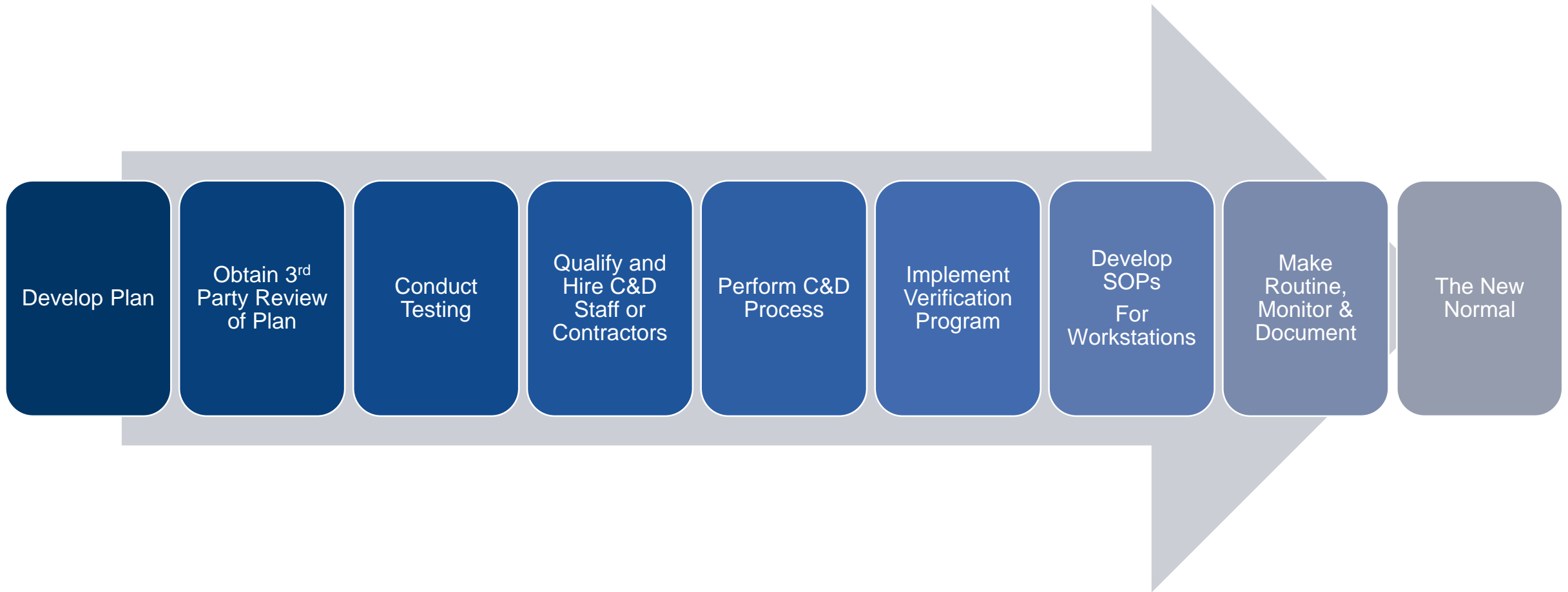


Preparing and Maintaining a Safe Workplace – Covid 19

May 6, 2020

The Overall Re-opening Safely Process

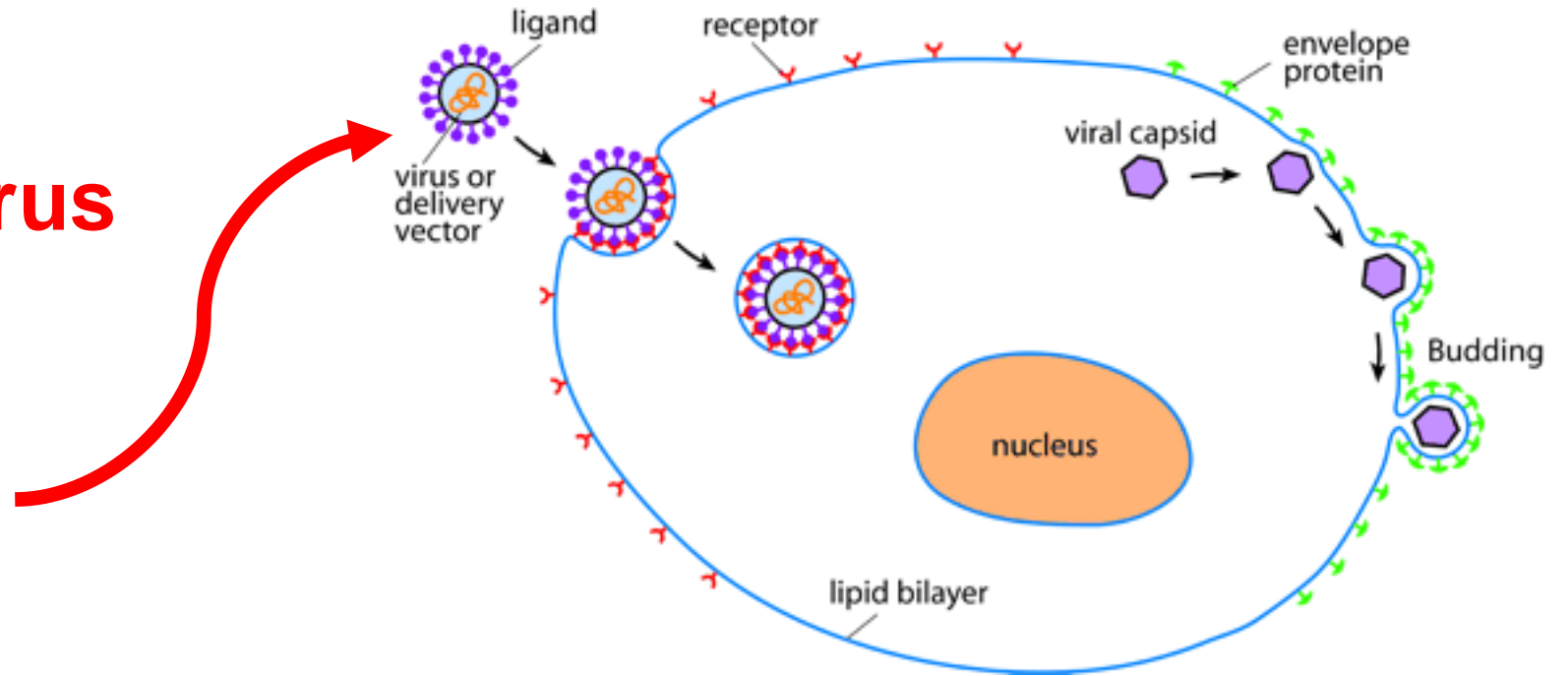
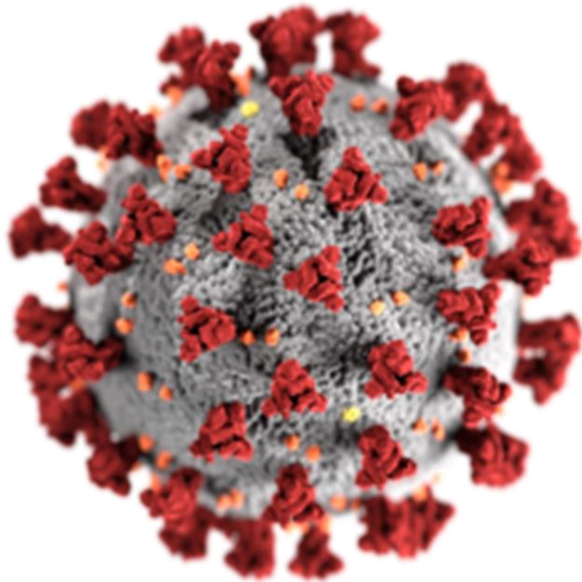


A little Science on Covid-19

Workplace Transmission & Mitigation

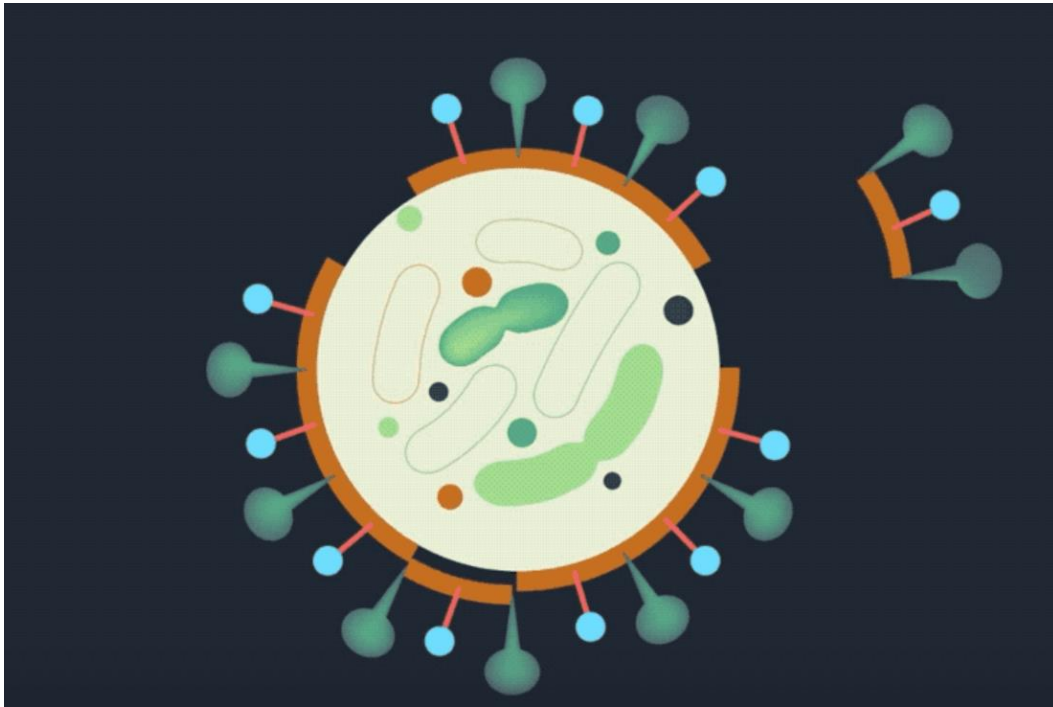
What are we fighting?

The Covid-19 Virus



The Cell

Why Soap & Detergents Work...



Important Characteristic:

It's surrounded by a lipid bilayer

This is why washing hands with soap or surfaces with detergents is effective.

They are surfactants that breakdown the lipid layer.

Transmission – Primary & Secondary



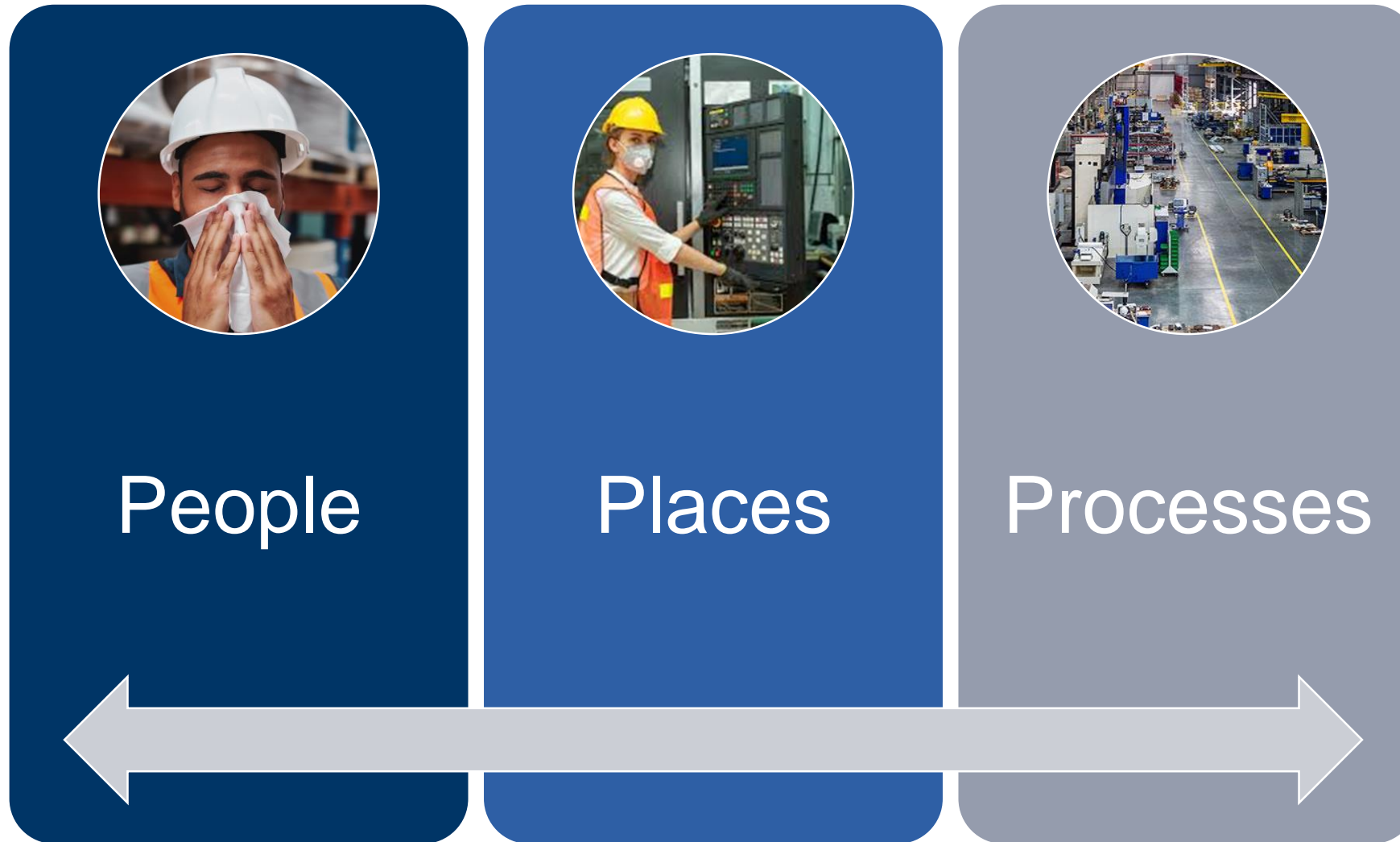
Primary - Aerosol



Secondary? - Surfaces



Understand Work Environment



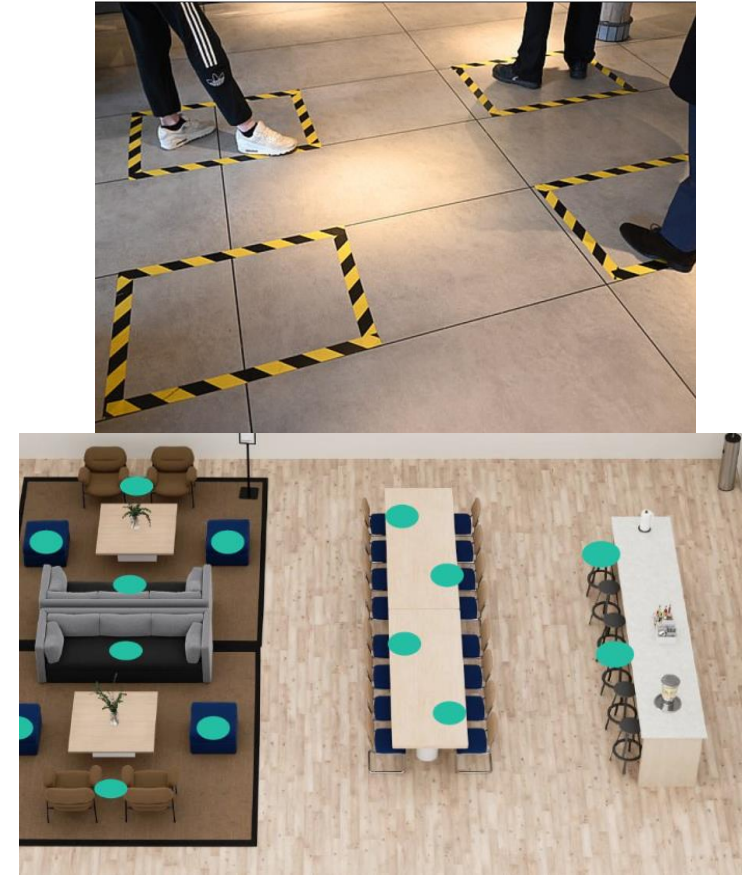
Mitigating Aerosol Transmission



Masks & Shields



Barriers



Distancing

Covid-19 Presence on Surfaces (imprecise science)



Cardboard 24 hours



Plastics 2-3 days



Wood & Metal 4 -5 days



Stainless Steel 2-3 days



Cups & Glasses 5 days



Fabrics –Unknown
Thought to be low

Mitigating Surface Transmission



Gloves



Cleaning & Disinfecting Surfaces and Touch Points



Washing Hands



Limit Workers Using Stations

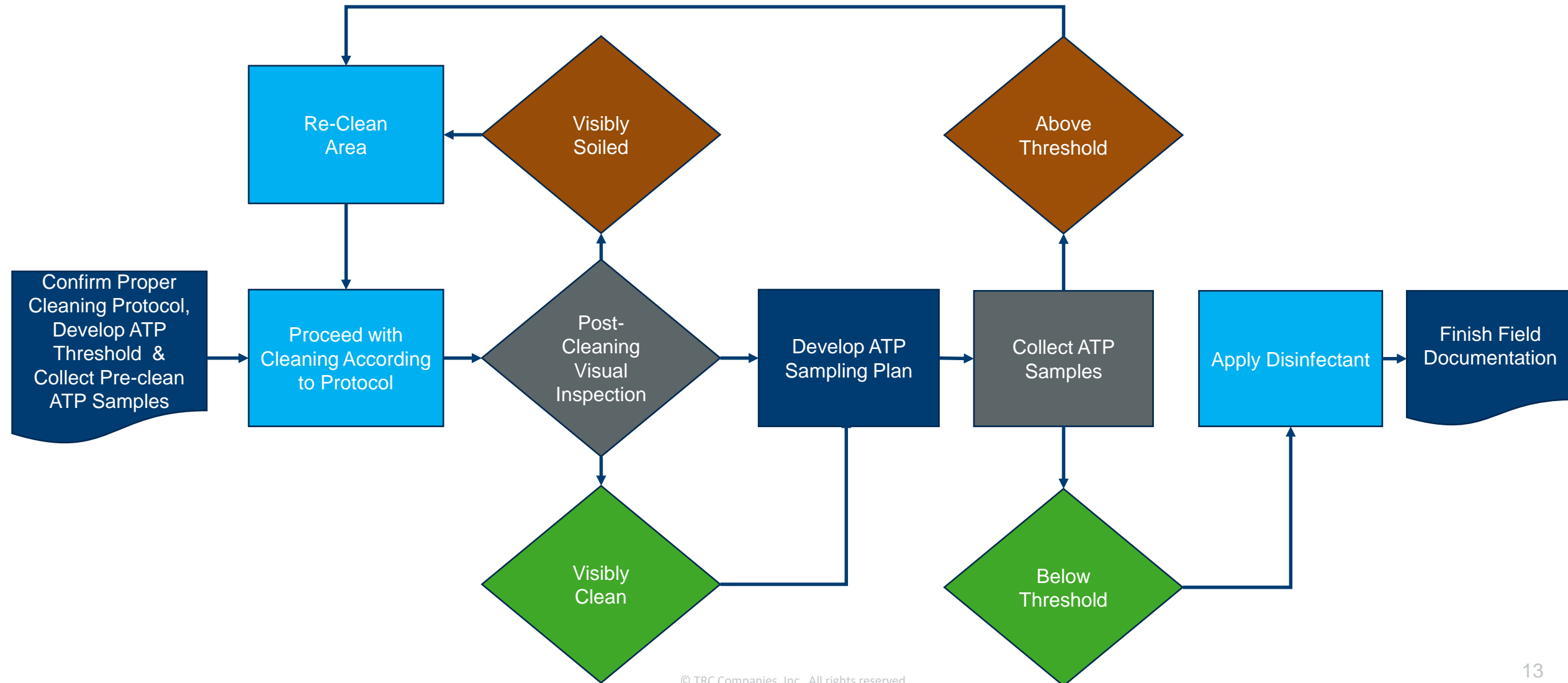
Cleaning and Disinfection (C&D) Process

Oversight & Verification

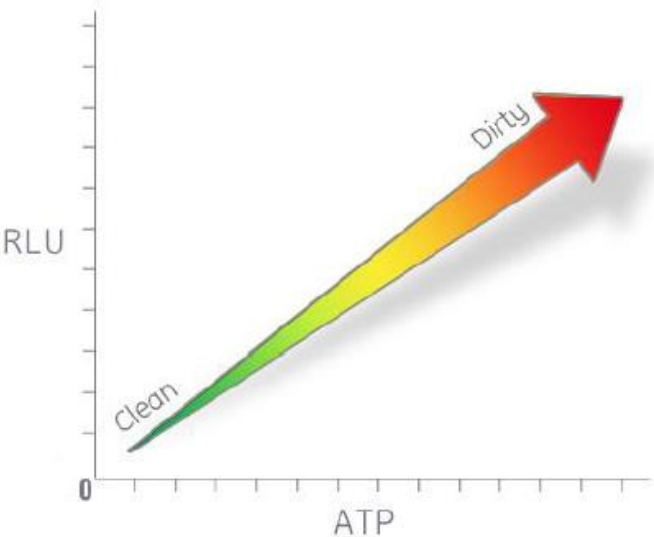
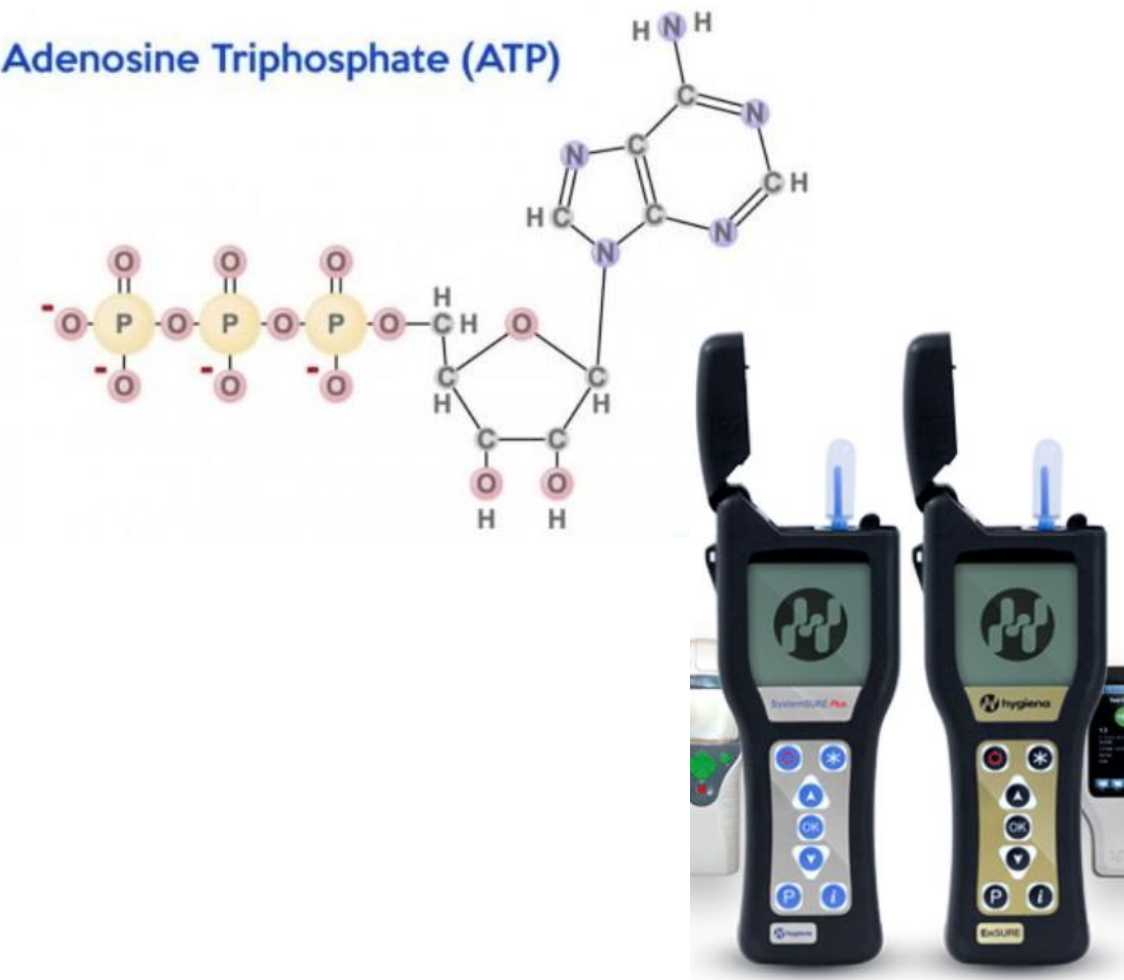
These Types of Procedures are Not New...



Preferred Cleaning & Disinfecting Workflow



Threshold Determination – ATP & RLU Units



| Pass | Caution | Fail |
|------|---------|------|
| 0-13 | 14 - 35 | 36+ |

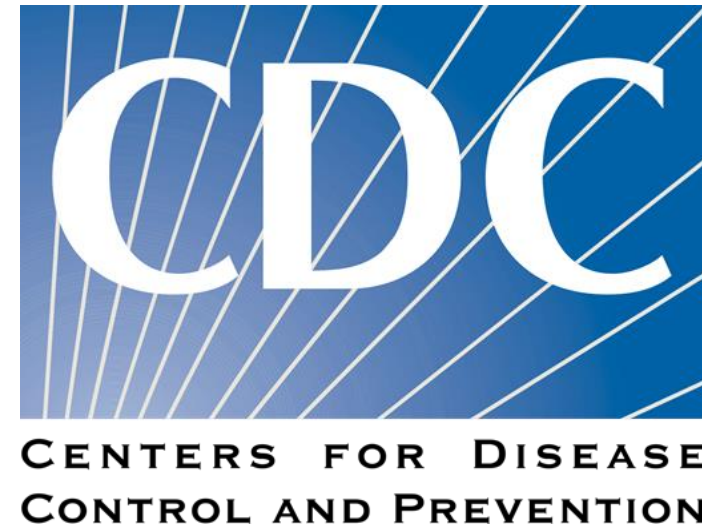
This does not test for Covid-19, which is not practical – but rather a test of biological activity/cleanness

USEPA List of Approved Cleaners



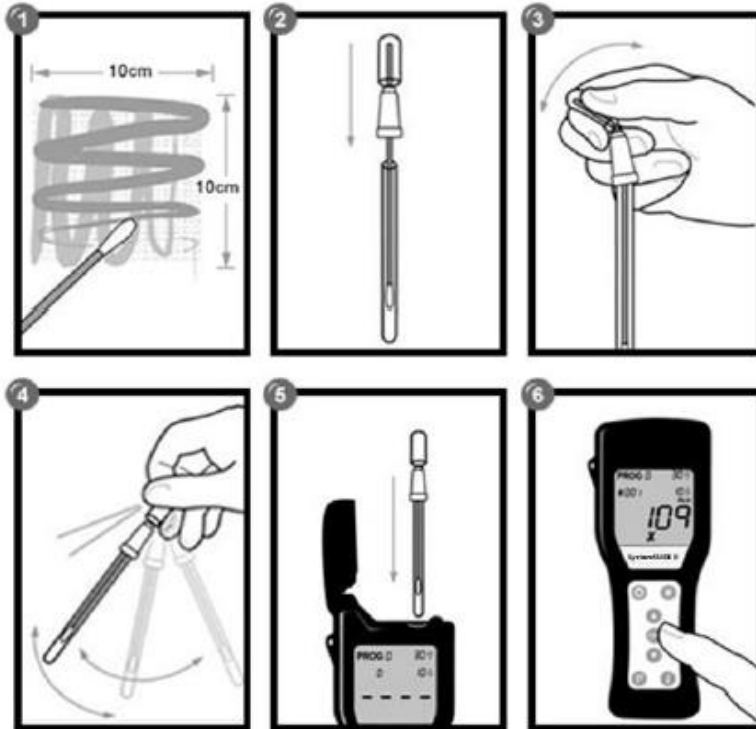
<https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>

CDC Suggested Cleaning Protocol



<https://www.cdc.gov/coronavirus/2019-ncov/community/disinfecting-building-facility.html>

Verification



| TEST RESULT | CORRECTIVE ACTION |
|----------------|--|
| ✓ (Pass) | The control point has been properly cleaned. Proceed to sanitizing. |
| ! (Caution) | The control point may not have been adequately cleaned. You may choose to proceed to sanitizing, or re-clean and re-test as if the result is a Fail. A control point with a Caution reading should be monitored for future problems. |
| X (Fail) | The control point was not cleaned properly, and must be cleaned again and re-tested until a Pass or Caution result is achieved. A control point with a Fail reading should be noted and monitored for future problems. |

Monitoring Performance & Recording Keeping



What has been learned from our experience

Lesson Learned & Good Practices



- High level of ATP testing failures due to:
 - C&D staff, contractors & management not understanding CDC protocols.
 - Protocols and produces poorly managed so high level of failure on 3rd party ATP tests
 - Reuse of cleaning rags, sponges, pad, etc.
- C&D contractors not properly qualified or trained
- PPE not used or fitted properly

Good Practices – Improved Outcomes



- Developed CDC aligned protocols before C&D improved results, and reducing re-work.
- Monitored and guided C&D contractors
- Understanding of and proper use of PPE
- Used disposable cleaning wipes, pads, etc.
- Understand the value of 3rd party ATP testing and results as part of a Return to Work process
- Testing provides documentation that level of cleanliness was achieved – answers the inevitable question “*How do you know it was clean?*” TRC tested it, recorded the testing data and provided results to the client in real-time.

TRC At-a- Glance



Established in 1969

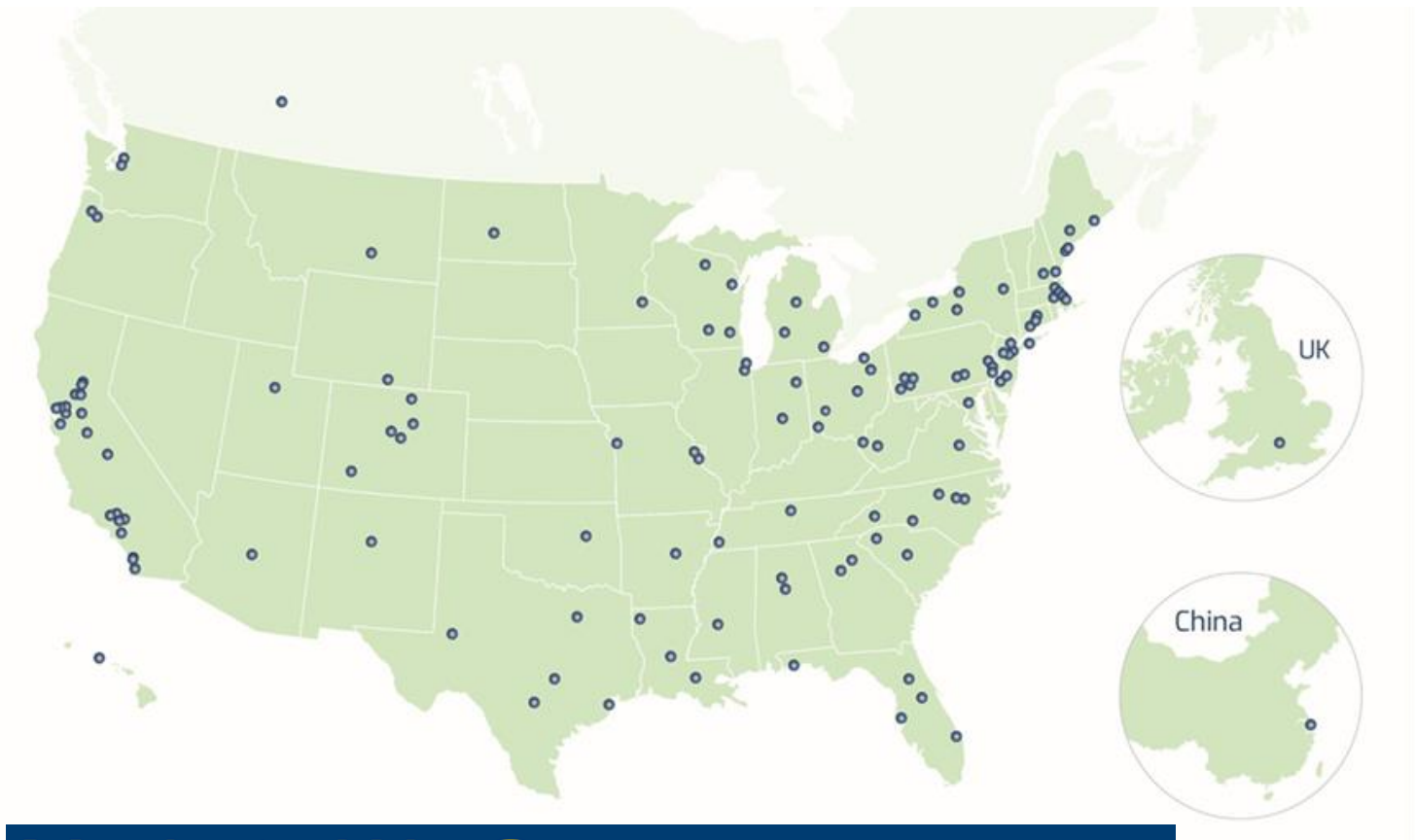
5,700+ Employees in over 140 Offices Nationwide

ENR Ranked
#7 Top 100 Design Firms, #7 Power Sector,
#11 Hazardous Waste Sector,
#6 Top Pure Designers,
#13 in Industrial Process/Petroleum Sector

20+ Energy Management Licenses / Certifications

85% Repeat Business Ratio

50 Years of Service



Markets We Serve



Power & Utilities



Oil, Gas & Industrial



Transportation



Real Estate



Water



Government

Thank You

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