



Continue with Confidence

Smart Infrastructure to Help Support Your Mission

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Addressing Key Challenges with Business Continuity & Strategic Planning (next 12-18 months)



- Space adaptability
- Space configuration
- Productivity
- Staffing shortages
- Reduced budgets
- Personal safety
- Patient confidence (medical)
- Compliance services
- Cybersecurity
- Reassess real estate utilization



Evaluate and plan for facilities to reduce spread of infection, reduce operating costs, and instill confidence

Develop roadmap

Evaluate readiness

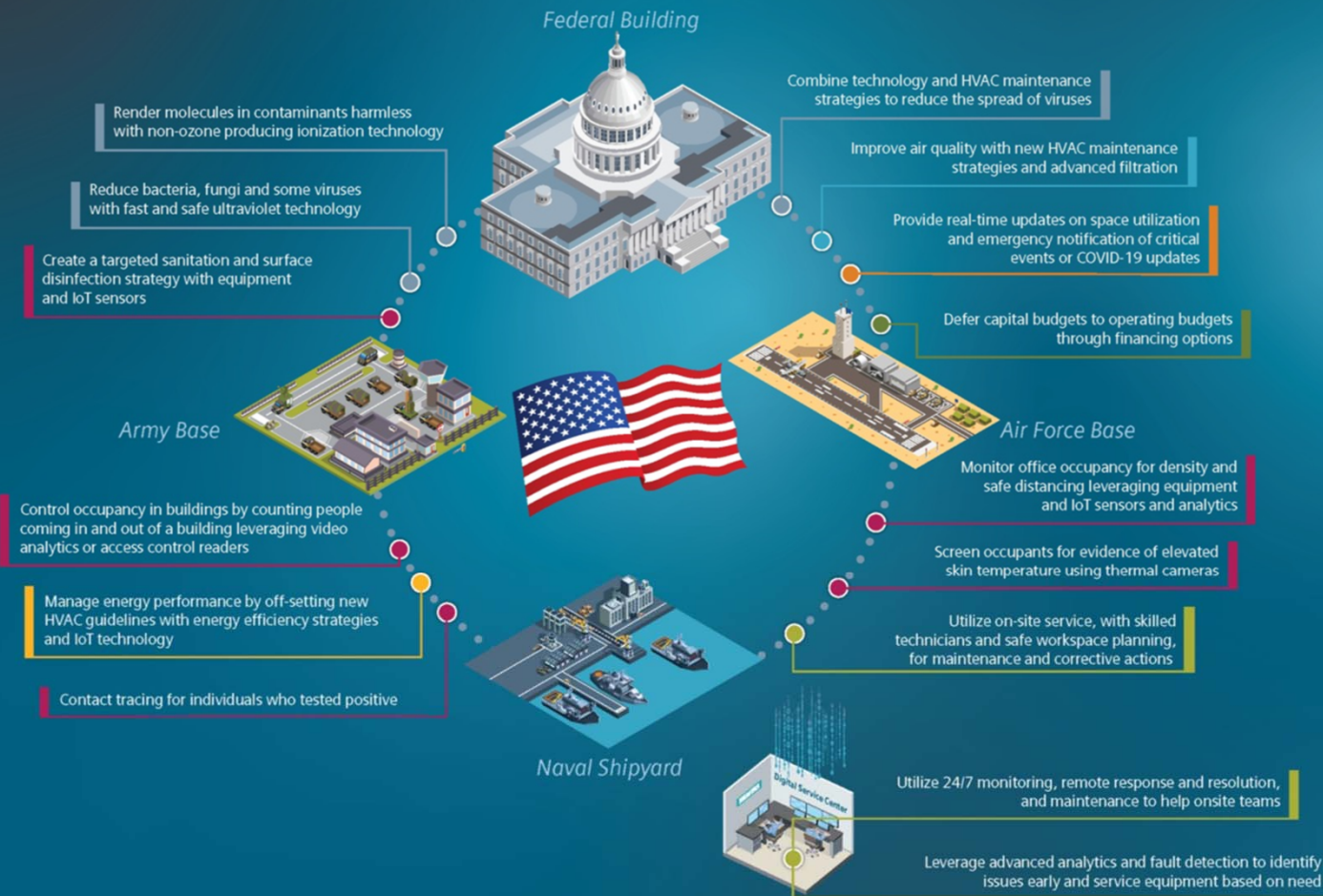
Identify improvements



How can Siemens help maintain safe and healthy environments to support your mission?

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Providing smart infrastructure to help support your mission



- Reduce the spread of airborne and surface contaminants
- Improve air quality
- Manage energy performance
- Enable social distancing
- Provide real-time updates
- Sustain healthy and safe environments
- Defer capital budgets

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At a glance

Seven areas of focus



1

Reduce the spread of airborne and surface contaminants with a holistic approach

- Room pressurization and precise system control
- Violet Defense – ultraviolet light technology eliminates viruses, etc.
- O2 Prime – ionization renders contaminants harmless
- Baseline maintenance and compliance services

2

Improve air quality

- CloudOps – cloud-based analytics monitor customers' systems and notify when a critical fault occurs
- System Performance Monitoring – ensure mechanical and automation systems deliver a healthy building
- Air IQ Program

3

Manage energy performance by off-setting new HVAC guidelines

- Demand Flow Chilled Water Optimization – efficiently achieve industry recommendations for outdoor air ventilation
- Energy Dashboards
- Digital Service Center

4

Enable social distancing

- FDA-cleared thermal cameras to detect people with EST
- Video Analytics + Access Control – people counting to control occupancy
- Enlighted – enable contact tracing and identify high-traffic areas to adapt cleaning and sanitation, monitor occupancy, reconfigure spaces

5

Provide real-time updates

- Desigo MNS – timely, targeted messages inform occupants
- Enlighted

6

Sustain healthy and safe environments

- Monitoring services – 24/7 response to critical alarms
- Remote services – proactive maintenance approach
- Analytic services – leverage analytics and fault detection
- Security + fire alarm monitoring
- Compliance services
- Onsite skilled service – only as needed with safe workspace plans

7

Siemens has financing options available

Reduce the spread of airborne and surface contaminants with a holistic approach

Reduce the spread of airborne and surface contaminants with a holistic approach



How do we accomplish this?



Reduce bacteria, fungus, and some viruses with fast and safe ultraviolet (UV) technology

Pulsed Xenon Ultraviolet Light
Powered by Violet Defense Technology



Render molecules in contaminants harmless with non-ozone producing ionization technology

Needlepoint Bipolar Ionization
Powered by O2 Prime Technology



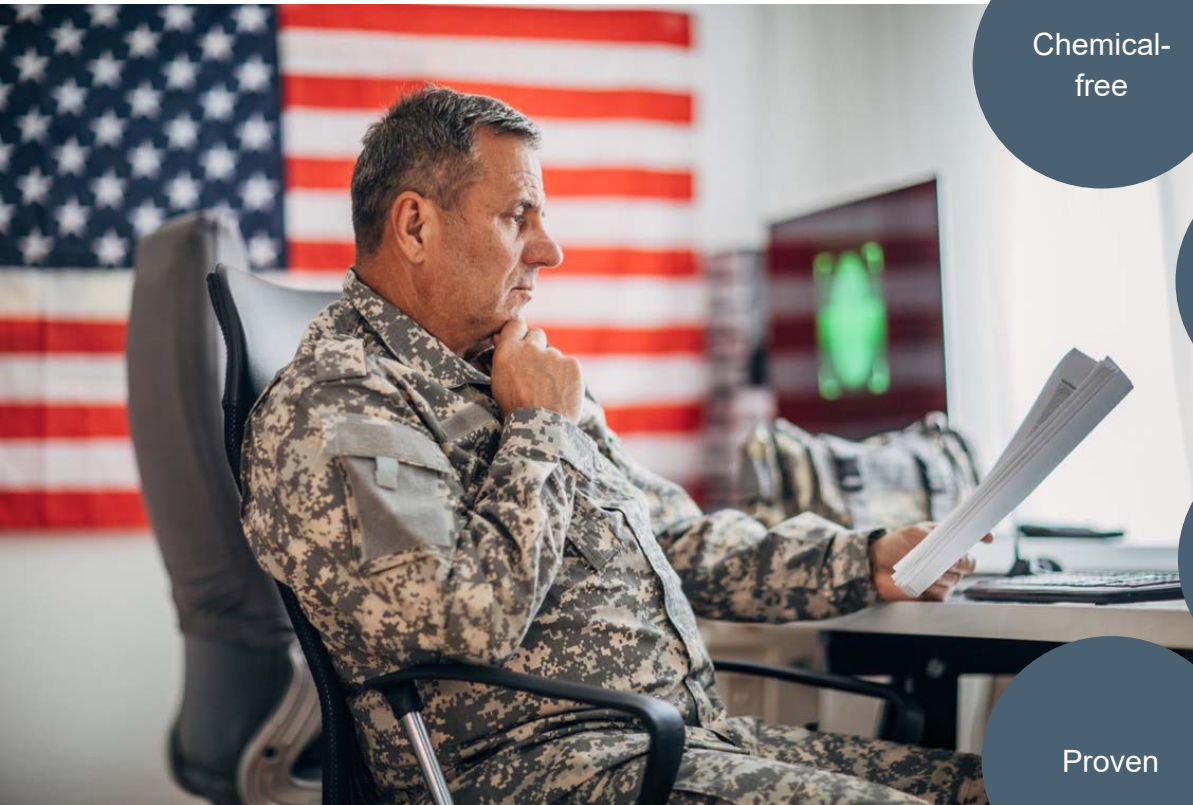
Combine technology with HVAC maintenance strategies to help reduce spread of pathogens

Precise System Control + Maintenance
Room Pressurization + Compliance Services

Pulsed Xenon Full Spectrum UV Solution

Benefits of UV light

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Chemical-free

- Eco-friendly
- Kills harmful germs indoors
- Reduces contamination in the air and on surfaces
- Reduces risk of infections

Rapid + targeted

- Kills rapidly
- Targets DNA and RNA of microbes
- Results in inactivation and failure to reproduce

Effective

- Kills up to 99.9%* of harmful pathogens.

Proven

- Microbial cells cannot develop a resistance to this technology
- Proven over 100 years of industrial use

*Source: violetdefense.com

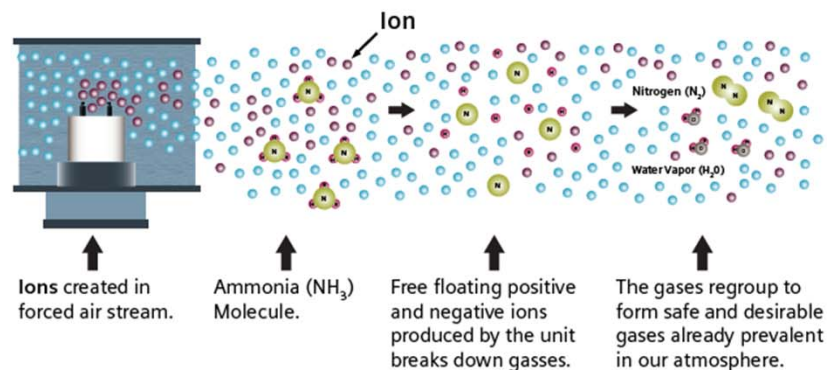
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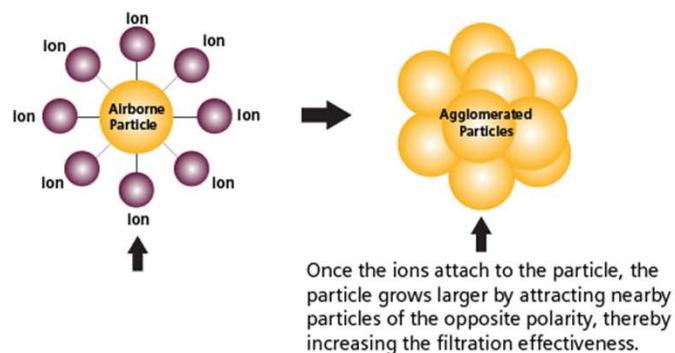
Needlepoint Bipolar Ionization Technology

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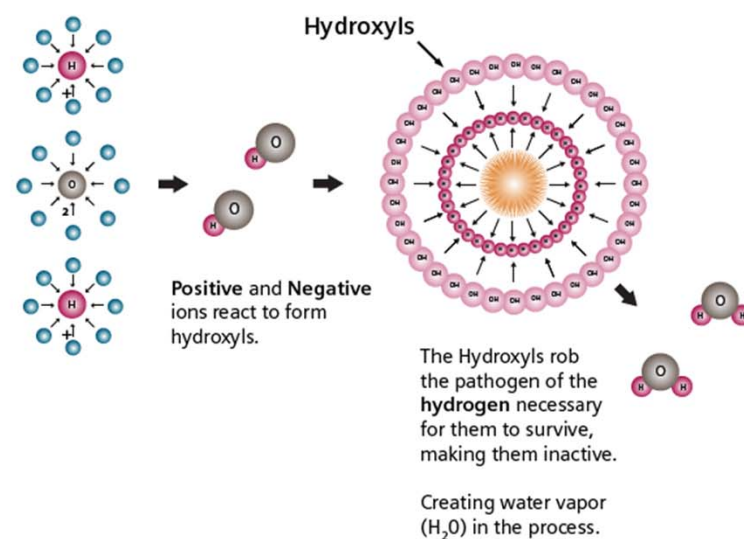
VOC Effects



Airborne Particle Effects



Bacteria and Pathogen Effects



Ozone-Free Needlepoint Bipolar Ionization artificially creates millions of positive and negative ions and releases them into the forced air circulation of an HVAC system travelling into spaces inside building(s).

Room pressurization

ASHRAE Recommendations: All hospitals should evaluate accuracy of space pressure relationships, especially in Airborne Infections Isolation (AII) rooms.

ASHRAE Recommendations: Each AII room should have a permanently installed device to continuously monitor differential pressure when patients are present.



Siemens offers compliance services for a range of accreditation programs (for VA/military healthcare applications)

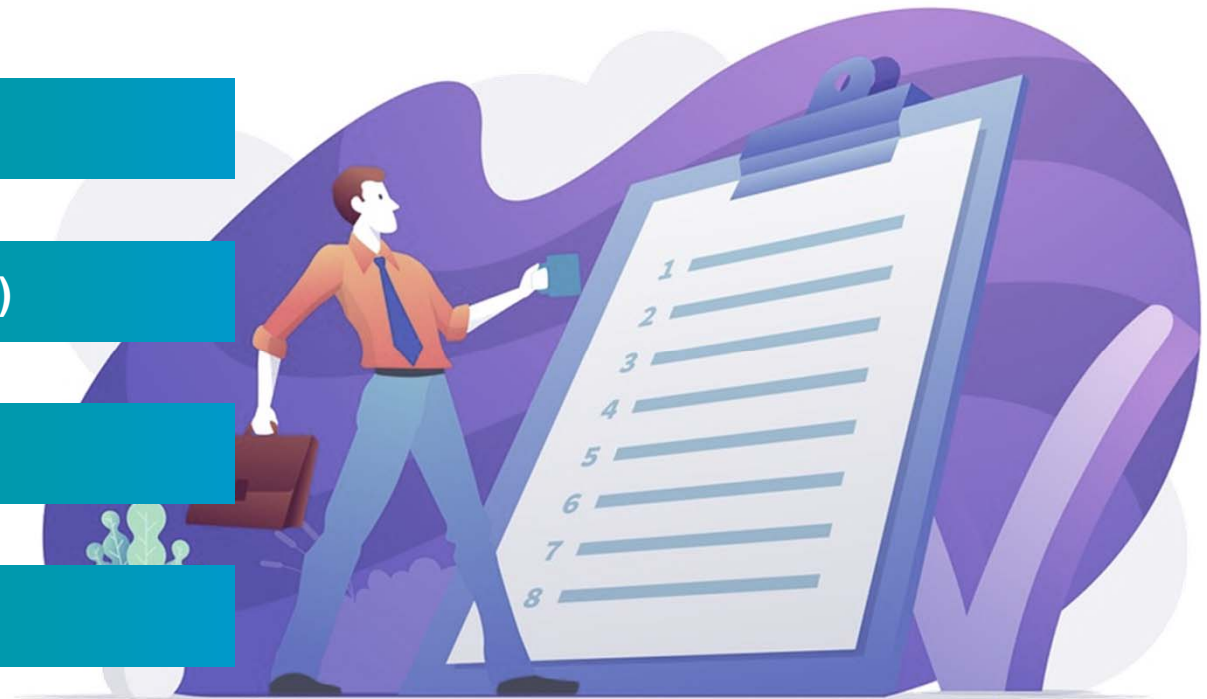
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The Joint Commission (TJC)

Det Norske Veritas Healthcare (DNV)

****Fire Services**

****Automation Services**



Improve air quality

Improve air quality



How do we accomplish this?



Upgrade the level of filtration

Advanced Filtration Strategy
Mechanical Services



Combine technology with HVAC maintenance strategies to help reduce spread of pathogens

Precise System Control + Maintenance
Siemens Air IQ Program

Air IQ Program

A holistic approach to improving the indoor environment

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Manage energy performance

Manage energy performance



How do we accomplish this?



Increase outdoor air without overtaxing cooling plants

Demand Flow Chilled Water Optimization



Gain visibility into facility performance

Energy Dashboards



Ensure underlying systems are in proper working order

Digital Service Center

Demand Flow Chilled Water Optimization

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Unlock untapped capacity in chilled water plants

By optimizing temperature and humidity setpoints, plant cooling output can be increased, allowing operations to increase outdoor air ventilation without **overtaxing equipment** or **sacrificing facility conditions**.

Energy Dashboards

Providing visibility into facility performance



Energy Dashboards

- Utility usage breakdown
- Time of day analysis
- CO2 emissions

Demand Flow Dashboards

- Understand energy performance of chilled water plants
- Help predict changes in future costs



Siemens Digital Service Center

Ensure underlying systems are in working order

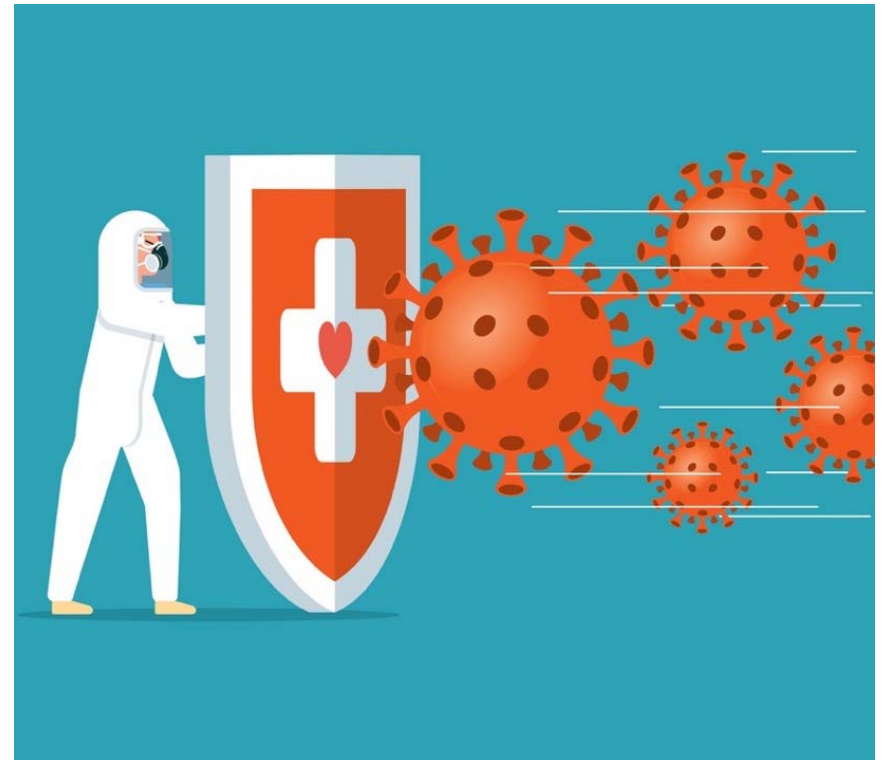
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Remote Diagnostic & Resolution Services

- No need for technician to travel to site in many cases
- If a technician is needed on-site, diagnostics can be completed to better inform of issue and potential parts
- 24x7x365 remote service availability; national capacity and expertise to scale
- Faster resolution of issues resulting in reduced impact to troops, workers, patients, operations staff, etc.

Remote Preventive Maintenance Services

- Server maintenance, online database backup, BMS maintenance
- cRSP verification, BACnet network analysis
- CAP+ analysis, automation reporting



Enable social distancing

Enable social distancing



How do we accomplish this?



Screen occupants for evidence of elevated skin temperature (EST)

Security Offerings
Thermal Imaging Cameras



Control occupancy in building by counting people coming in and out

Security Offerings
Video Analytics and **Access Control**



Enable contact tracing for individuals who tested positive

Enlighted Building IoT



Create a targeted sanitization and surface disinfection strategy

IoT Solutions and Platforms
Enlighted Building IoT



Monitor office occupancy for density and safe distancing

IoT Solutions and Platforms
Enlighted Building IoT

Security offerings that enable social distancing



Thermal Imaging Cameras

- Detect employee's elevated skin temperature
- Assess symptoms prior to starting work
- Temperature checks should happen before the individual enters the facility*



People Counting

- **Video Analytics:** apply analytics that enables people counting and supports safe distancing
- **Access Controls:** "Read in/read out" capabilities help manage occupancy



*Source: [Centers for Disease Control and Prevention](#)

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Enlightened Building IoT

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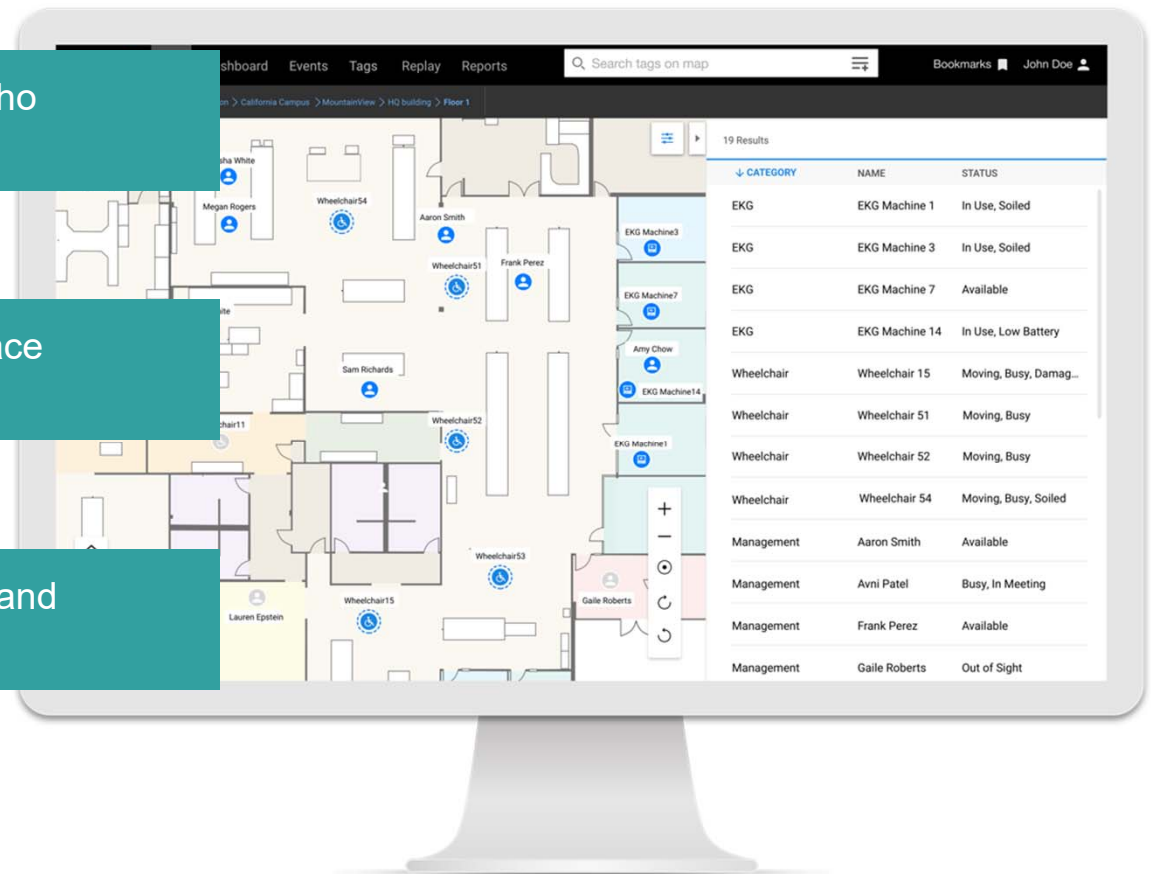
Enable contact tracing for individuals who tested positive



Create a targeted sanitization and surface disinfection strategy



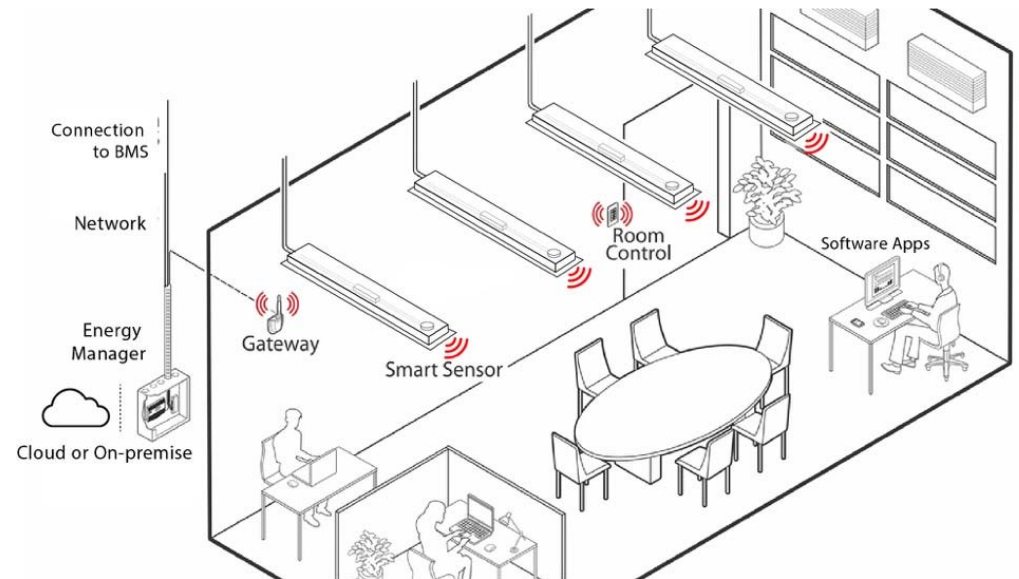
Monitor building occupancy for density and safe distancing



Enlighted Building IoT

How it works

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Provide real-time updates

Provide real-time updates



How do we accomplish this?



Enable notifications for critical events

Designo® Mass Notification System
System Performance Monitoring



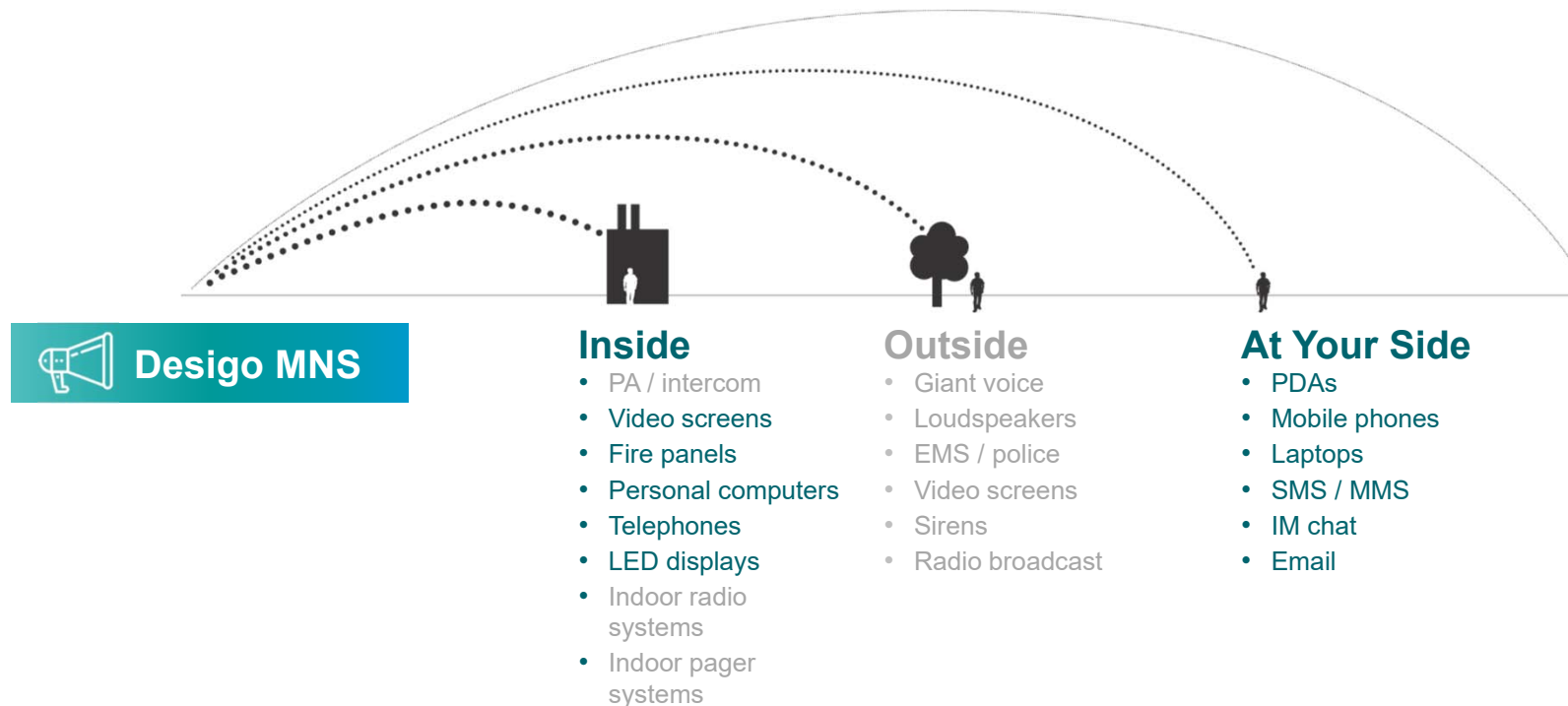
Keep employees informed of space utilization,
health and wellness updates, and more

Enlighted Building IoT

Emergency Notification Systems

Device groups – multiple layers of technology

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The system must be able to address all groups to be effective!

Sustain healthy and safe environments

Sustain healthy and safe environments



How do we accomplish this?



Utilize 24/7 monitoring, remote response and resolution, and maintenance to help onsite teams

Remote and Monitoring Services
Siemens Digital Services
Electrical Services



Leverage advanced analytics and fault detection to identify issues early and service equipment based on need

Siemens Analytic Services



Utilize onsite service as needed with skilled technicians and safe workspace planning

Local Onsite Service

Siemens Digital Services



Monitoring Services

- Fire
- Security
- Building automation systems
- Access control and video systems



Analytic Services

- Comprehensive team of building experts
- The latest analytical tools
- End-to-end service
- Solves potential problems before they affect the entire organization



Remote Services

- We leverage digital tools sets for new and existing service offerings
- Allows us to be more predictive and prescriptive



Siemens Electrical Services

Improve reliability of your power supply



A reliable power system

...is critical for any healthcare facility's success. From planning and design through construction, installation, and commissioning, Siemens can provide complete lifecycle support for all your **electrical service** needs.

Defer capital budgets through financing options

**Contact
Siemens or your
finance partner**



Thank you