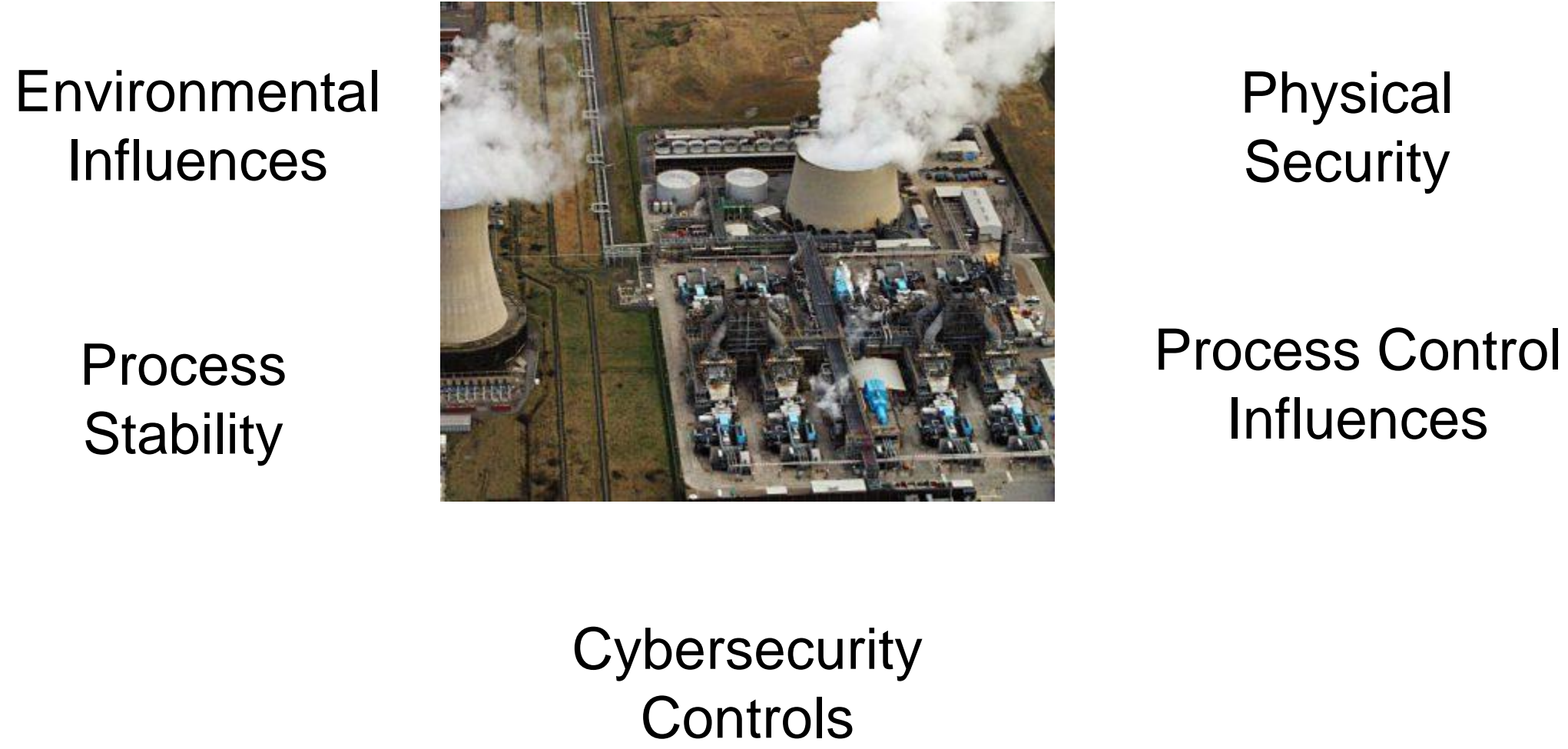


RESILIENCE IS THINGS WORKING CORRECTLY

Operational Data and Controls



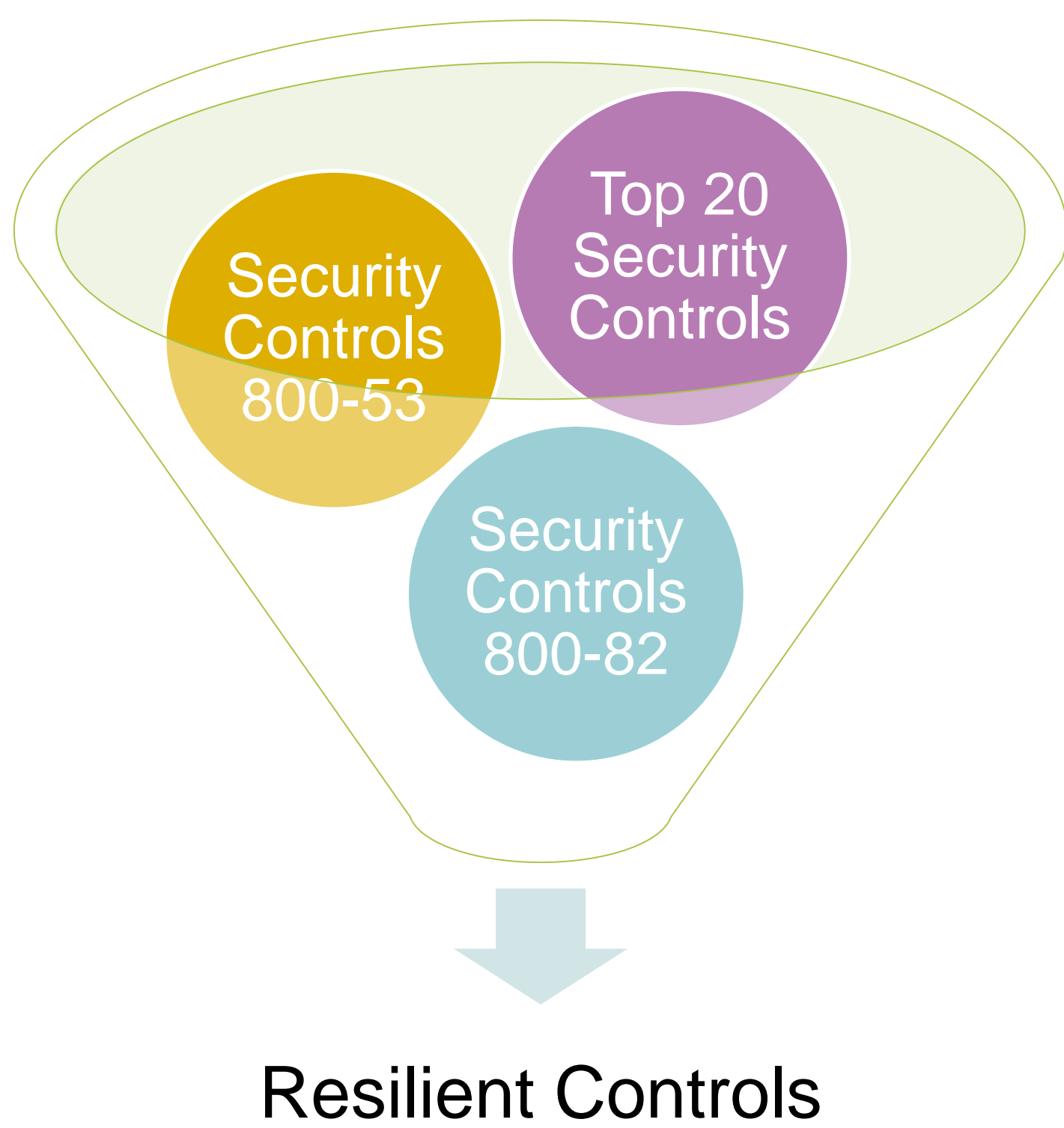
CYBERSECURITY CONTROLS



RESEARCH VISION

Resilient Control Architecture
Reuse Cybersecurity Controls to Influence Resiliency

PROJECT ROADMAP



Using existing Security Controls, refine the list into a set of controls that promote resilience

- SANS Top 20 Security Controls
- NIST 800-53 Security Controls
- NIST 800-82 Security Controls

RESILIENCY

Resiliency is easy to define: an emergent property of a system that enables it to remain operational within some range of acceptable conditions even when outside forces or failures result in deviation from desired controlled state.

Systems that are resilient also have the ability to re-enter a properly controlled state.

Resiliency is a result of system properties: hence the emergent property aspect

OT security objective: Keep the system operating within nominal parameters in a safe manner.

Security is managed using controls.

Cybersecurity controls operate through Confidentiality, Integrity, and Availability (CIA) of the data.

Key Cybersecurity Controls for Resiliency:

1. Boundary Defense/Secure Network Engineering
2. Limitation and Control of Network Ports, Protocols, and Services.
3. Inventory of Authorized and Unauthorized Devices
4. Inventory of Authorized and Unauthorized Software
5. Secure Configurations for Hardware and Software on Laptops, Workstations, and Servers
6. Controlled Use of Administrative Privileges
7. Maintenance, Monitoring, and Analysis of Security Audit Logs
8. Security Skills Assessment and Appropriate Training to Fill Gaps
9. Incident Response Capability/NSM
10. Security Auditing

FOCUS ON RESILIENCY

For IT, Measure via CIA

For OT, Measure how?

HOW DO YOU MEASURE RESILIENCY?

Actively seeking industry partners to examine how to measure resiliency and control effectiveness.

CONTACT US

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Research Project:

<https://cred-c.org/researchactivity/implementation-resilience-operational-controls>