SGS

Technology Bridges the Gap

REENTRY PLANNING

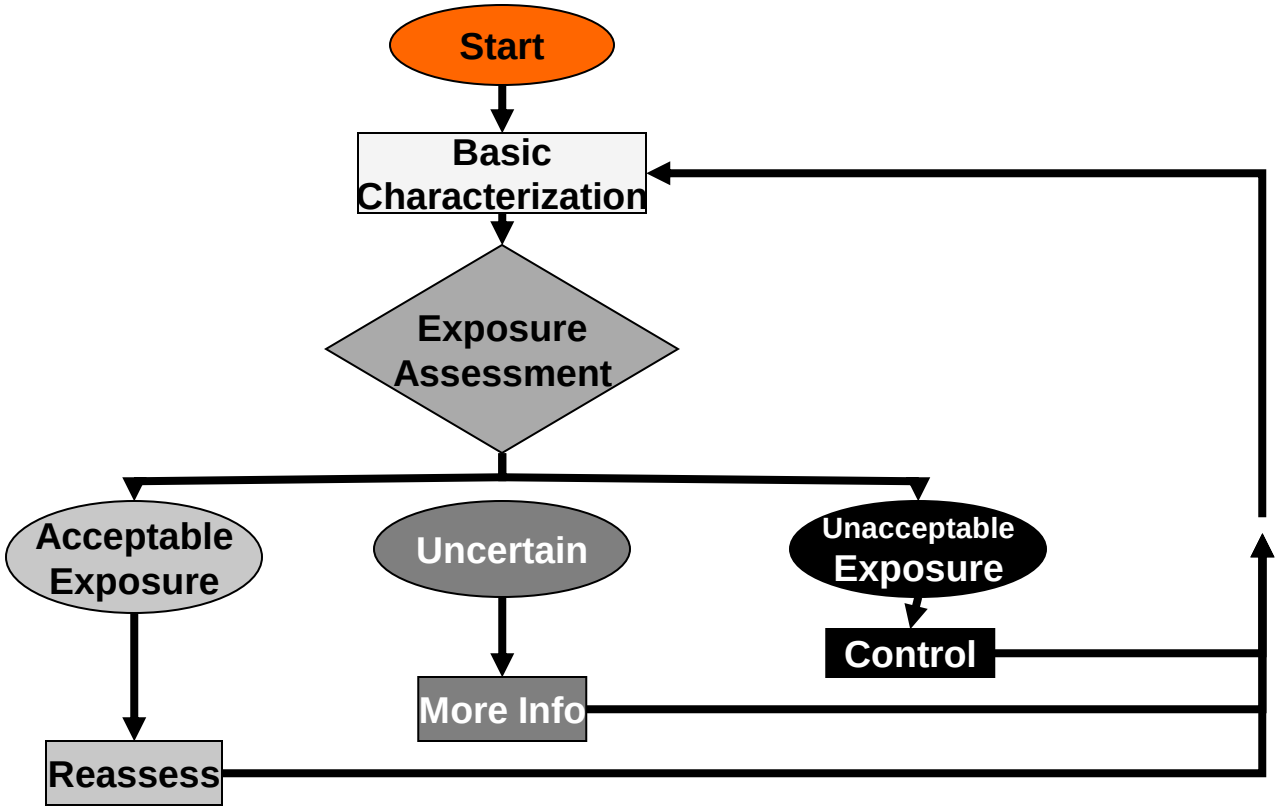
Healthy Buildings

April 2021

Important Note: The guidance is changing rapidly and we did our best to keep the material in this webinar current


Work From Home
Pandemic
Safe
Vaccine
Spread
Clean
Rising
Close
Bleach
Face
IAQ
Virtual
News
Strain
Germs
Global
Occupancy
Covid
Zoom
Essential
Test
Cover
CDC
Wash Hands
UV Lights
Bi-Polar Ionization
Disinfect
Filter
Health
Masks
Chemicals
Shifts
Spray
Wipe
Banned
Scare
6 Feat

Back to the Basics
AIHA Exposure Assessment Strategy

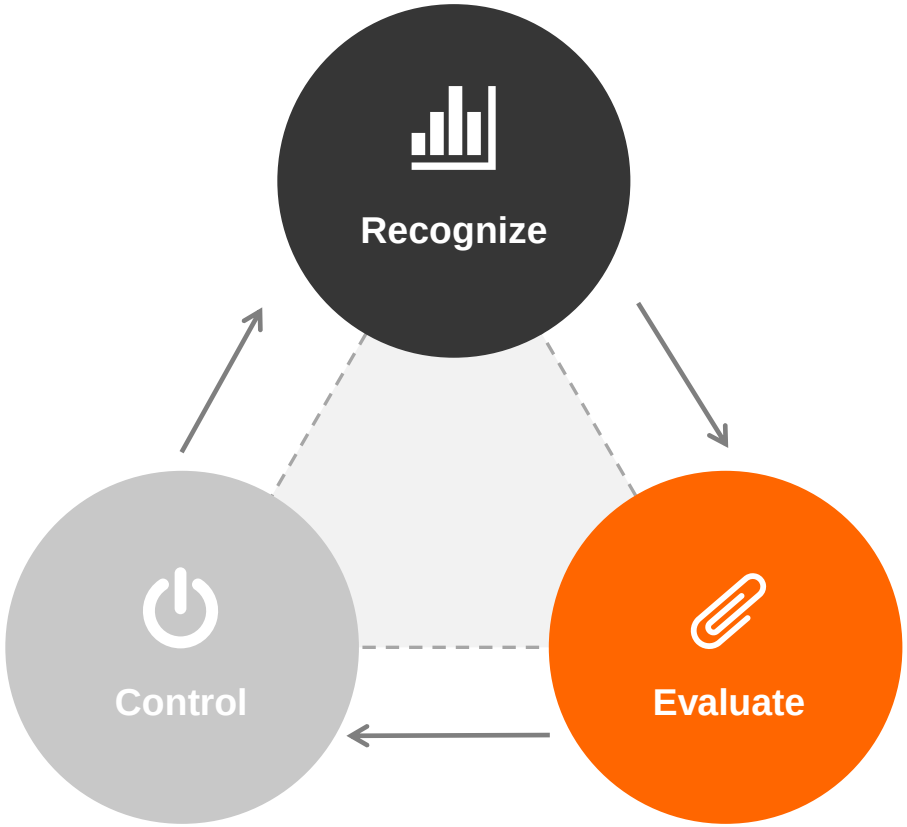


Bullock and Ignacio, eds, *A Strategy for Assessing and Managing Occupational Exposures*, Third Edition, AIHA Press, 2006

THE IH WAY

AIHA™

HEALTHIER WORKPLACES | A HEALTHIER WORLD



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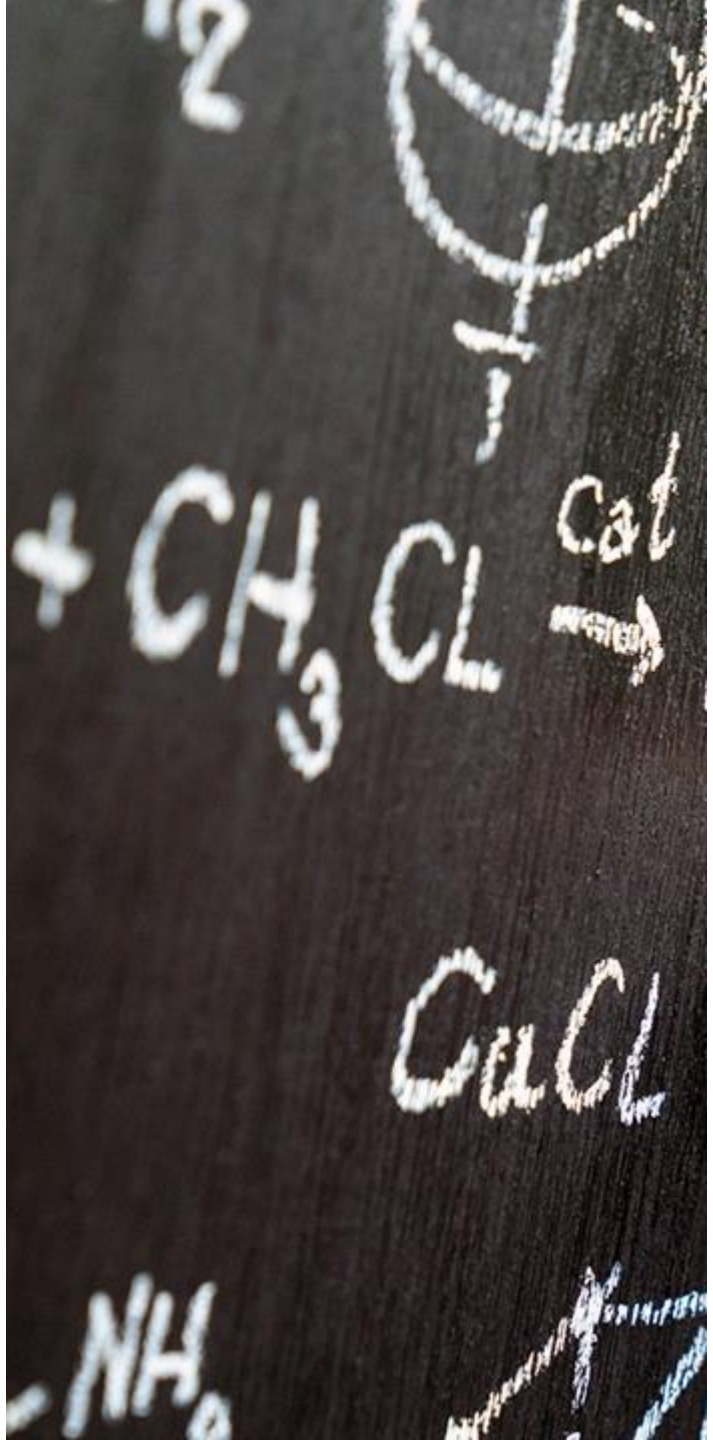
The IH Way



01 Recognize and Characterize Hazard

02 Exposure Paths

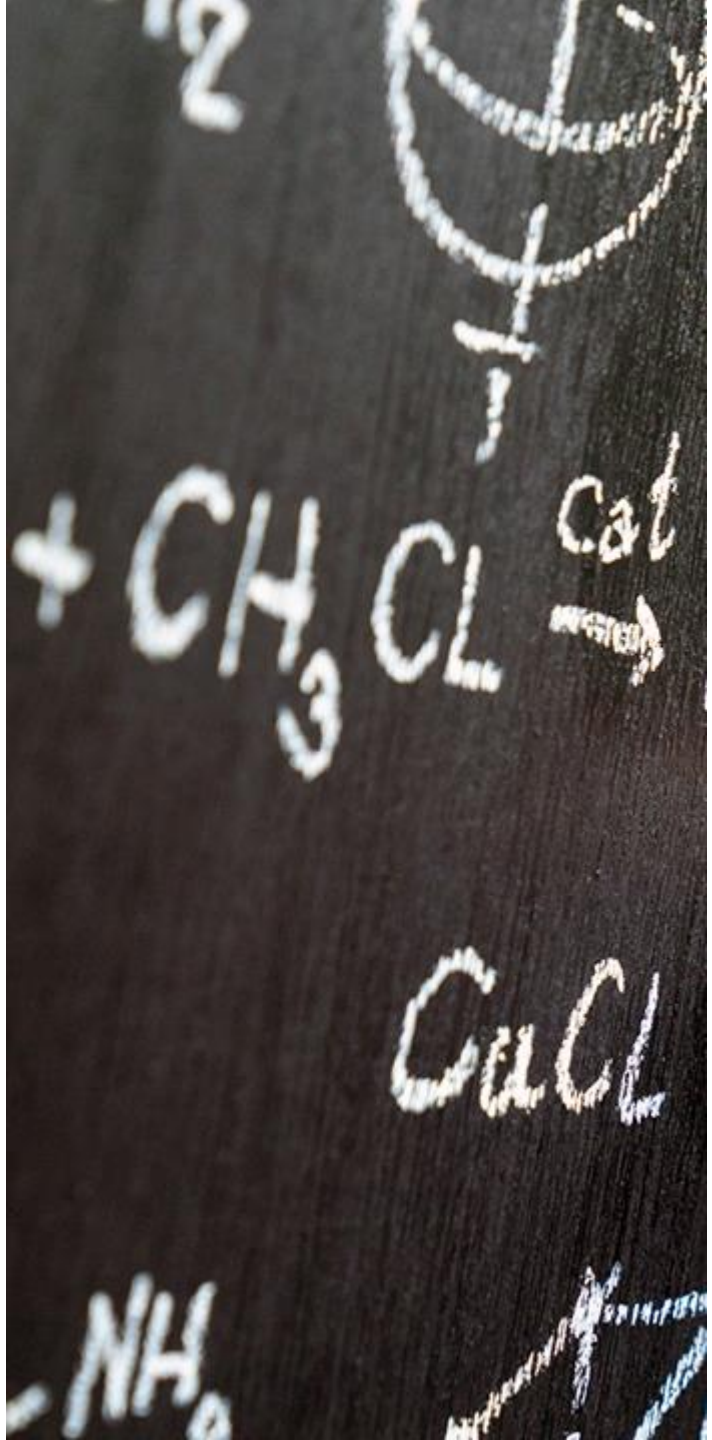
03 Exposure Assessment

04 Control, Design, Implement and Verify

05 Monitor Control Effectiveness

Any Changes to Building systems or design reevaluate

The IH Way



01 **Recognize and Characterize Hazard**

02 Exposure Path

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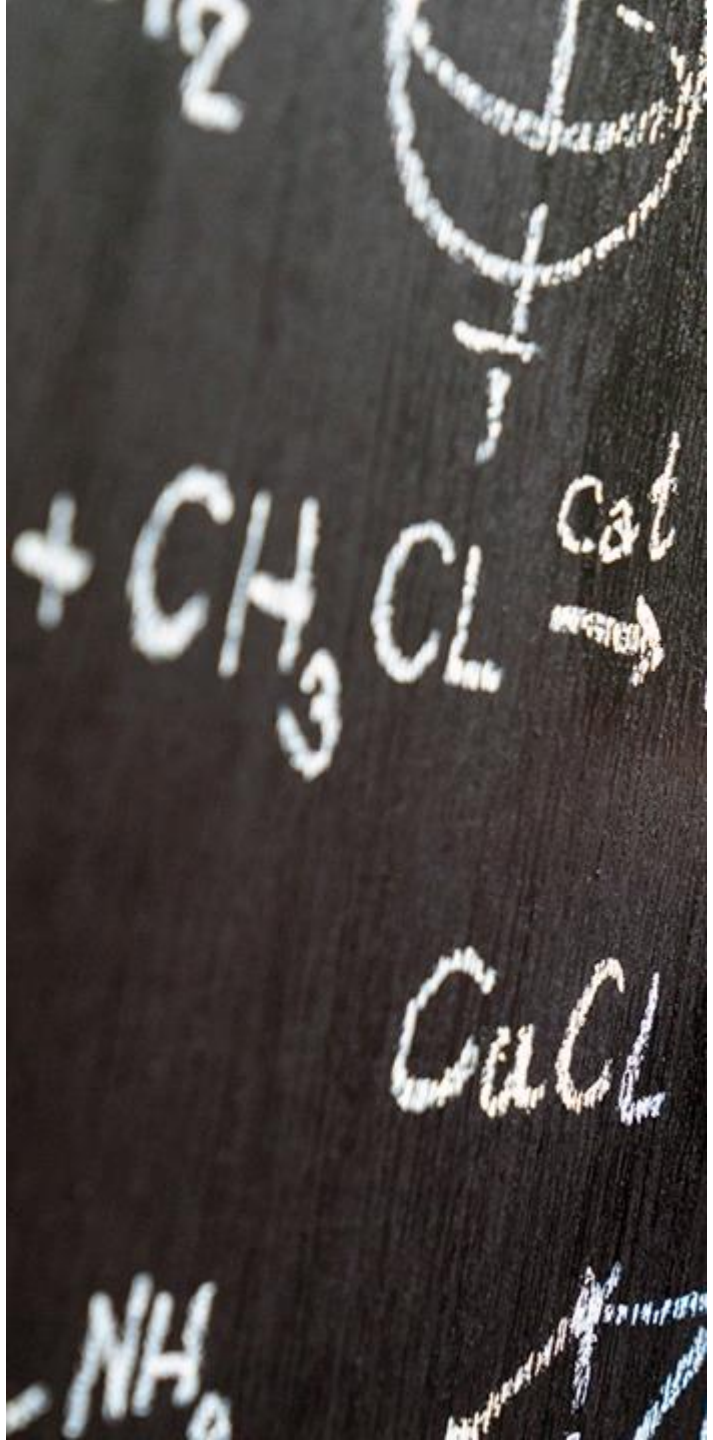
Recognize and Characterize Hazard

- Hazard
  - SARS CoV-2
- Acceptable Exposure
  - Concentration = 0
  - Exposure Time = 0
- Targets
  - Concentration = 0
  - Exposure Time = 0

The IH Way



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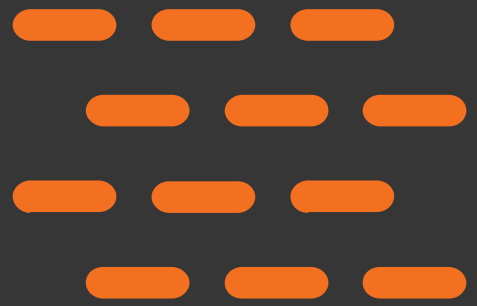
Exposure Paths

- Person to Person

Exposure Paths

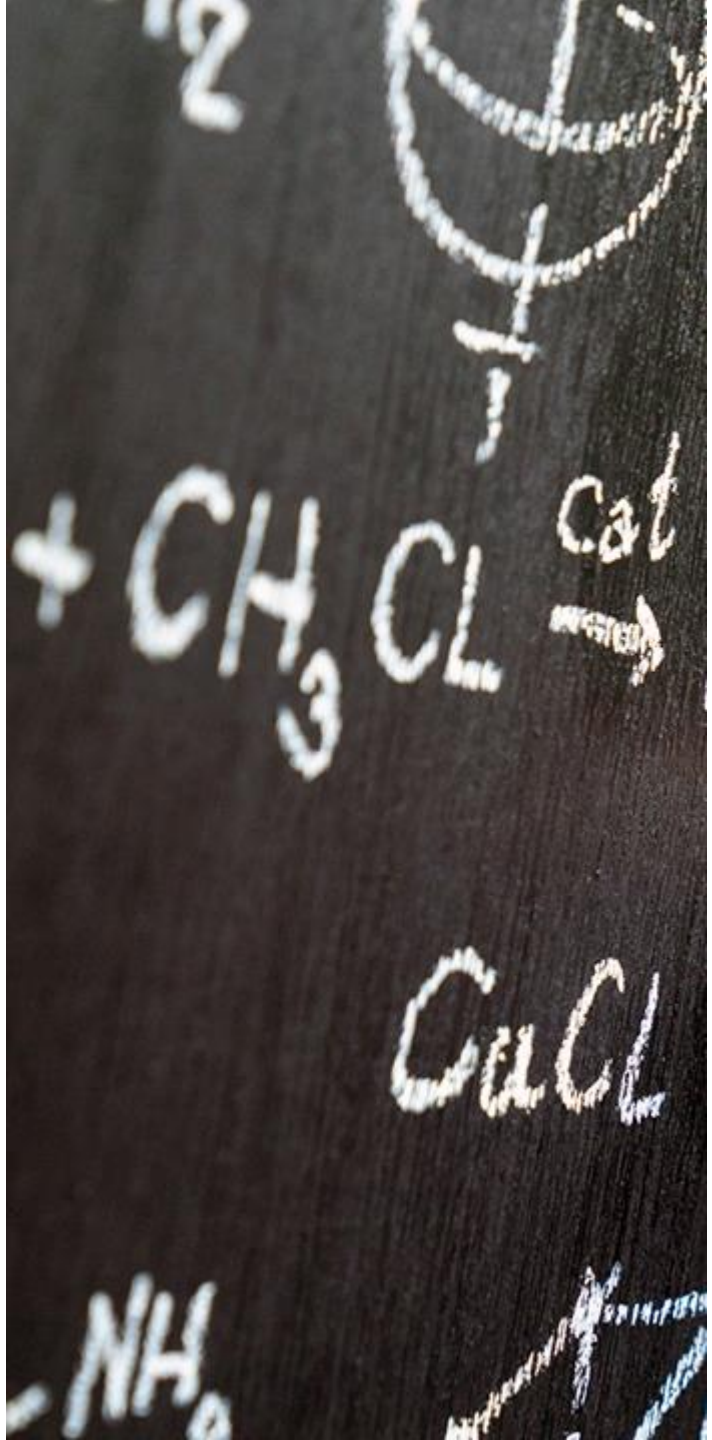


- Aerosolization

Exposure Paths

- Fomite

The IH Way



01 Recognize and Characterize Hazard

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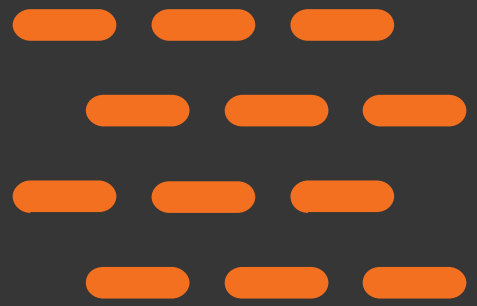
Any Changes to Building systems or design reevaluate

Exposure Assessment

Person to Person

- Personal Interactions

Exposure Assessment



Aerosolization

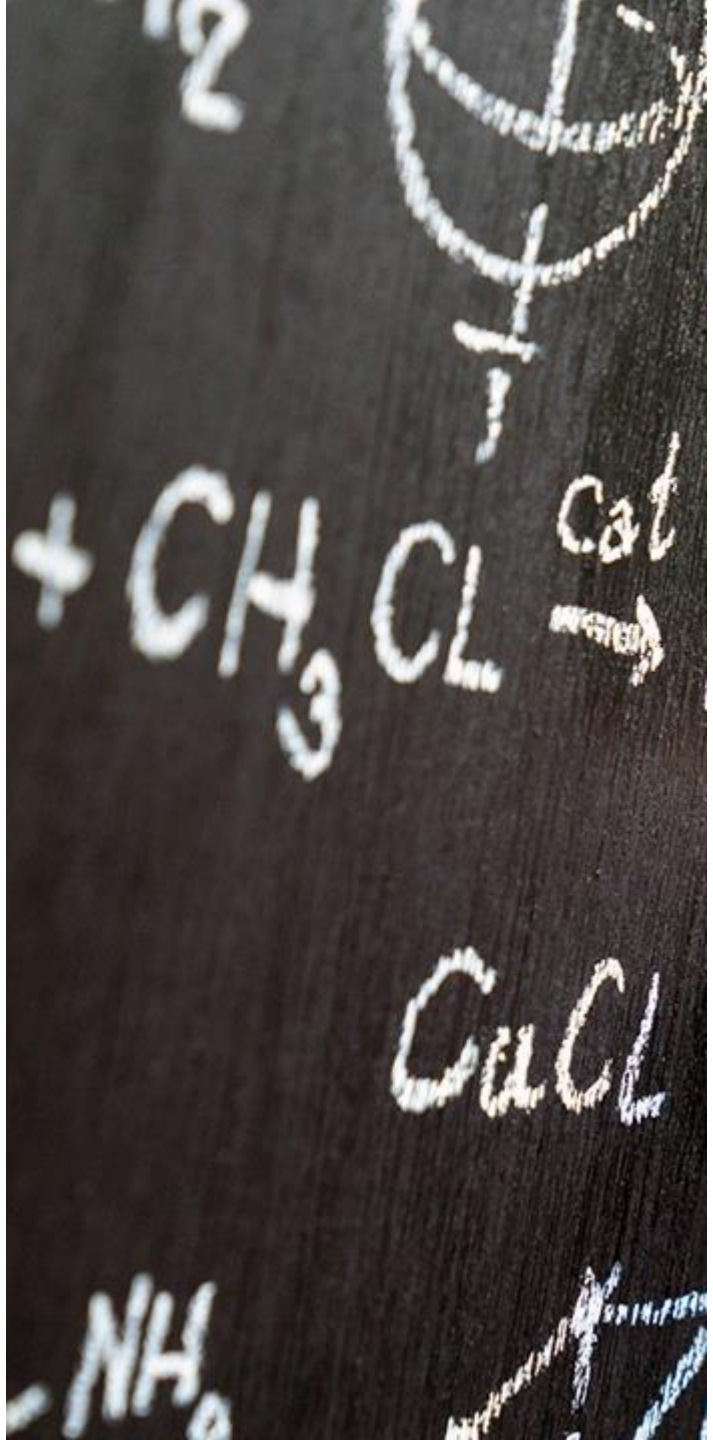
- Ventilation Systems (Peak Operation)
- Air Flow Patterns

Exposure Assessment

Fomite

- Surfaces
  - Accumulation Points
  - High Touch Areas

The IH Way



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Any Changes to Building systems or design reevaluate

Control, Design, Implement and Verify

Person to Person

- Personal Interactions
  - Social Distancing
  - PPE
  - Hygiene Practices

Control, Design, Implement and Verify

Person to Person

- Personal Interactions
  - Social Distancing
  - PPE
  - Hygiene Practices

Social Distance

APPLICATION

Limit Exposure by reduction of close interactions.

BENEFITS

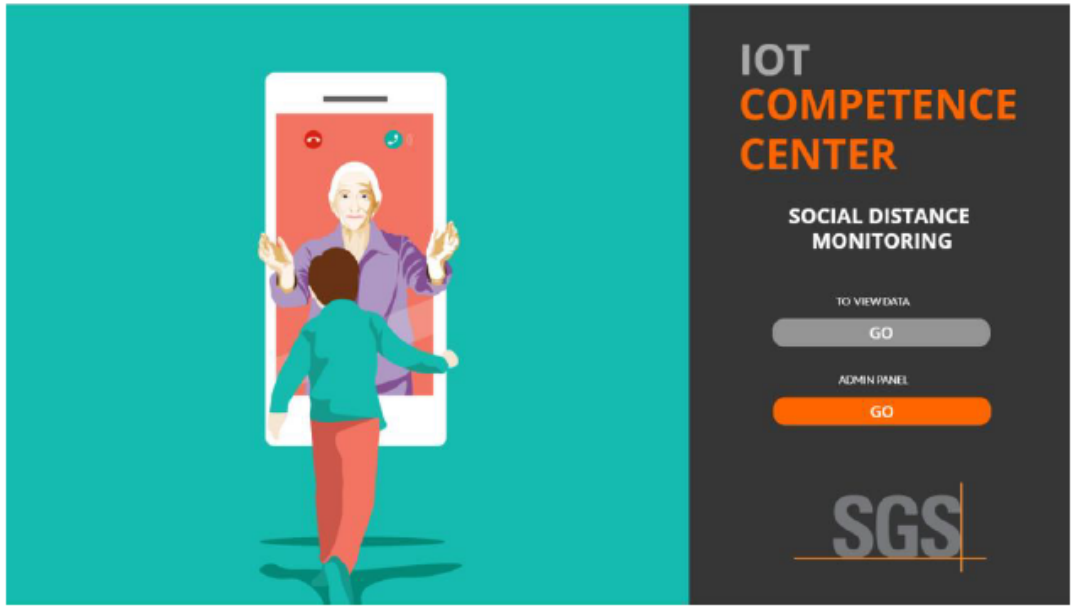
Limit Exposure by reduction of physical contact or close interactions.

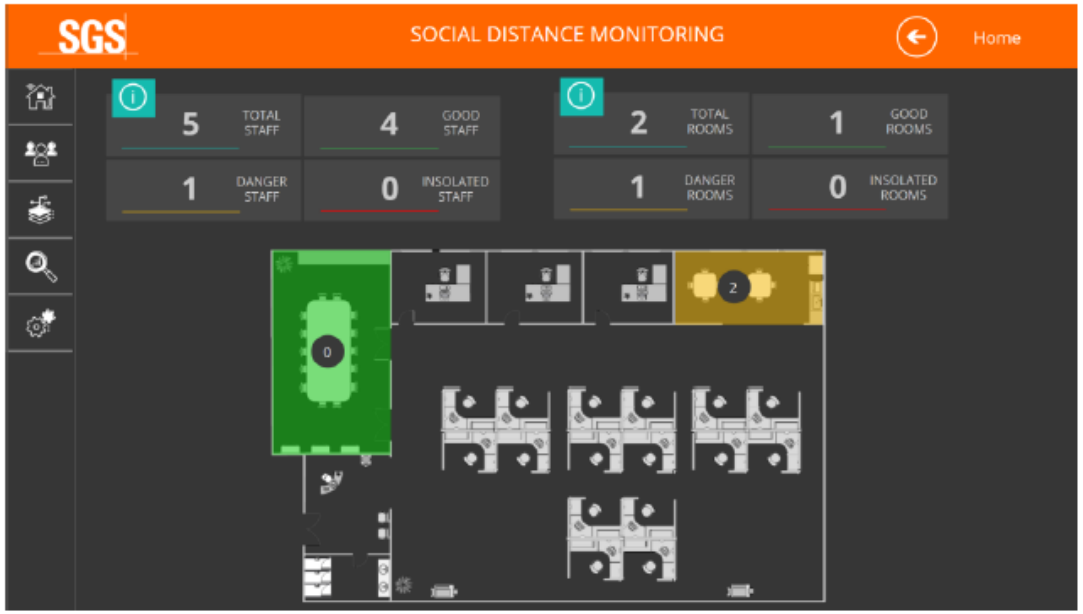
TOOLS

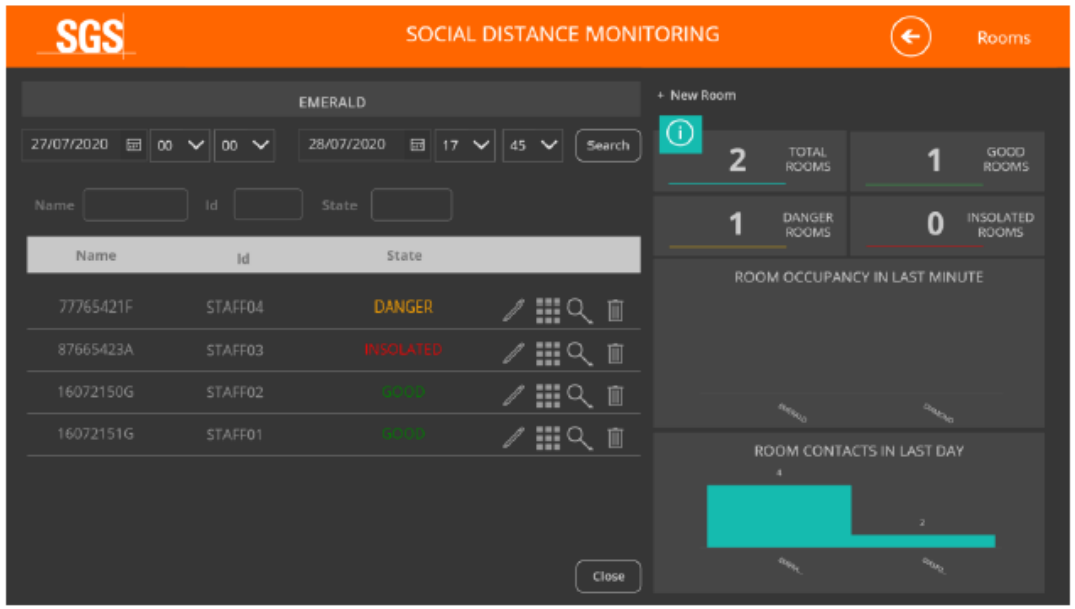
- CDC Advisory Implementation
- Training
- Monitoring

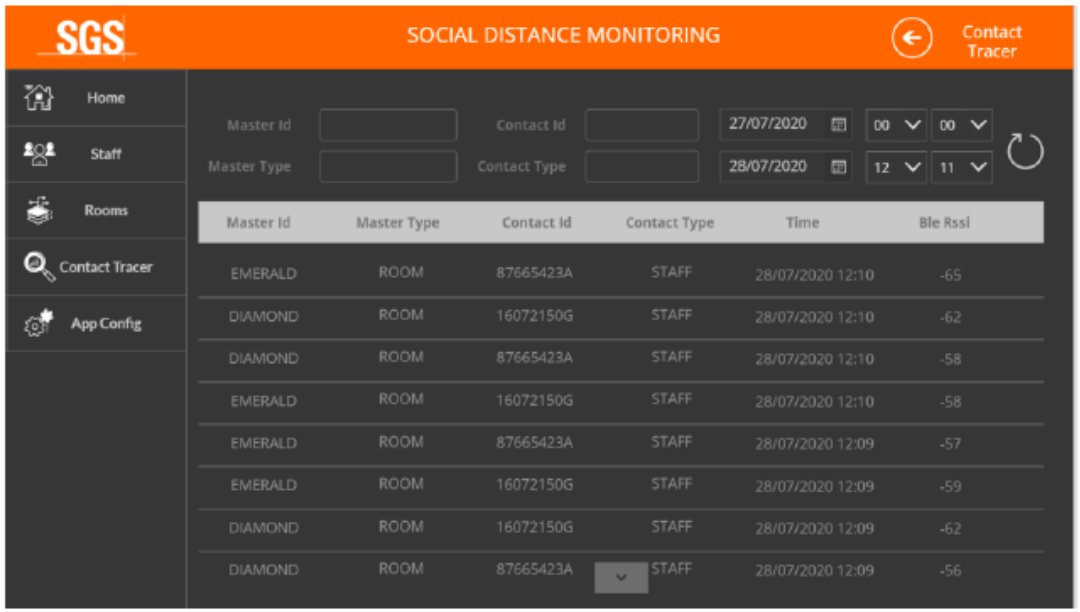
Monitoring application

Contacts Tracing, Social Distancing Alerts, Personal Location









Control, Design, Implement and Verify

Person to Person

- Personal Interactions
  - Social Distancing
  - PPE
  - Hygiene Practices

Personal Protective Equipment

APPLICATION

If activity requires, occupant wear certified mask and are trained for proper fit, usage, removal and maintenance.

BENEFITS

Proper mask use can reduce airborne aerosols, lowering exposure to airborne risks as well as emission of larger droplets which reduces fomite transmission. If done properly, reduction can be significant.

TOOLS

- ASTM Mask Standard – SGS 3rd Party Validation
- Proper Fit
- Mask Monitoring Program - Maintenance
- Training

Control, Design, Implement and Verify

Person to Person

- Personal Interactions
  - Social Distancing
  - PPE
  - Hygiene Practices

Hygiene Practices

APPLICATION

Wash Hands Often

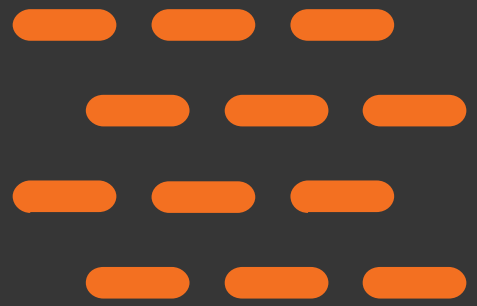
BENEFITS

Limit Exposure through elimination of touch transfer

TOOLS

- CDC Advisory Implementation
- Training
- Monitoring

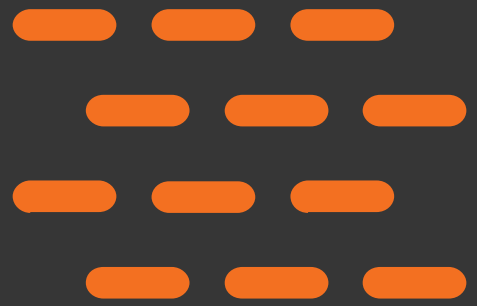
Control, Design, Implement and Verify



Aerosolization

- Ventilation Systems (Peak Operation)
  - Fresh Air Make up
  - Controlled Air Flow
- Filtration (Local and Mechanical)
  - Filter Efficiency
- Air Treatment – Efficacy and Measured Hazards as a result of the air treament
    - Bi-Polar Ionization
    - H2O2
    - Other

Control, Design, Implement and Verify



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  - H2O2
  - Other

Aerosol Tracing

USES

Studies conducted for dispersal and validation after engineering solutions, filtration, and other solutions are applied.

BENEFITS

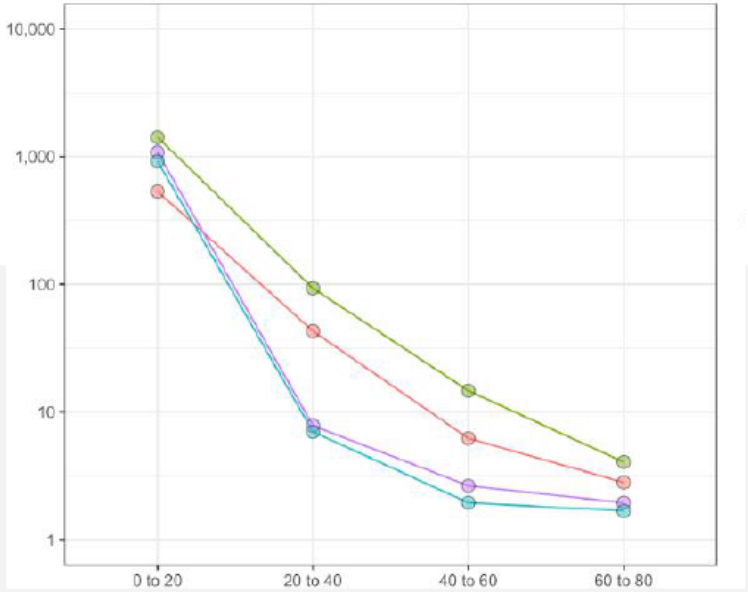
Verifies air ventilation and filtration to protect occupational health during the pandemic and beyond.

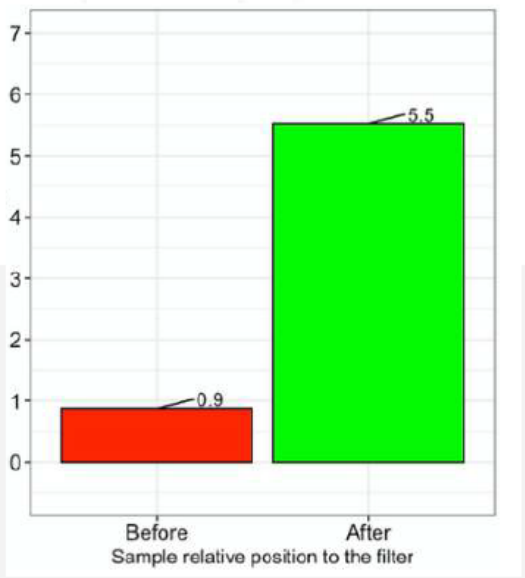
TOOLS

- veriDART by SafeTraces
- Filter Effectiveness Validation
- Aerosol Dilution Measurement

Applications

Dilution, Filter Challenge, and Survey Test





Dilution Test

Verify time and controls required to effectively clear rooms(s) if infected individual creates exposure risk

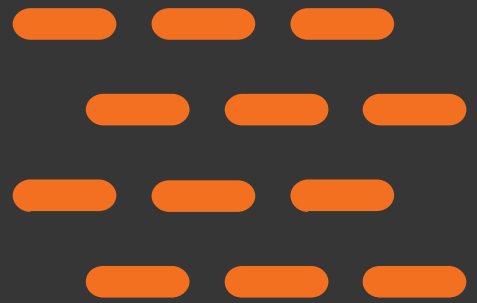
Filter Challenge Test

Verify filter efficacy for aerosol contaminants to audit existing filters and inform upgrade decisions

Survey Test

Verify airflow mobility patterns and identify potential hotspots

Control, Design, Implement and Verify



Aerosolization

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  - Fresh Air Make up
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- Filtration (Local and Mechanical)
  - Filter Efficiency
- Air Treatment - Efficacy
  - Bi-Polar Ionization
  - H2O2
  - Other

Efficacy Testing and Resultant Hazards

USES

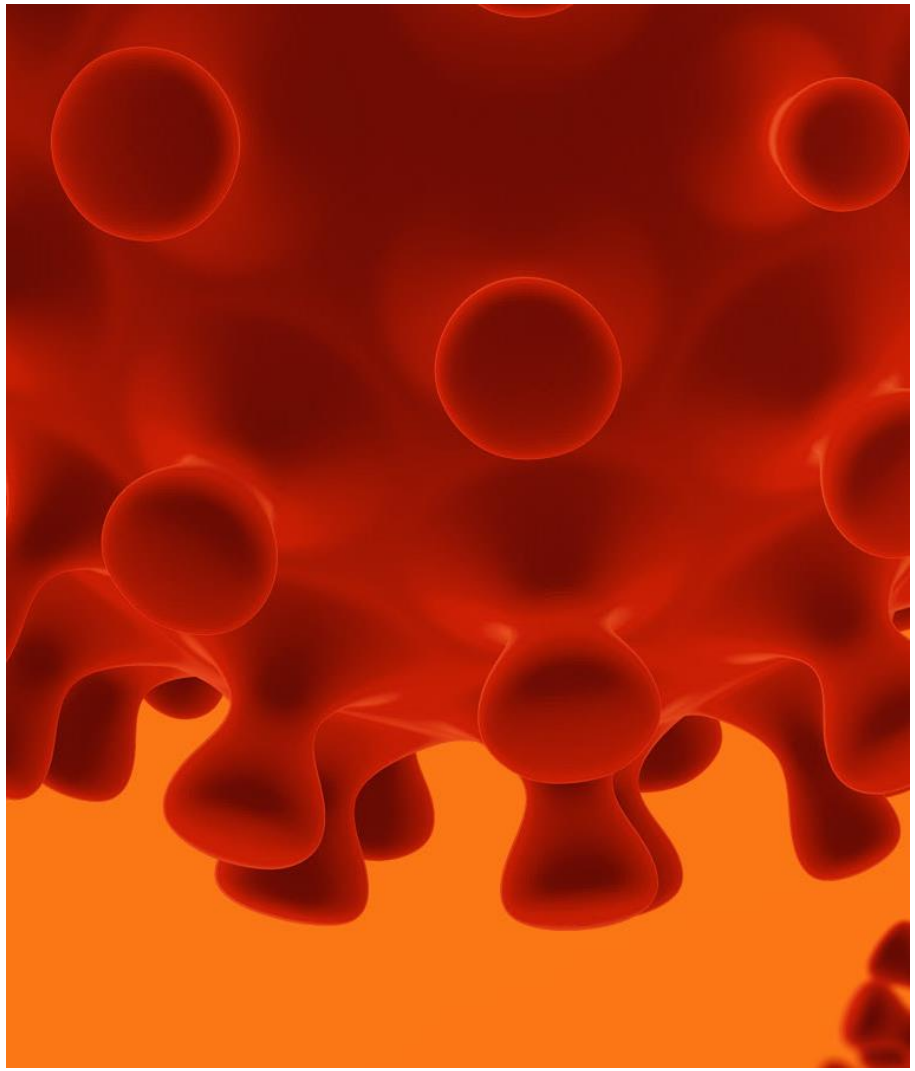
Validation of any treatment systems for efficacy of such system and safety, such as O_3, H_2O_2 etc.

BENEFITS

Establishes confidence in solution chosen with efficacy efficiency documentation and any related exposure issues.

TOOLS

- Bacteriology Studies
- Sampling and analysis of resultant compounds for safety/Exposure
- Lab Based Studies
- Library Information
- veriDart validation of ionization or aerosols – conglomerate test
- PM Measurement Instrument
- Ionization Measurement Instrument



SARS-CoV-2 in Air

USES

Studies conducted for validation after engineering solutions, filtration, and other solutions are applied.

BENEFITS

Establish confidence in solution chosen.

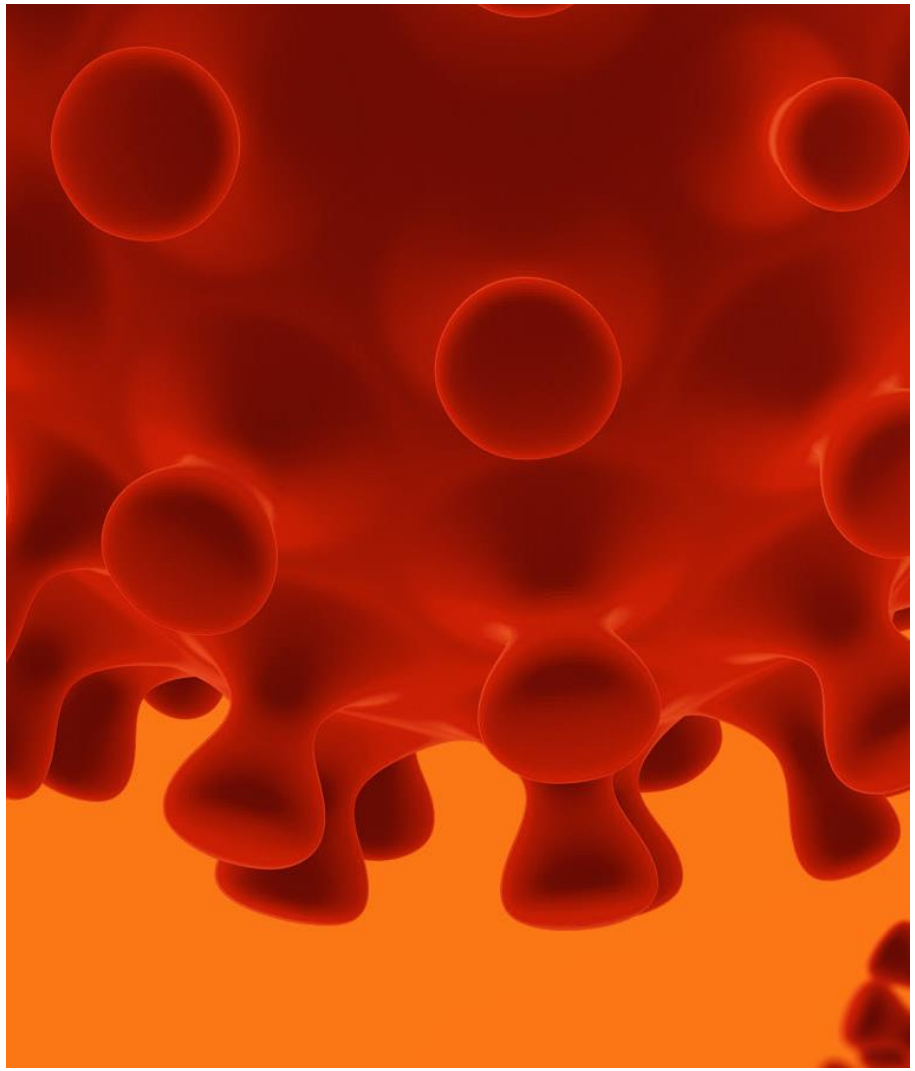
TOOLS

- Lab Based Studies including ATP and RT-qPCR
- Library Information

Control, Design, Implement and Verify

Fomite

- Cleaning and Disinfection
- No touch designs



SARS-CoV-2 in Air and Surfaces

USES

Studies conducted for validation after engineering solutions, filtration, and other solutions are applied.

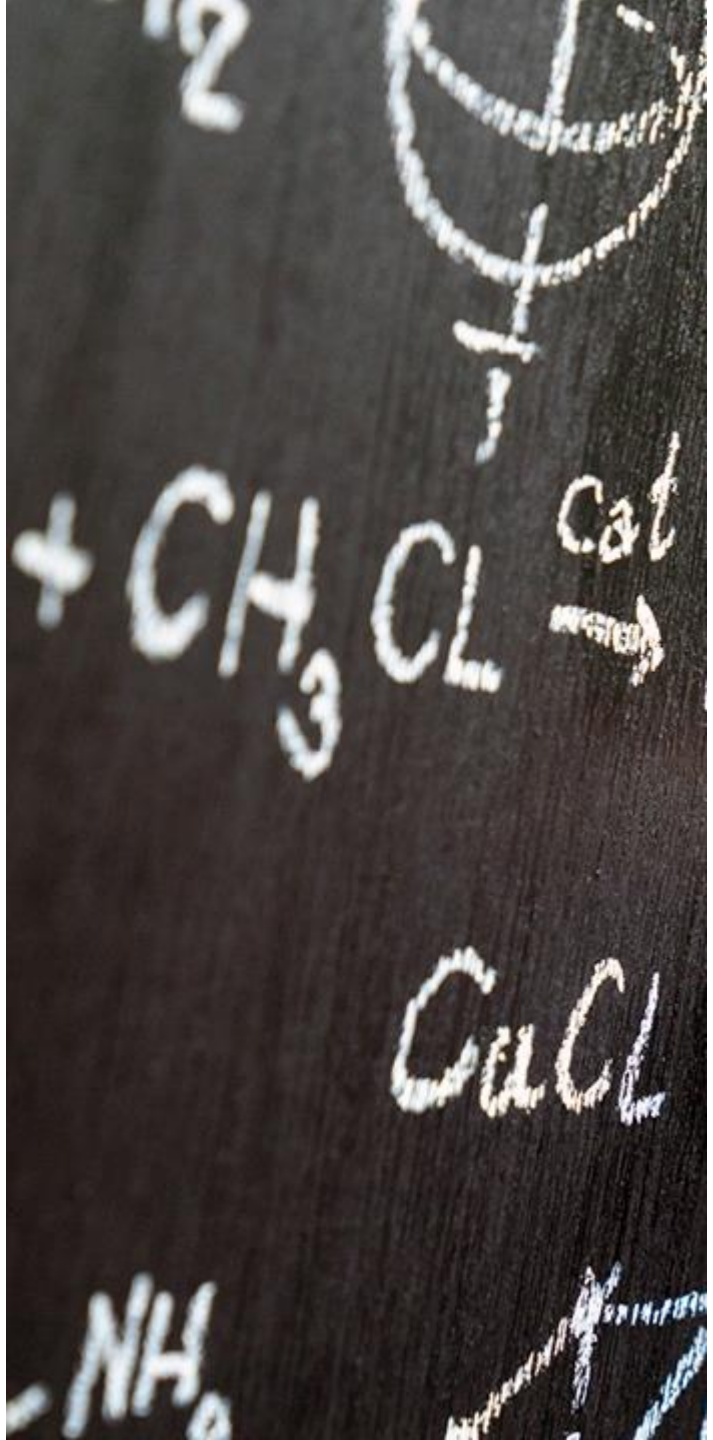
BENEFITS

Establish confidence in solution chosen.

TOOLS

- Lab Based Studies including ATP and RT-qPCR
- Library Information

The IH Way



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02 Exposure Assessment

03 Evaluate

04 Control Design and Implementations

05 Control Evaluate

06 Monitor Control Effectiveness

Any Changes to Building systems or design reevaluate

Monitor Control Effectiveness

Person to Person

- Personal Interactions –
  - Social Distancing – BLE Tracing(Social Sense)
  - PPE – SGS Accredited lab ASTM
  - Occupancy – Crowding
    - Social Distancing – Social Sense
    - PPE - Monitor
  - Movement Patterns
    - Social Distancing – Social Sense

SGS SocialSense

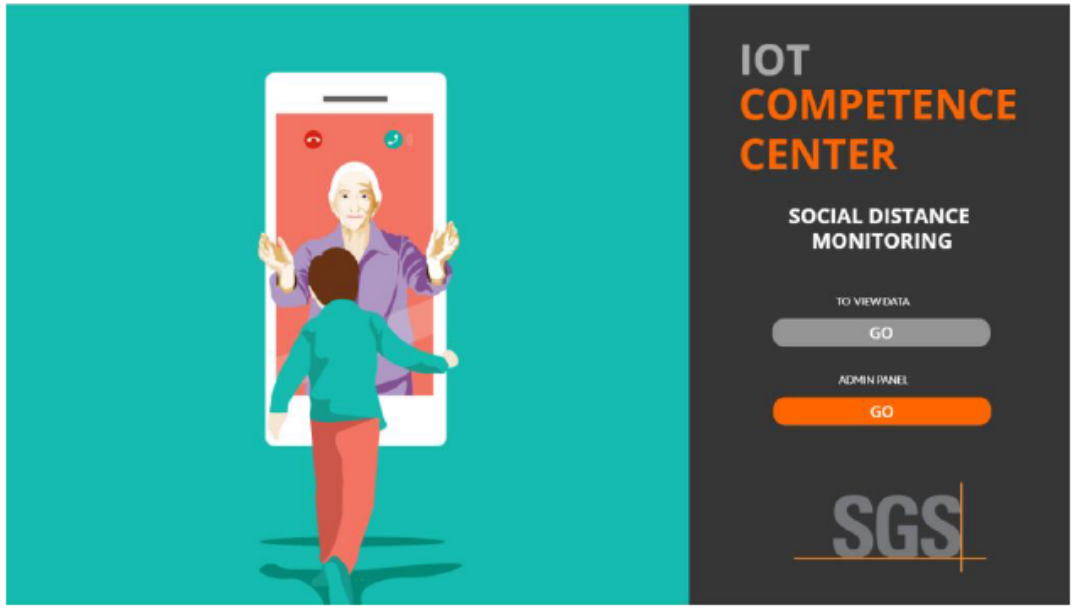
IOT ENABLED LOCALIZATION AND SOCIAL DISTANCING SERVICE

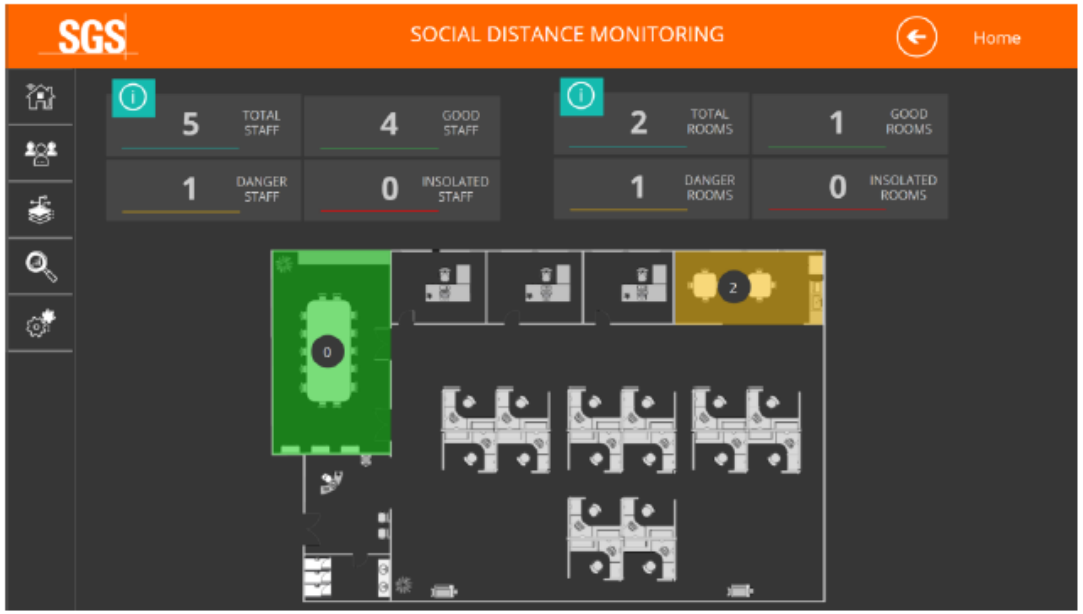
DOING THINGS THE SMART WAY

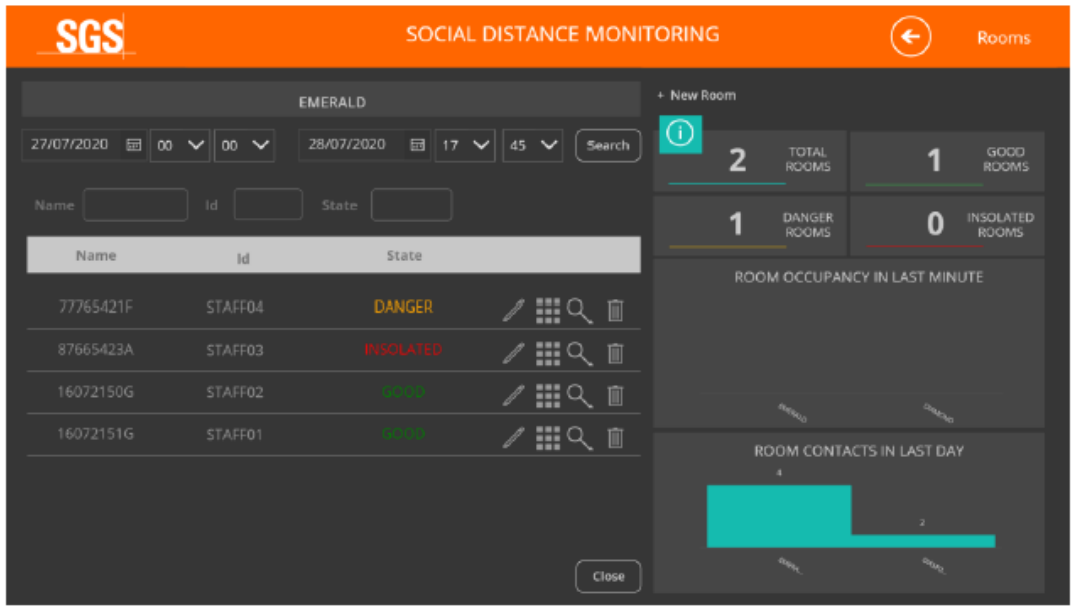
IOT Competence Center | SocialSense | Marketing Presentation

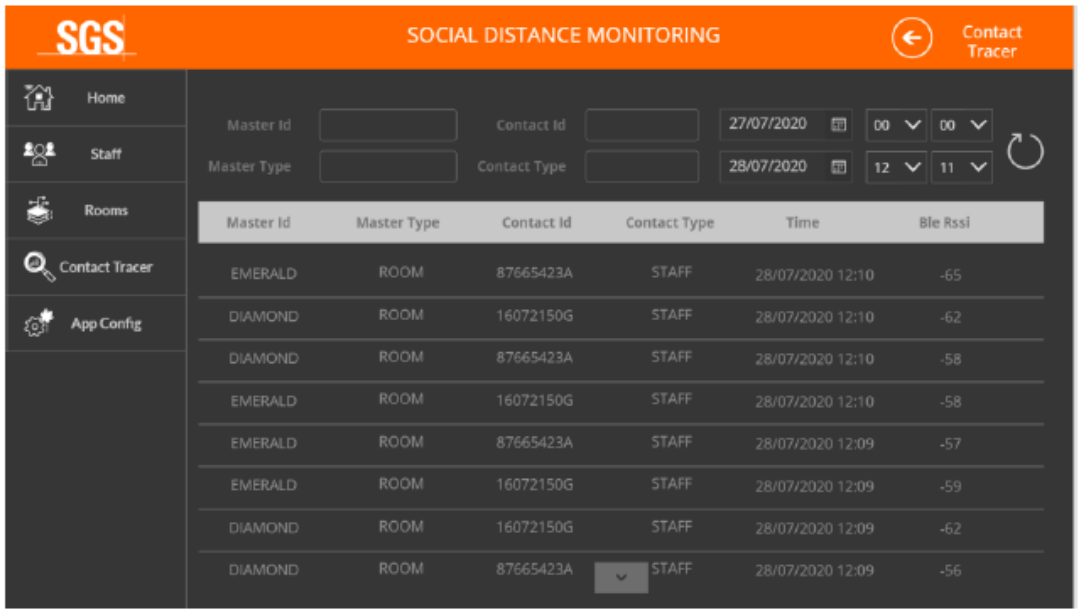
Monitoring application

Contacts Tracing, Social Distancing Alerts, Personal Location

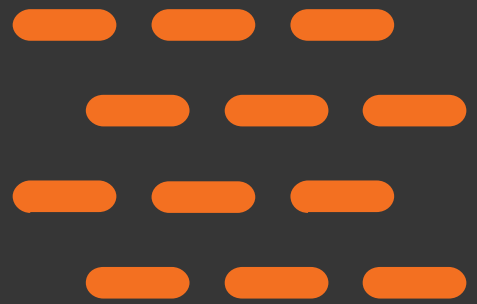








Monitor Control Effectiveness



Aerosolization

- Ventilation Systems (Peak Operation)
  - Fresh Air Make up – CO2, PM
  - Controlled Air Flow – CO2, PM
- Filtration (Local and Mechanical)
  - Filter Efficiency - PM
- Air Treatment - Efficacy
    - Bi-Polar Ionization
    - H2O2
    - Other

Continuous Air Monitoring

USES

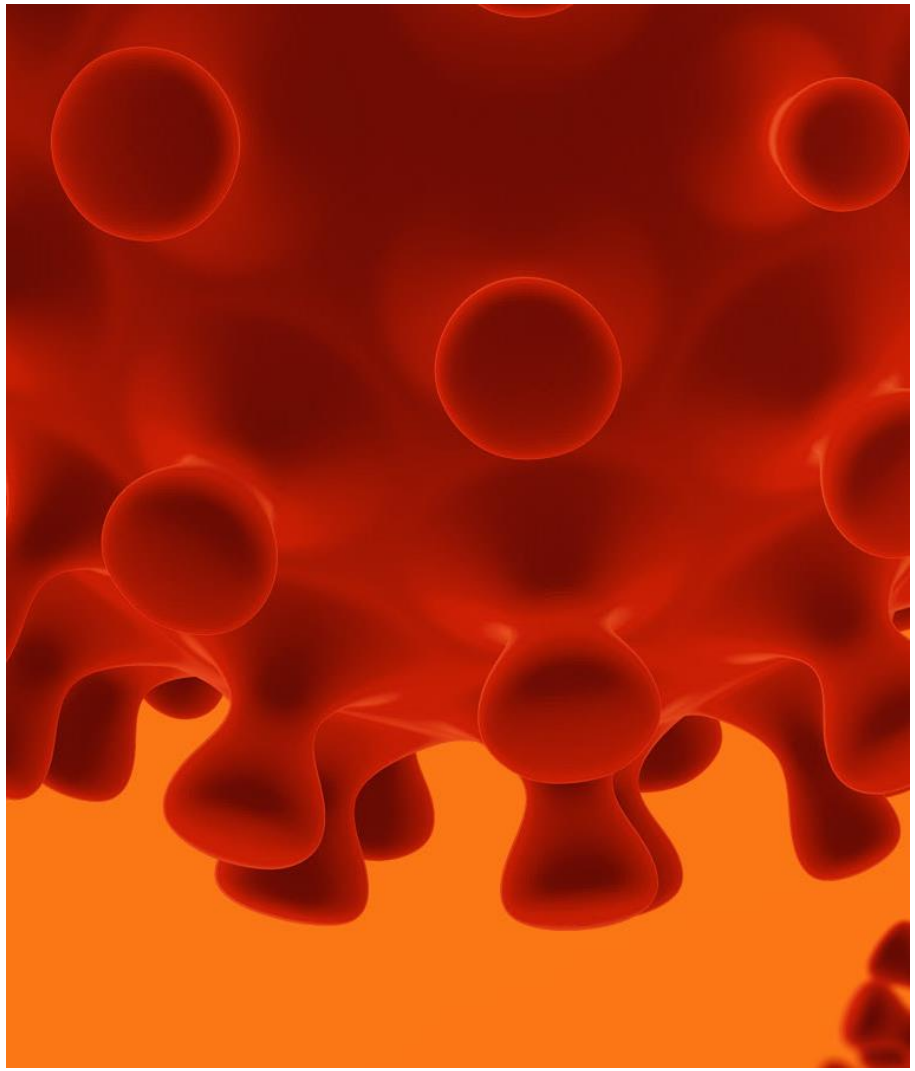
Continuous monitoring of CO_2 and PM levels, providing alerts to staff to take instant corrective actions assuring continued engineered solutions are effective.

BENEFITS

Monitor targets including volatile organic compounds (VOCs), carbon monoxide, temperature, pressure, humidity and other contaminants from anywhere in the world in real-time.

TOOLS

- Continuous Monitoring for Dilution, CO_2
- Continuous Monitoring for Aerosols



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BENEFITS

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TOOLS

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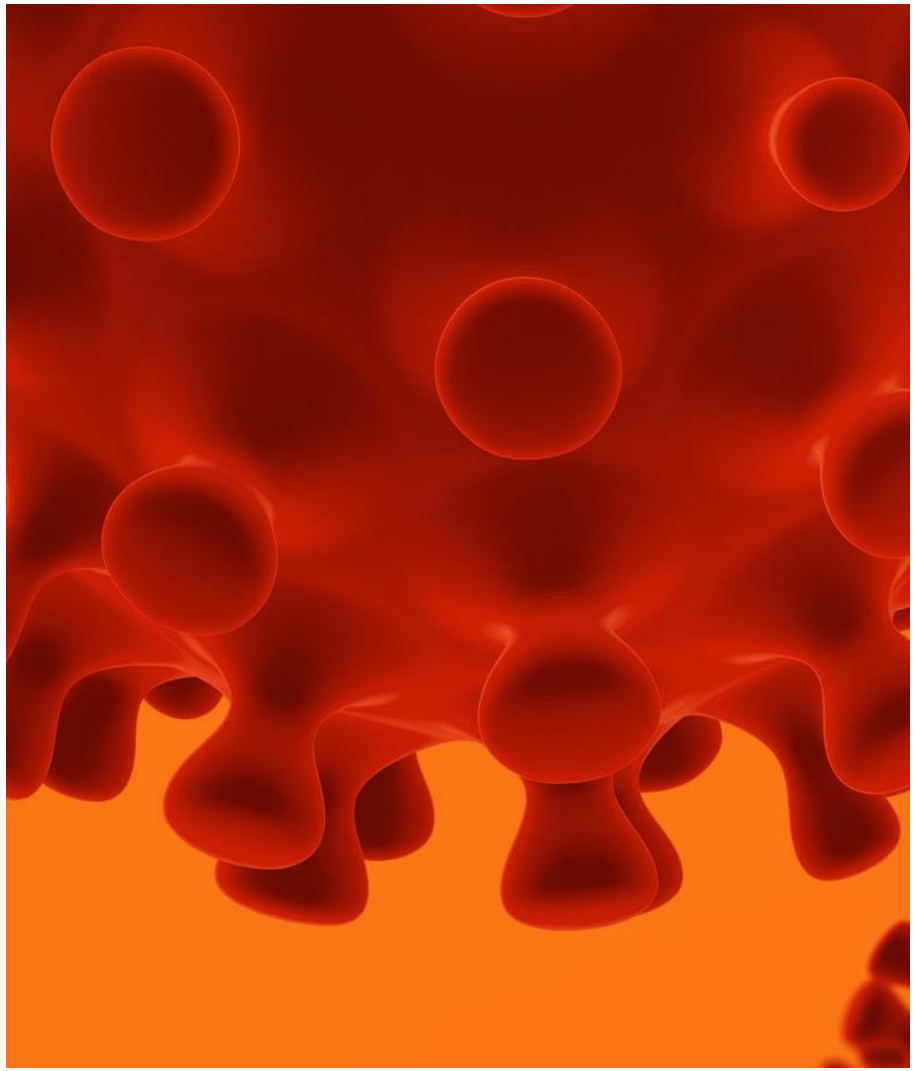
Monitor Control Effectiveness

Fomite

- Cleaning and Disinfection



SARS-CoV-2 on Surfaces

USES

Studies conducted for validation after cleaning and disinfection practices are performed

BENEFITS

Validation

TOOLS

- Lab Based Studies including ATP and RT-qPCR
- Library Information

Monitor Proactively

Wastewater

- Macro Indicator

SARS-CoV-2 in Wastewater

USES

Studies conducted for discharge of virus in waste water linked to building infrastructure

BENEFITS

Early warning of possible exposure

TOOLS

- Tracing potential sources
- Carrier Isolation
- Laboratory analysis

Questions?

Thank you.

Ron McMahan, SGS Galson

888-432-5227

Ronald.McMahan@sgs.com