


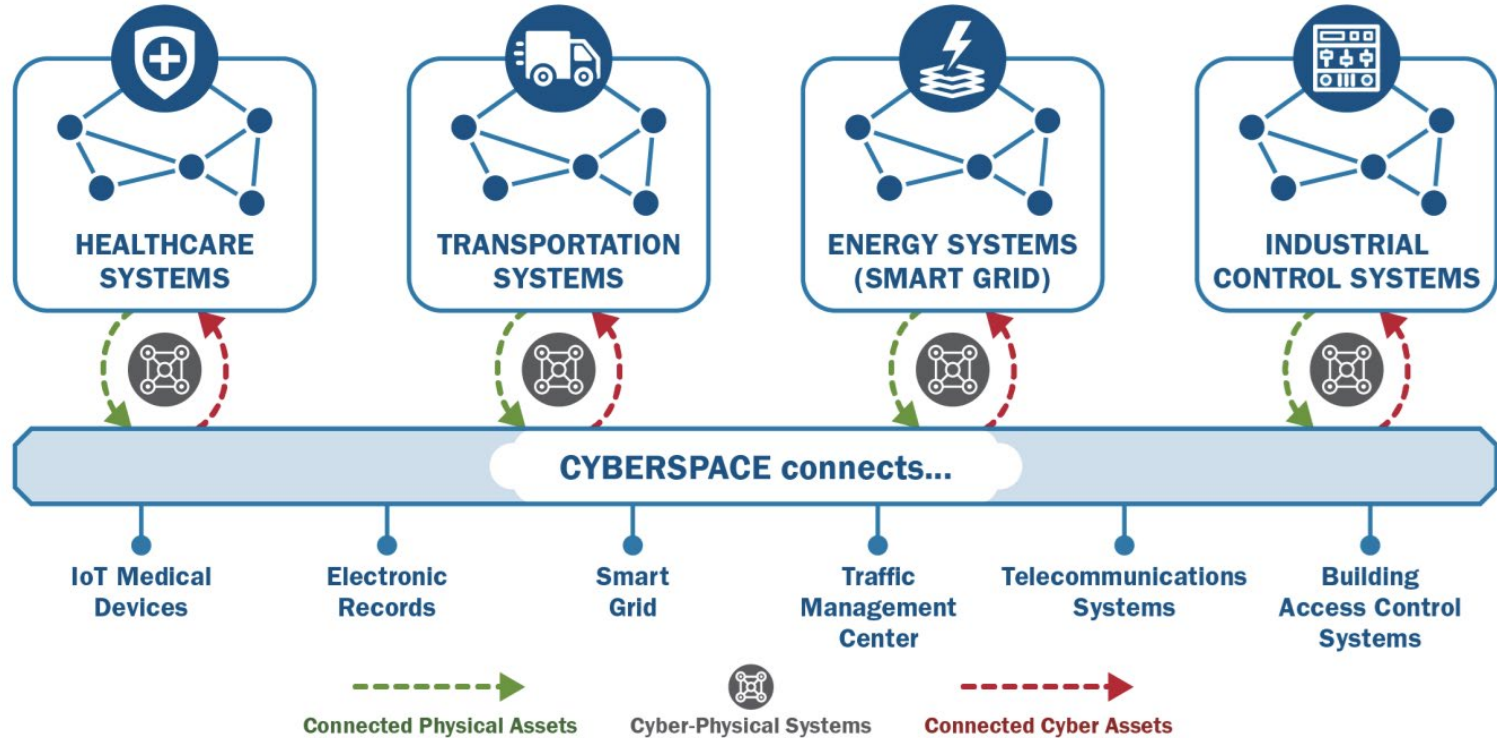
A decorative graphic consisting of multiple parallel, wavy lines of small blue dots, creating a sense of motion and depth. The dots are arranged in a way that suggests a wave or a signal, with varying densities and colors of blue.

The Threats Cybersecurity Poses to Physical Security

Outline

- Introduction
 - Healthcare
 - Transportation
 - Energy
 - Trend Analysis
 - Big Picture
 - Future
 - Takeaways
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- A decorative graphic consisting of multiple overlapping, wavy lines of blue dots. The dots are arranged in a pattern that flows from the left side of the slide towards the right, creating a sense of movement and depth. The dots are more densely packed in some areas and more sparse in others, contributing to the overall aesthetic of the presentation.

Introduction



Scope

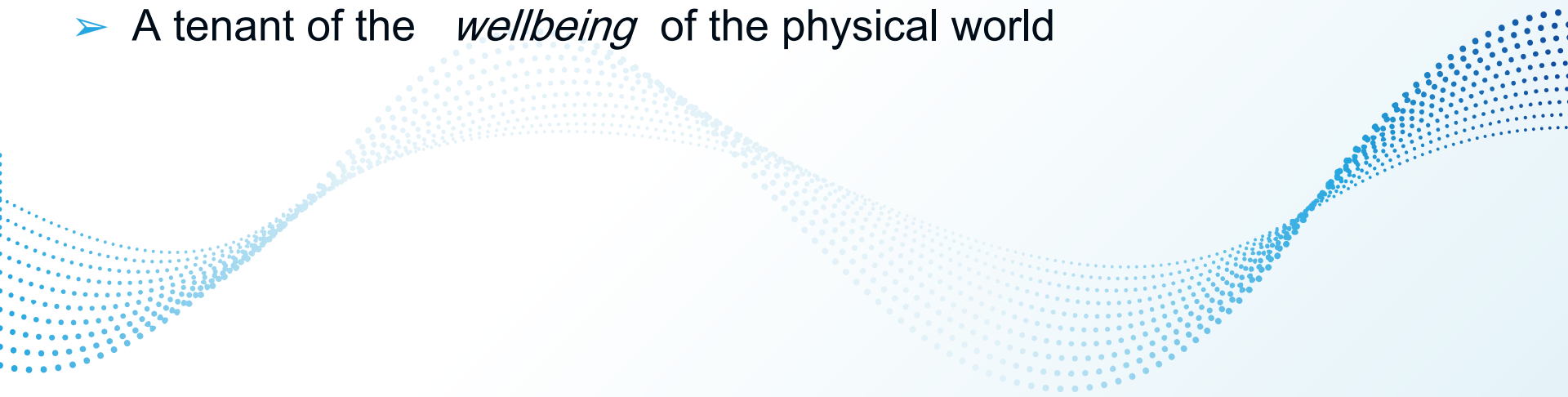
- Past five years
- Attribution to nation - states/political motives
 - Level of attack requires resources



What is Physical Security?

- Protection of physical systems
 - People, property, assets involved

- A tenant of the *wellbeing* of the physical world



Historic Attack: Stuxnet

- Computer Worm (2009)
 - Allegedly USA
 - Operation Olympic Games
 - Destroyed near 1000 Iranian centrifuges
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- A decorative graphic consisting of a series of blue dots arranged in a wavy pattern, starting from the left side of the slide and extending towards the right, positioned below the main text.

Energy & Smart Grid

A decorative graphic consisting of multiple parallel, wavy lines of small blue dots. The dots are arranged in a pattern that resembles a sine wave or a series of overlapping curves, creating a sense of motion and energy. The background is a solid, vibrant blue color.

Colonial Pipeline

May 7, 2021

- Attributed to Darkside Hacker Group
 - Located in Eastern Europe

- Ransomware Attack

- Energy insecurity: cut off supply to East Coast for days
 - Moves 45% of all fuel consumed on East Coast

Ukraine Viasat Attack

Feb 24, 2022


- Russian military intelligence (GRU)
- Acid Rain
 - DDoS & malware wiper
- US satellite internet provider
 - European network outages
- Coincide with physical invasion

Transportation

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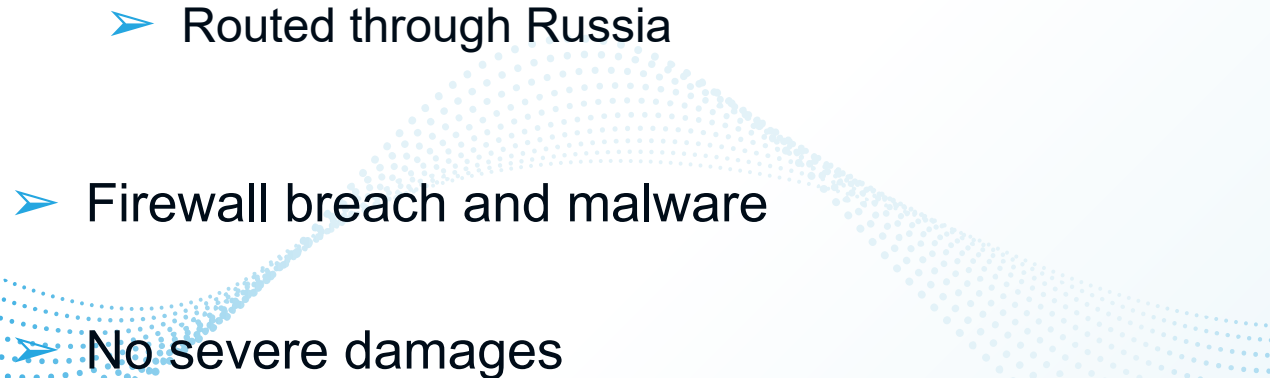
MTA Breach

April, 2021

- Attributed to Chinese government
 - Attacked early April, stayed late April
 - Zero-day vulnerability in Pulse Connect Secure
 - No severe damages
 - 3/18 systems impacted
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- A decorative graphic consisting of a series of blue dots forming a wavy, horizontal line that spans across the bottom half of the slide. The dots are arranged in a pattern that creates a sense of movement and depth, with the line curving upwards on the right side.

Metrolinx Attack

January, 2018

- Provincially run Toronto suburban transit authority
 - Attributed to North Korea
 - Routed through Russia
 - Firewall breach and malware
 - No severe damages
- 
- A decorative graphic consisting of a series of blue dots arranged in a wavy pattern that spans across the bottom half of the slide.

Healthcare




Conti Ireland Hospital

May, 2022

- Russian cybercrime group
 - Possible ties to Russian government

 - Ransomware as Service
 - Two months between intrusion and attack

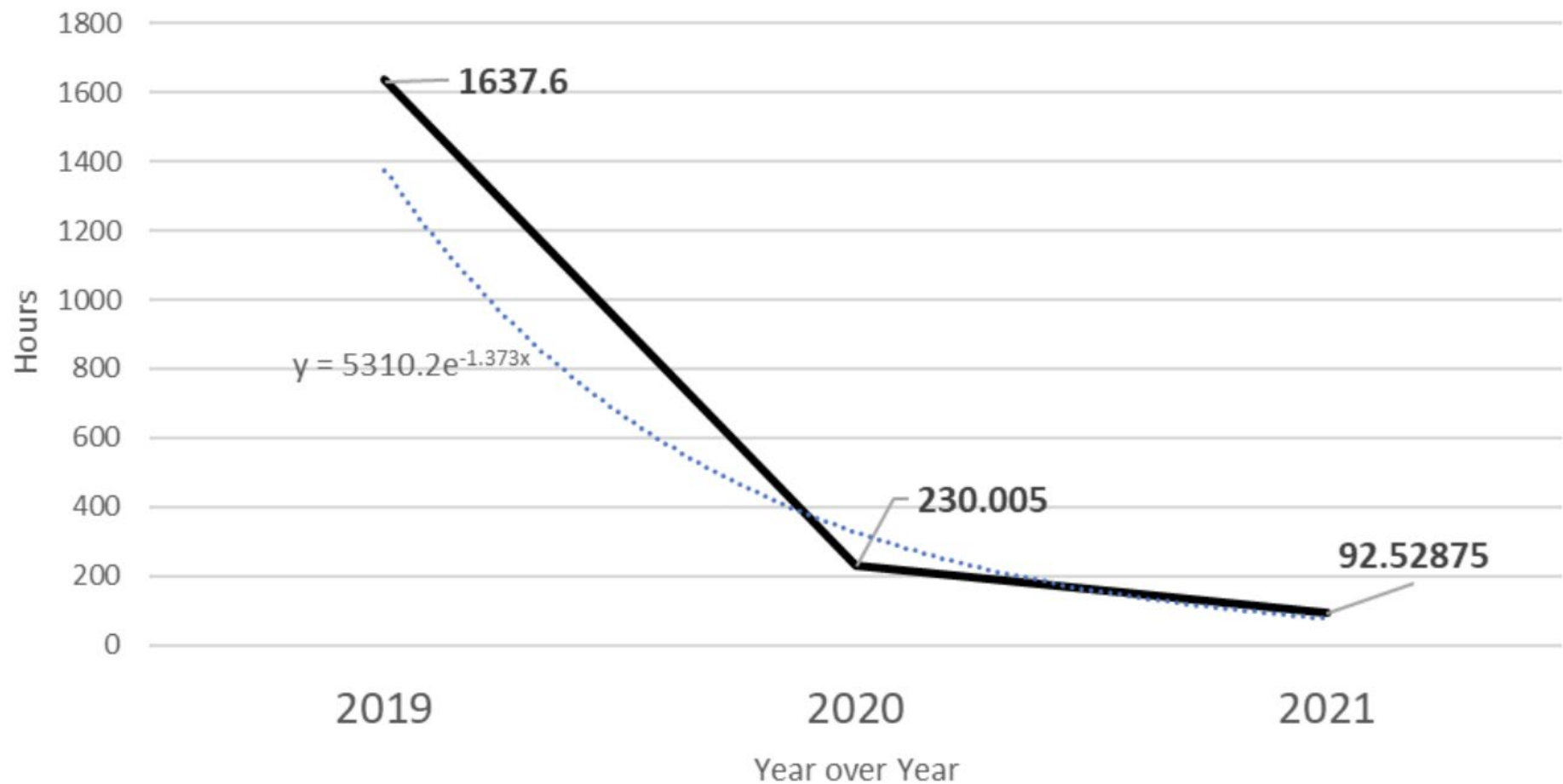
 - Delayed hospital functions
 - Hospital treatments, surgeries
- 
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Maui Ransomware

May, 2021

- Attributed to North Korea
 - Initial access vectors unknown
 - Encrypt medical data
 - electronic health records, diagnostics, imaging, and intranet
 - Delay hospital operations
- 
- A decorative graphic consisting of a series of blue dots of varying sizes, arranged in a wavy pattern that flows from the left side of the slide towards the right, partially overlapping the text.

Initial Access via Broker to Ransomware Deployment (Hours)



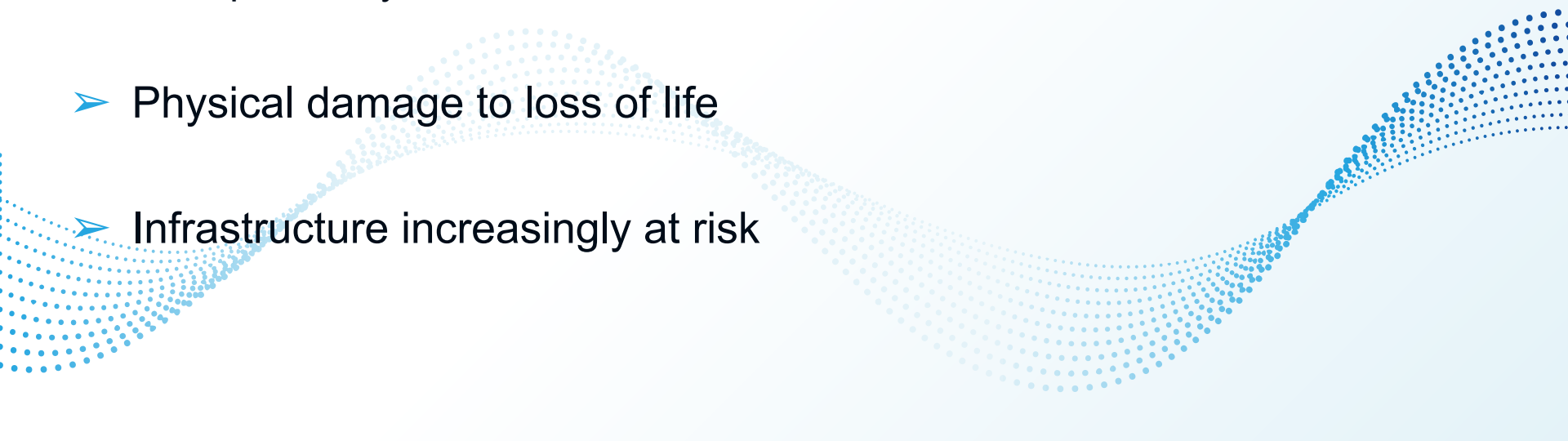
Trend Analysis

- Energy
 - Widespread effect on operations

 - Transportation
 - Reconnaissance
 -

 - Healthcare
 - Increasingly at risk post - Covid
 - Loss of life
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- A decorative graphic consisting of a series of blue dots of varying sizes and opacities, arranged in a wavy, undulating pattern that spans the width of the slide. The dots are more densely packed in some areas and more sparse in others, creating a sense of movement and depth.

Trend Analysis

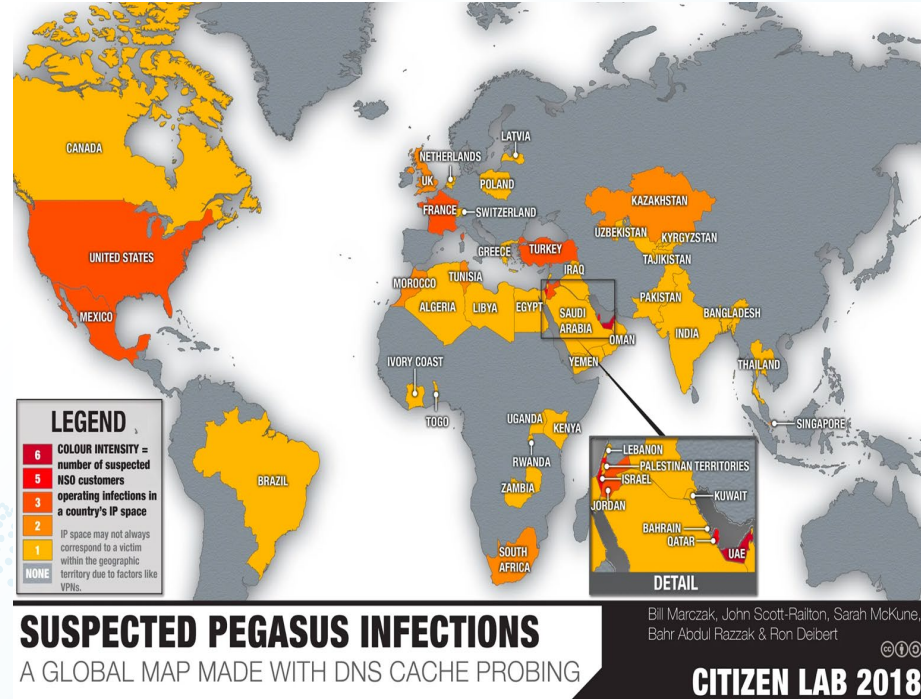
- Chaos
 - Malware & DDOS
 - specifically ransomware
 - Physical damage to loss of life
 - Infrastructure increasingly at risk
- 
- A decorative graphic consisting of a series of blue dots arranged in a wavy pattern, starting from the bottom left and moving towards the top right, with a slight dip in the middle.

Human Security


- United Nations Framework
 - Seven components of human security
 - Personal
 - Community
 - Economic
 - Political
 - Food
 - Health
 - Environment
- 
- A decorative graphic consisting of a wavy line of blue dots that spans across the bottom half of the slide. The dots are arranged in a series of parallel, slightly curved lines that create a sense of movement and depth. The color of the dots transitions from a light blue on the left to a darker blue on the right.

Putting Human Security in Context


- Pegasus Spyware (2016)
 - Israeli cyber - weapons firm NSO Group
- Insecurity of phone, info, people
 - Personal
 - Community
 - Economic
 - Political



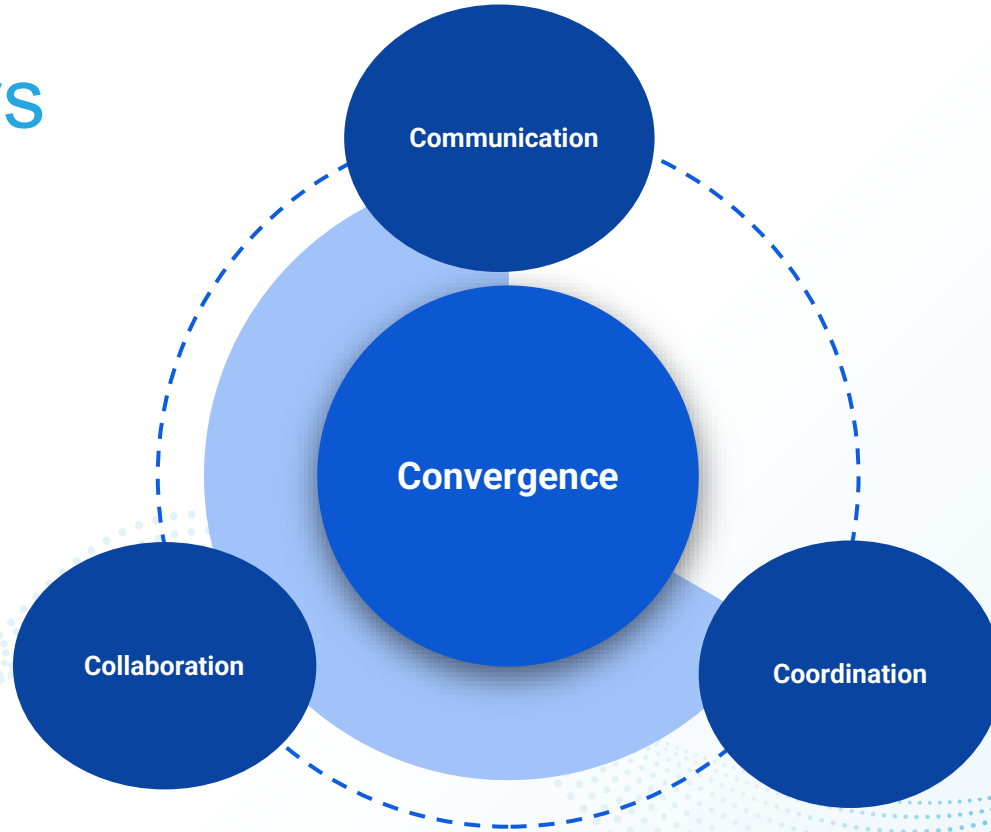
Big Picture

- **Cybersecurity is Human Security**
 - Various intentions
 - Deliberate physical threats
 - Physical threat is byproduct
 - Immense resources
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- A decorative graphic consisting of a series of blue dots forming a wavy, horizontal line that spans the width of the slide. The dots are arranged in a pattern that creates a sense of movement and depth, with the line curving upwards on the right side and downwards on the left side.

Future of Cyberspace

- Attribution issue
 - Spillover effects
 - Declaration of war
- 

Takeaways



Special Thank to the Sources

CISA

White House

Vox

NPR

IBM

Cyber Peace Institute

Politico

Krebsonsecurity

CISSecurity

Pelco

Hawaii

Microsoft

NBC

Cyberlaw

HHS

New York Times

Reuters

Checkpoint

SANS

Belfer Center

DFS NY

The ALS Group

Thank You

shreeya@udel.edu