielding

There is very little consistency on the directions and effectiveness of screens. Most clients are using them as National Institute for Occupational Safety and Health (NIOSH) advises, between employees and customers - like at reception desk and counters.

There is no science that supports they are effective between individuals. In fact, they add one more thing that needs to be cleaned, can deter good behavioral protocols with a false sense of safety and can negatively impact air circulation and acoustics.

Here's a rundown of the guidelines as of now:

- **CDC:** Recommends respiratory etiquette like remaining 6' apart, hand washing, etc. as the #1 way to stop transmission.
- **OSHA:** Recommends "Installing physical barriers, such as clear plastic sneeze guards." But there are no guidelines as to how high, what sides, etc.
- **WHO:** No comment on physical barriers.
- **NIOSH:** Consider screens between employees and customers, not between employees.



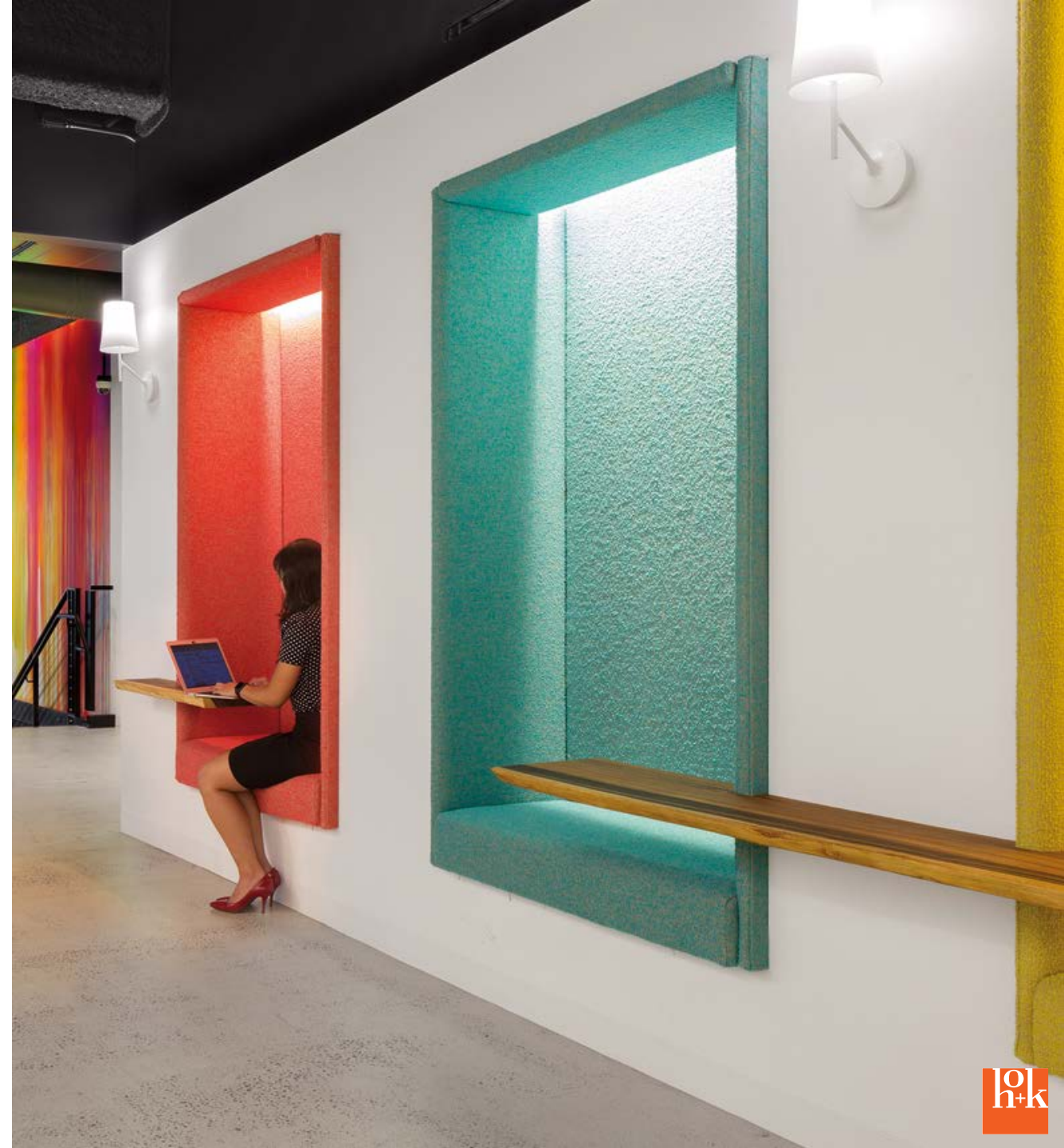
Physical Distancing

The recommendation for 6 feet of separation between occupants is considered the benchmark. The preference is for individuals to not be facing each other. Ideally individuals would be placed so they are in a back-to-back configurations, followed by front-to-back and then side-by-side. Front facing is the least preferred condition.

Here's a rundown of the guidelines as of now:

- **CDC:** recommends 6 feet of separation
- **OSHA:** recommends 6 feet of separation
- **WHO:** recommends 3 feet of separation

But you also have to account for movement throughout the space and not assume everyone is sitting in one location all day. Ensuring safe passage through the space needs to be provided, and for many that equates to one-way circulation and wider corridors where possible.



Passage & Gathering

- Ensure passageways have generous spacing, and enact one-way circular routing for safe passage.
- Separate entry and exiting where possible.
- Remove seats at communal tables and in conference rooms to give people additional personal space.
- Leverage stools to encourage standing meetings and distancing.
- Transition some meeting rooms into more casual gathering areas by removing the table entirely to give people more space and reduce touchpoints.
- Avoid alarmist signs and over prescribing



Cafes & Pantries

- Avoid using these spaces as gathering spots.
- Eliminate self-serve food and opt for pre-package food or pre-order and pick up food from cafeterias.
- Eliminate washable, multiple use utensils, dishware and cups.
- Leverage hands-free and sensor controls where feasible to reduce touch points on shared appliances and cabinets.



Leveraging Technology

- Leverage Sensor Technology
 - Block out seating to ensure spacing.
 - Identify available work points, monitor office density.
 - Block spaces that have been used and not yet cleaned.
- Go Hands Free
 - Voice activation or hands-free controls.
 - Leverage stylus to eliminate the need to touch buttons and screens.
- Install door opening sensors to enable access without touching the handle.
- Switch to APP an/or VOIP communication technology instead of phone handsets

Motion Sensor Activation



Smartphone Controlled



Voice Activation



Furniture, Fixtures & Equipment (FFE)

- Review FFE and material specifications to include anti-microbial treatments and bleach cleanable.
- Reduce absorbent material that trap germs and toxins in the space and reassess the potential impact on acoustics in the space.
- Reduce porous materials and opt for easy to clean surfaces.
- Leverage passive or intuitive ergonomic seating with fewer adjustment mechanisms.
- Replace fabric tack boards with markerboards or glass.
- Ensure all fabrics are cleanable, including cushion tops on storage, or replace with hard surface.



A modern lounge area featuring four bright orange armchairs arranged around a low, round, light-colored coffee table. The room has a minimalist aesthetic with a light-colored tiled floor and a large abstract painting on the wall. The text "We can create spaces that help people feel safe when they return to work." is overlaid in the center of the image.

We can create spaces that
help people feel **safe** when
they return to work.

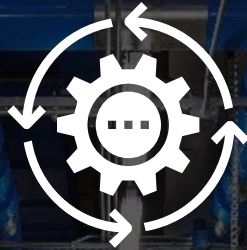
A microscopic image showing several spherical virus particles with a textured, red and white surface, set against a blurred background of organic tissue.

How can
building systems be enhanced
to support our health?

Building Systems



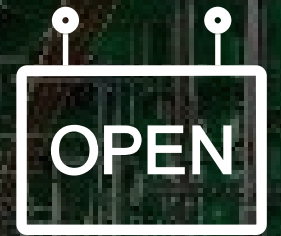
**Establish Goals
& Review Existing
Building Systems**



**Evaluate Building
Systems Operational
Changes**



**Evaluate Building
Systems
Improvements**



**Implement
Enhancements
& Prepare for
Reopening**

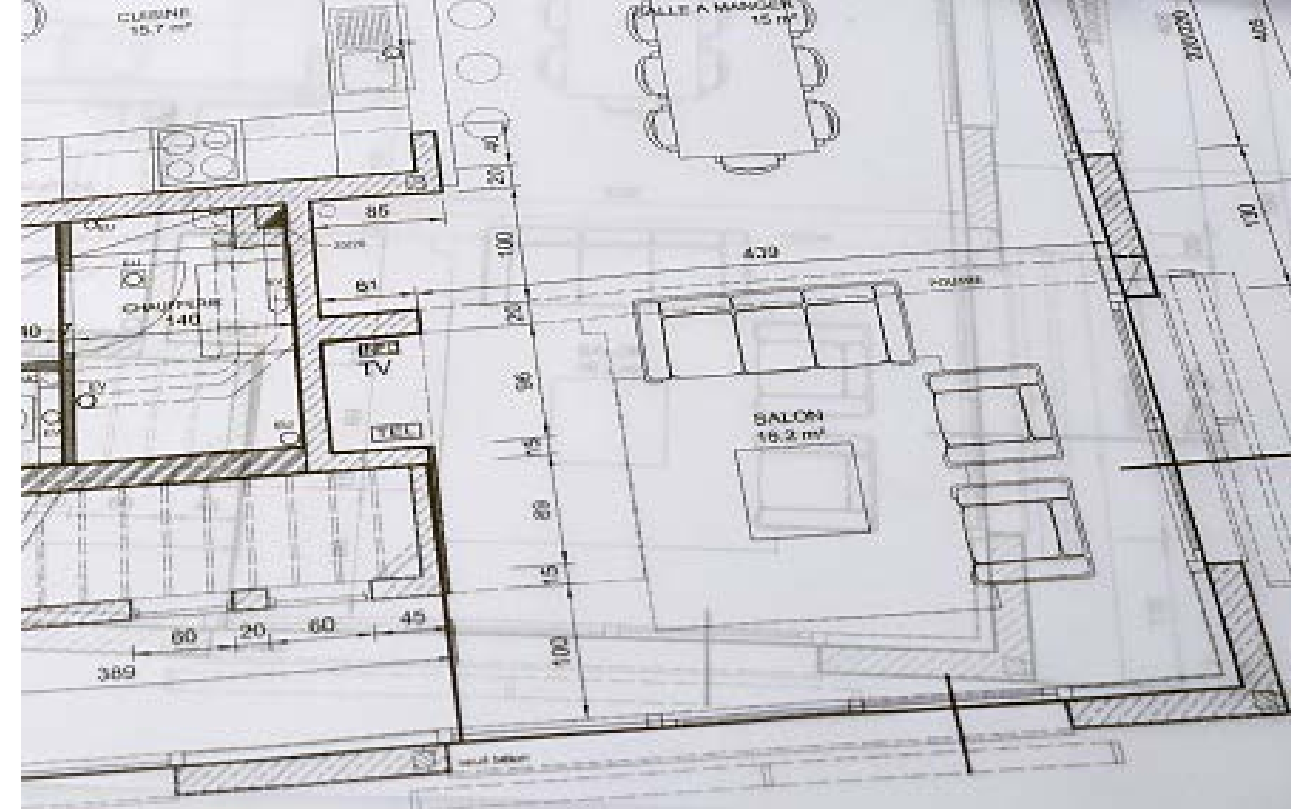
Establish Goals

- Create a committee representing all stakeholders
- Review available guidance
 - US Department of Labor
 - Occupational Safety and Health Administration (OSHA)
 - Center for Disease Control and Prevention (CDC)
 - American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE)
 - Building Owners and Managers Association (BOMA)
 - International WELL Building Institute (WELL)
- Coordinate with workplace and management changes
- Establish goals and expectations



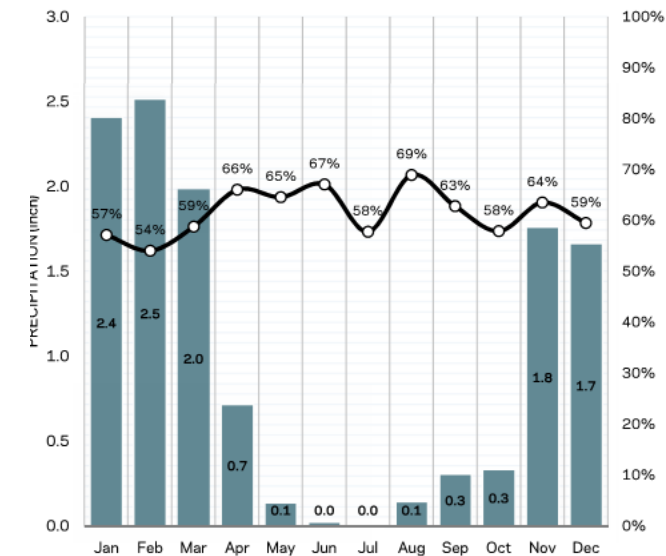
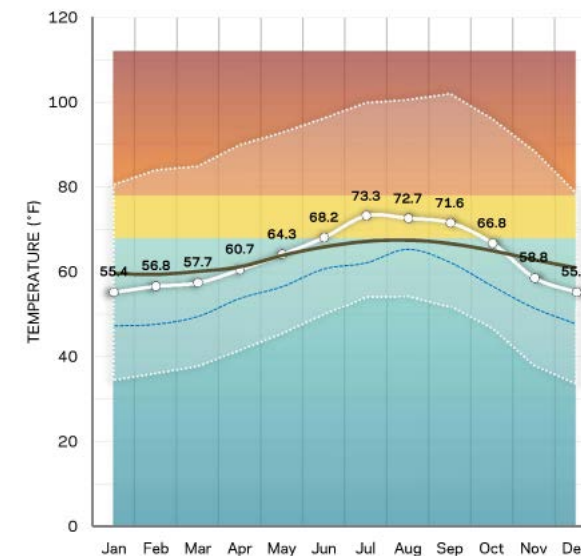
Evaluate Existing Systems

- Gather relevant and available documentation
 - Design or record drawings
 - Equipment manuals
 - Control and Building Automation System (BAS) information
 - Testing, Adjusting, and Balancing (TAB) reports
 - Commissioning reports
- Review water quality reports
 - Utility provider
 - Onsite testing
- Analyze the local climate
 - Air quality, temperature, and humidity
- Inspect equipment, systems, and controls
- Identify policy, operational, and systems opportunities in line with established goals and expectations



Dry Bulb Temperature

Precipitation and Relative Humidity



Operational Changes

- Increase ventilation
 - Increase outdoor air brought into the building through the HVAC system during occupied hours
 - Open windows where available & weather permitting
 - Implement night flush strategy during unoccupied hours
- Increase room air change rate
 - Increase minimum airflow rate in variable air volume systems
- Improve air filtration
 - Replace equipment air filters with MERV 13 or higher
 - Schedule filter replacement if monitoring not available



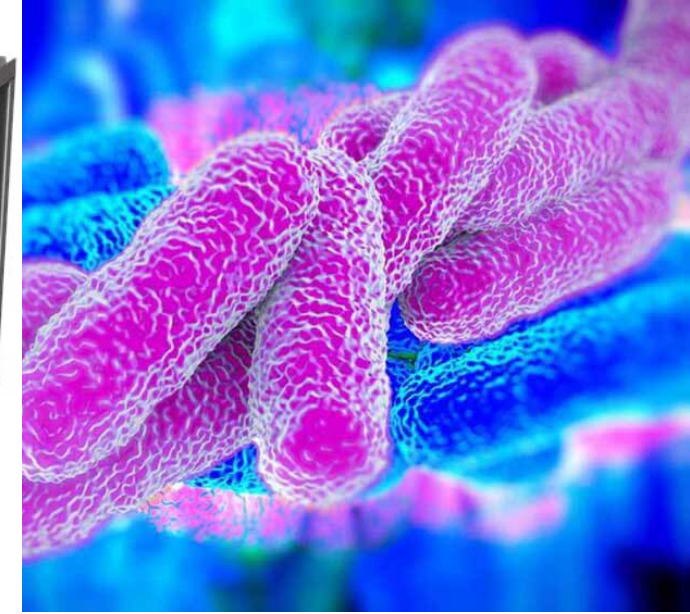
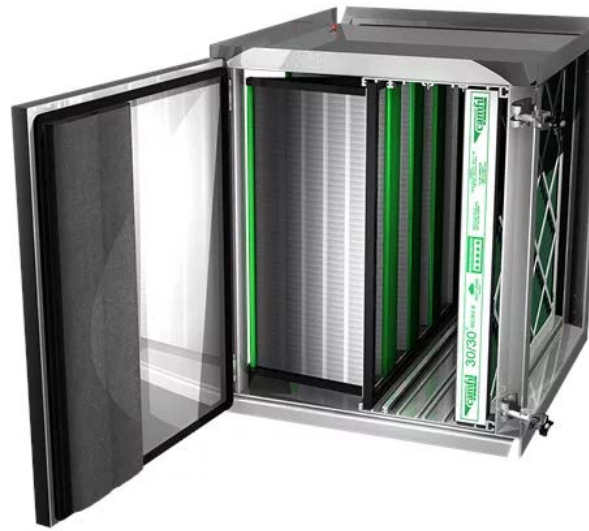
TABLE 3: MERV PARAMETERS

Standard 52.2 Minimum Efficiency Reporting Value (MERV)	Composite Average Particle Size Efficiency, % In Size Range, μm			Average Arrestance, %
	Range 1 (0.3-1.0)	Range 2 (1.0-3.0)	Range 3 (3.0-10.0)	
1	n/a	n/a	E3 < 20	$A_{\text{avg}} < 65$
2	n/a	n/a	E3 < 20	$65 \leq A_{\text{avg}} < 70$
3	n/a	n/a	E3 < 20	$70 \leq A_{\text{avg}} < 75$
4	n/a	n/a	E3 < 20	$75 \leq A_{\text{avg}}$
5	n/a	n/a	$20 \leq E3$	n/a
6	n/a	n/a	$35 \leq E3$	n/a
7	n/a	n/a	$50 \leq E3$	n/a
8	n/a	$20 \leq E2$	$70 \leq E3$	n/a
9	n/a	$35 \leq E2$	$75 \leq E3$	n/a
10	n/a	$50 \leq E2$	$80 \leq E3$	n/a
11	$20 \leq E1$	$65 \leq E2$	$85 \leq E3$	n/a
12	$35 \leq E1$	$80 \leq E2$	$90 \leq E3$	n/a
13	$50 \leq E1$	$85 \leq E2$	$90 \leq E3$	n/a
14	$75 \leq E1$	$90 \leq E2$	$95 \leq E3$	n/a
15	$85 \leq E1$	$90 \leq E2$	$95 \leq E3$	n/a
16	$95 \leq E1$	$95 \leq E2$	$95 \leq E3$	n/a

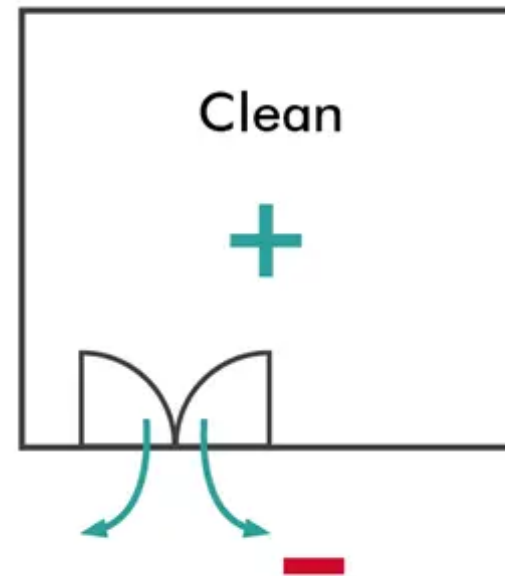


Operational Changes

- Incorporate air flow control
 - Isolate rooms or portions of the building if possible
 - Rebalance air distribution to control pressurization from clean rooms to less clean rooms
- Implement a Maintenance Plan
 - ASHRAE 180 Maintenance Guidelines
 - Replace air filtration at scheduled intervals or according to monitoring equipment
 - Schedule manual or automatic operation or recirculation to avoid water stagnation



Positively
Pressured Room

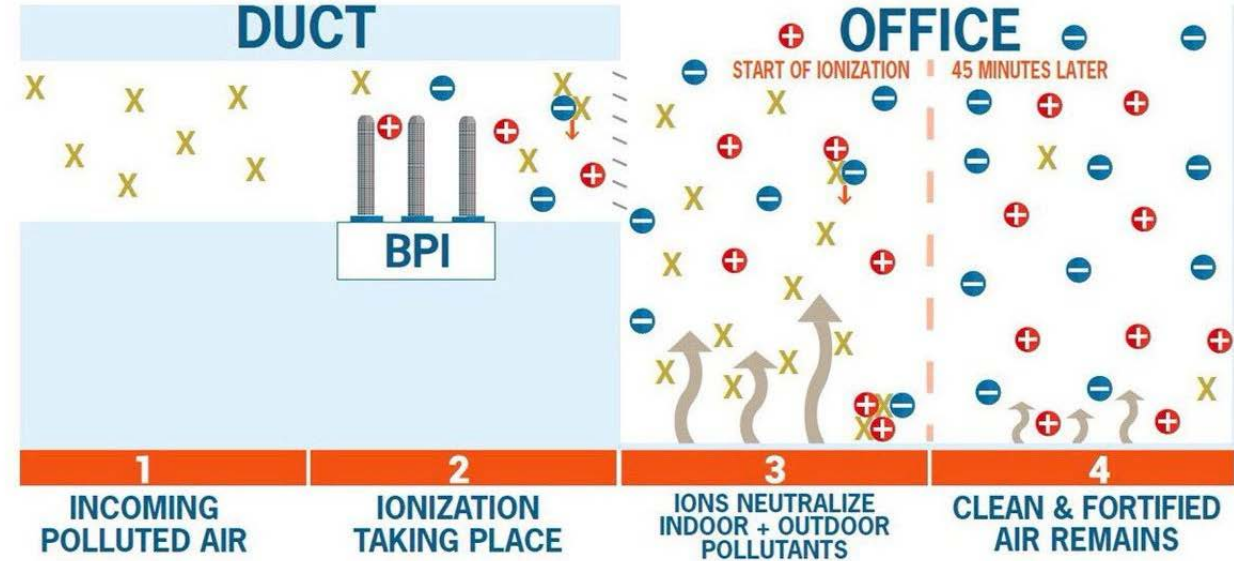


Negatively
Pressured Room



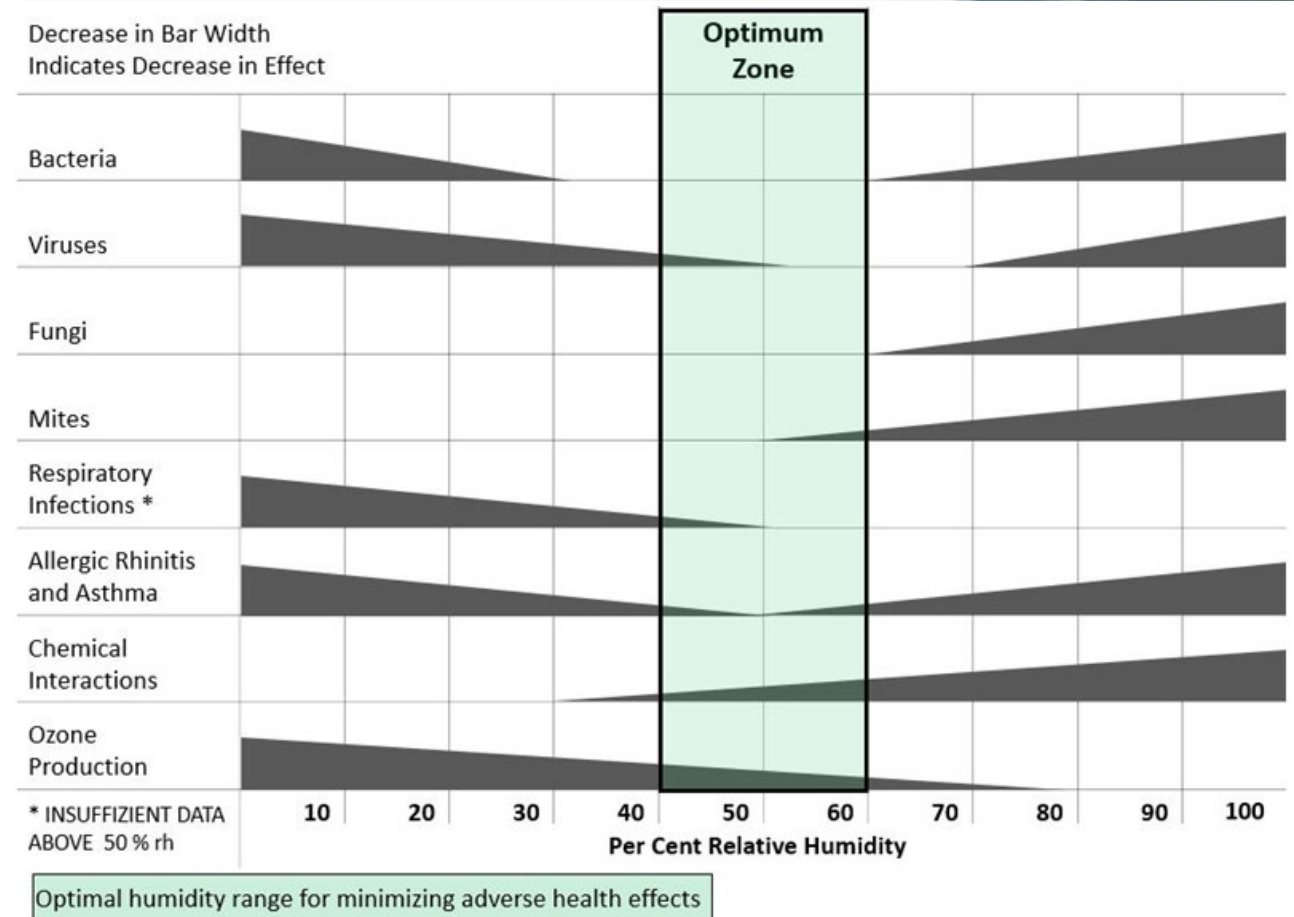
System Improvements


- Increase ventilation
 - Equipment upgrades
 - Dedicated outdoor air systems
- Enhance air filtration
 - MERV 13 or higher filtration
 - HEPA filtration
 - Bipolar ionization
 - Ultraviolet germicidal irradiation (UCGI)
 - Photocatalytic Oxidization (PCO)



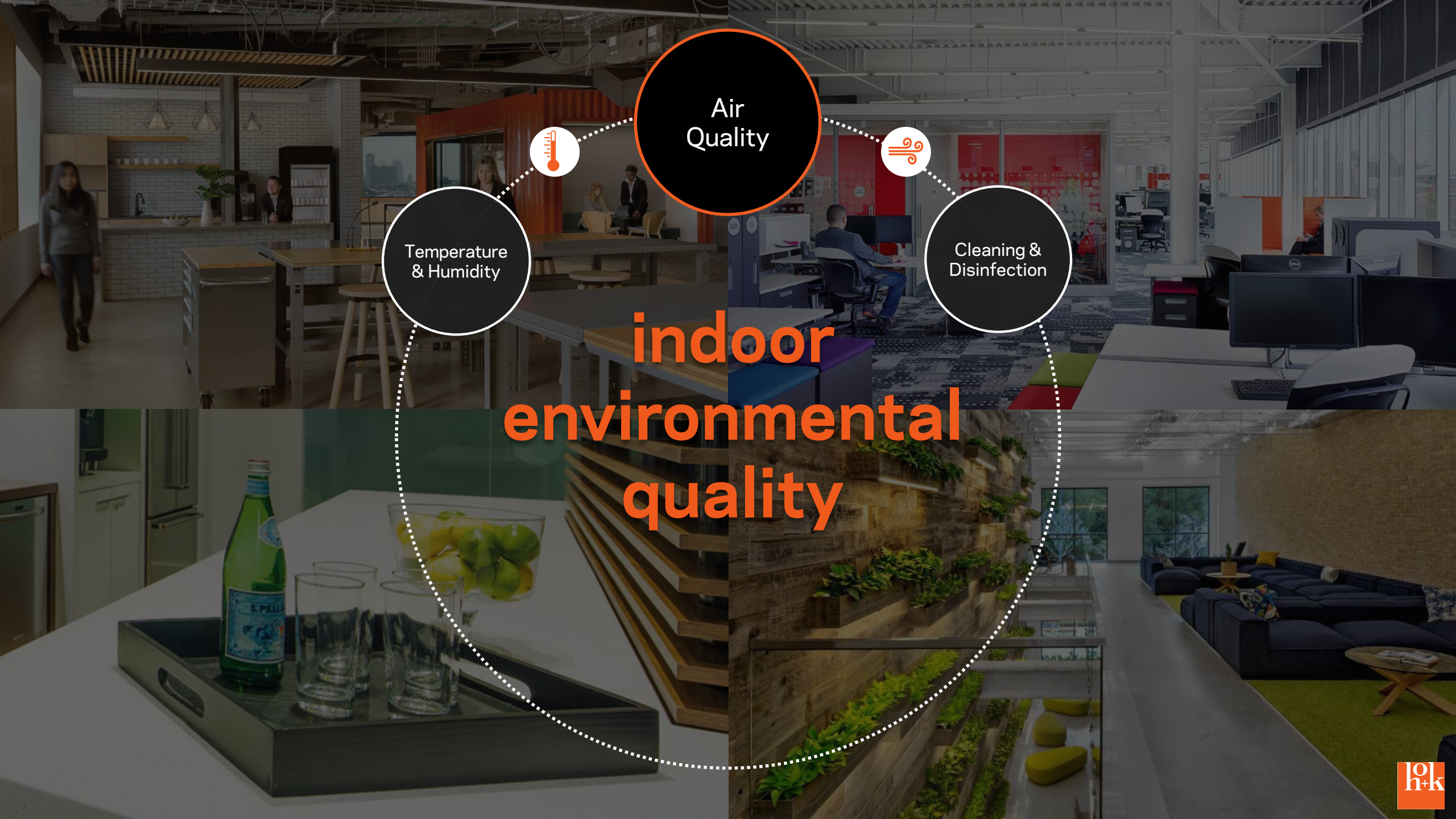
System Improvements

- Control relative humidity
 - Humidification to maintain space above 40% RH
 - De-humidification to maintain space below 60% RH
- Integrate sensors and controls
 - Thermal comfort and air quality monitoring
 - Preventative maintenance monitoring
 - Automatic flow sensors for plumbing fixtures



A modern office interior with a white brick wall, wooden slat ceiling, and various workstations. People are seen working at desks and a central counter. The text "How do we create an optimum indoor environmental quality for health and wellbeing?" is overlaid in the center. The word "indoor environmental quality" is highlighted in orange.

How do we create an optimum
indoor environmental quality
for health and wellbeing?



Air
Quality

Temperature
& Humidity

Cleaning &
Disinfection

indoor environmental quality



Air
Quality

Cleaning &
Disinfection

Temperature
& Humidity

indoor environmental quality

Water
Quality

Wellbeing
& Stress
Reduction

Air Quality:

What to think about?

- Ask building engineering staff:
 - What kind of air filter does the building have?
 - How often is it replaced, and how is that tracked?
 - Does the building meet current ventilation codes?
- Can you open windows? Is your outdoor air clean?
- Visual inspection for mold growth or water damage
- Are there temperature, humidity or carbon dioxide sensors in your space?
- Does cleaning and disinfecting take place during or just before business hours? Do you smell cleaning products in your work space?



Water Quality:

What to think about?

- Ask building engineering staff:
 - Were plumbing fixtures used regularly when the building was unoccupied?
 - Did they “flush out” the system before reoccupancy?
 - What legionella management procedures are in place?
 - Do they conduct water quality tests? What do they test for?
- Are you worried about lead pipes in your building?
- Is your drinking water filtered? If yes, what is being filtered?
- Do your toilets have lids? (If yes, close them to flush.)



Reoccupancy Testing, Inspection & Certifications

- Air quality spot testing
- Water quality sampling
- Cleaning efficacy spot testing
- Visual inspection for mold
- HVAC system inspection
- Policy & procedure development

Day 1 inspection contacts:

- UL – Josh Jacobs: josh.jacobs@ul.com, 678-559-8848
- CTEC – Elena Bondareva: elena.bondareva@cetec-us.com, 917-318-2069

Day 2 certification opportunities:

- WELL Building Standard
- WELL Health-Safety Rating (pending)
- Fitwel

Re-occupancy Building Inspection Program
CERTIFICATE OF INSPECTION

Site was assessed for the following criteria:

Indoor Air Quality	Site Inspection	Water Quality
✓ Respirable dust (PM2.5 and PM10)	✓ Air conditioning systems	✓ Domestic Water Testing (Metals, Bacteria, TDS)
✓ Carbon dioxide (ventilation)	✓ Filtration	
✓ Thermal conditions (temperature/relative humidity)	✓ Building pressurization	
✓ Volatile organic compounds	✓ Moisture assessment	
	✓ Janitorial effectiveness	

During re-occupancy, the heating, ventilating, and air-conditioning systems serving this building were examined, the ventilation rates and filtration standards reviewed, overall maintenance levels and janitorial effectiveness were assessed, and representative samples of indoor air and water were collected for analysis.

Company name has adopted this program for reoccupying the building that has been in limit use. By practicing this proactive approach, [COMPANY NAME] demonstrates a commitment to providing high standards of indoor environmental quality and janitorial effectiveness for building occupants and staff.

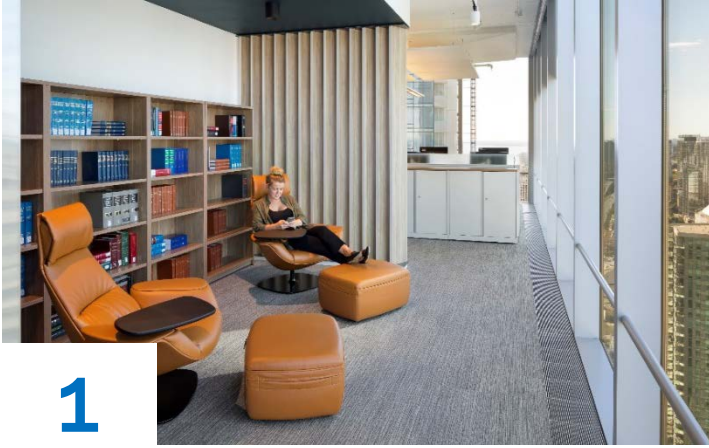
Company Name: XYZ Inc.
Location: 123 Street address
City, State, Zip code
Date issued: Month/Year

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Opportunities - Day 2



1

Personal Mindfulness |
Rejuvenation



2

Physical Activity



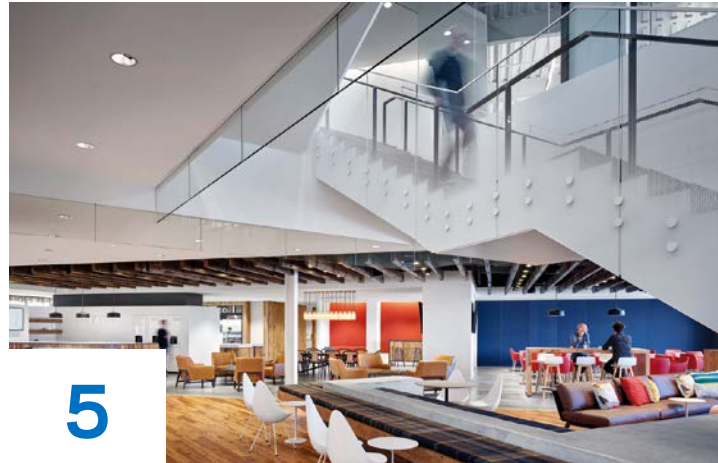
3

Bring Nature Indoors



4

Enhanced Acoustics



5

Healthy Food



6

Daylight and Views





Thank You.

