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Managing Cyber Security Across the Enterprise

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Managing Cyber Security Across the Enterprise

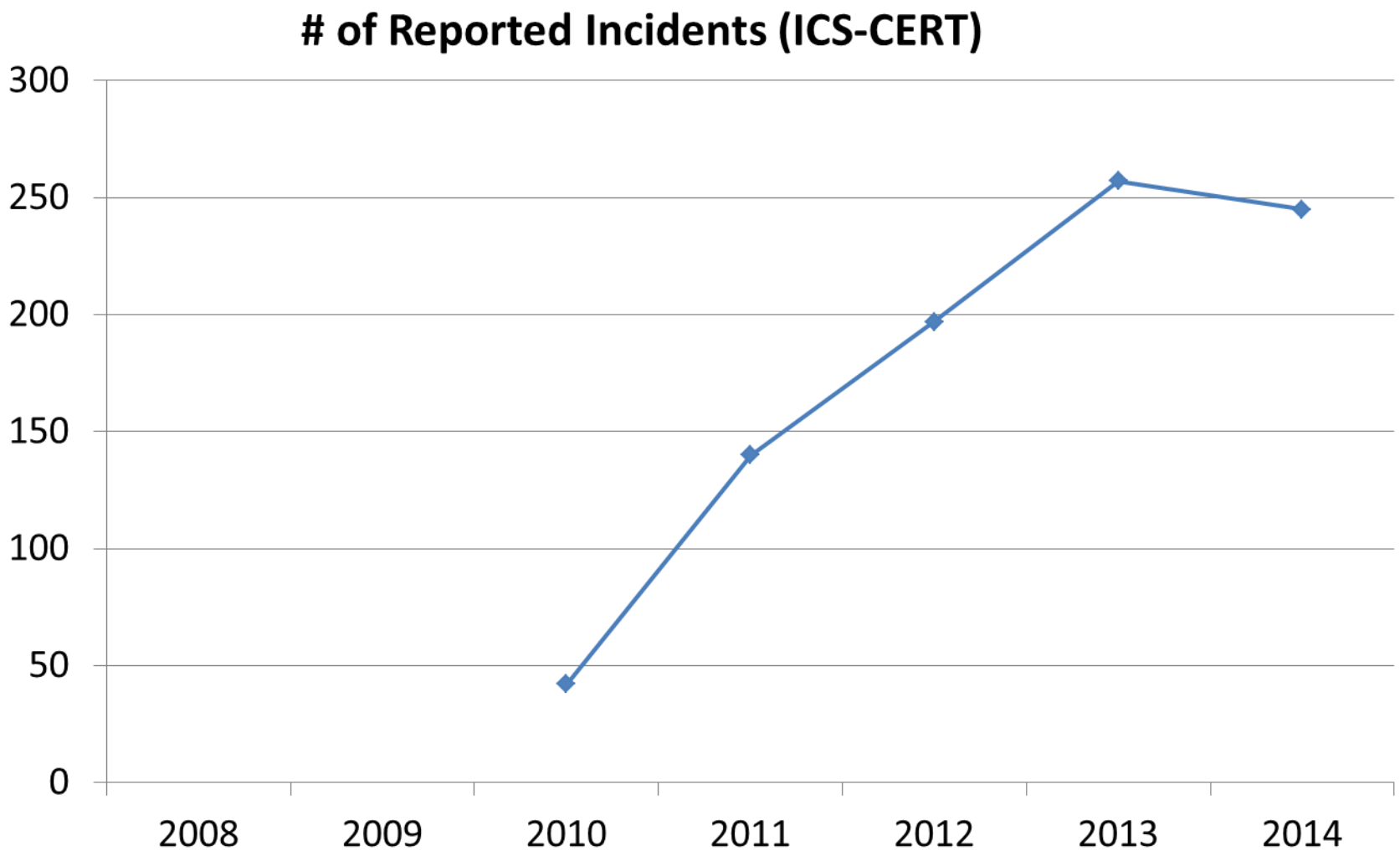
Highlights:

Oil and Gas Threat Landscape

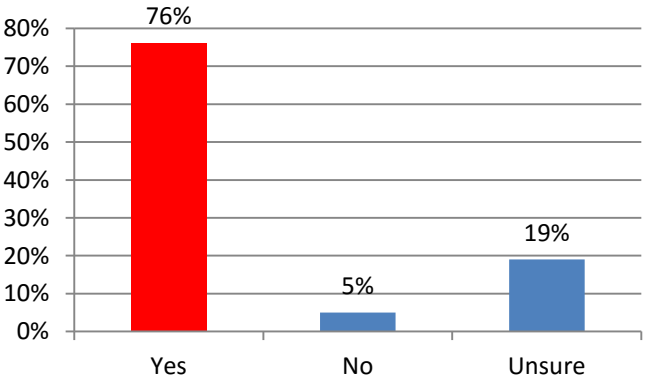
Challenges in Securing Control Systems

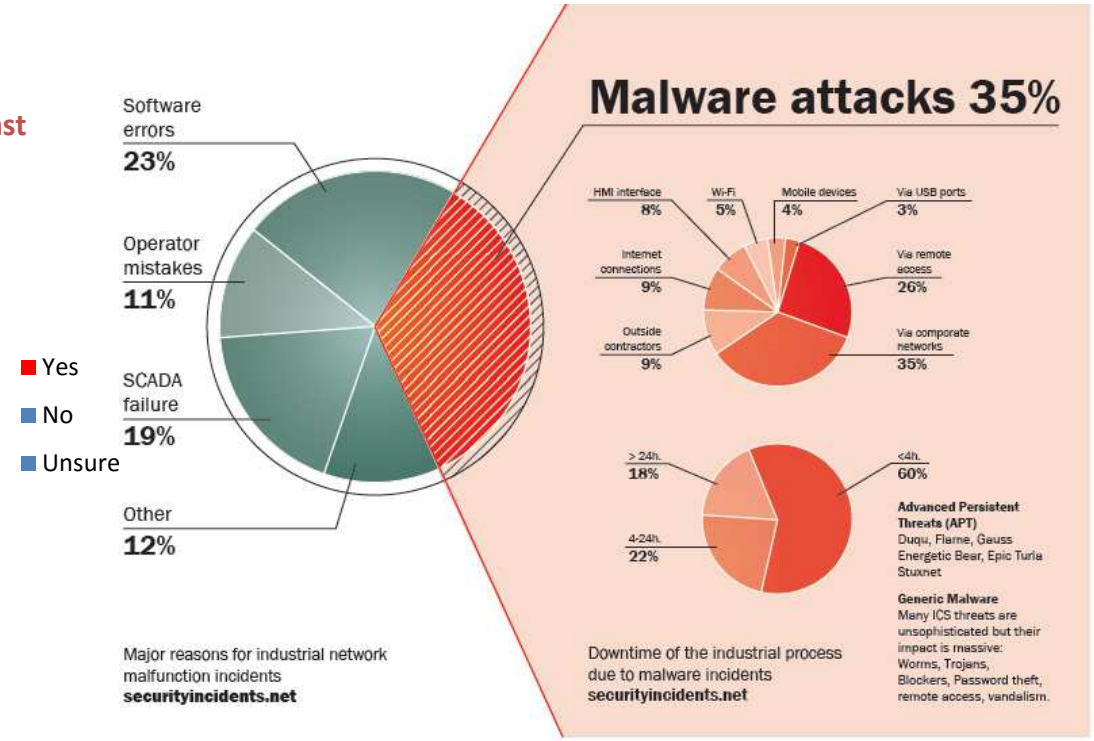
Cyber Security Strategies

Conclusion

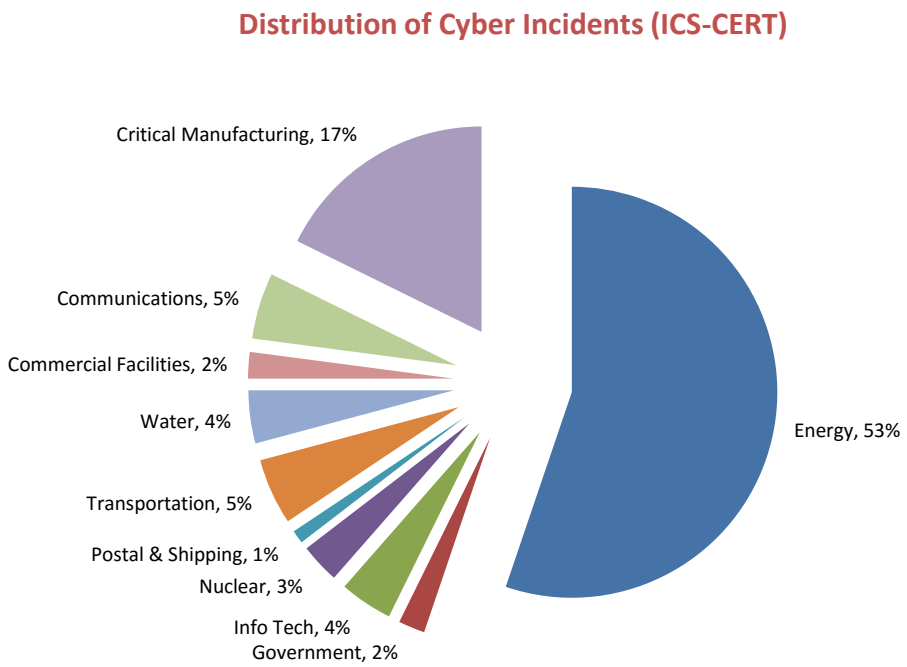

# of Reported Incidents (ICS-CERT)
300
250
200
150
100
50
0
2008
2009
2010
2011
2012
2013
2014

Increase in sophistication of cyber attacks



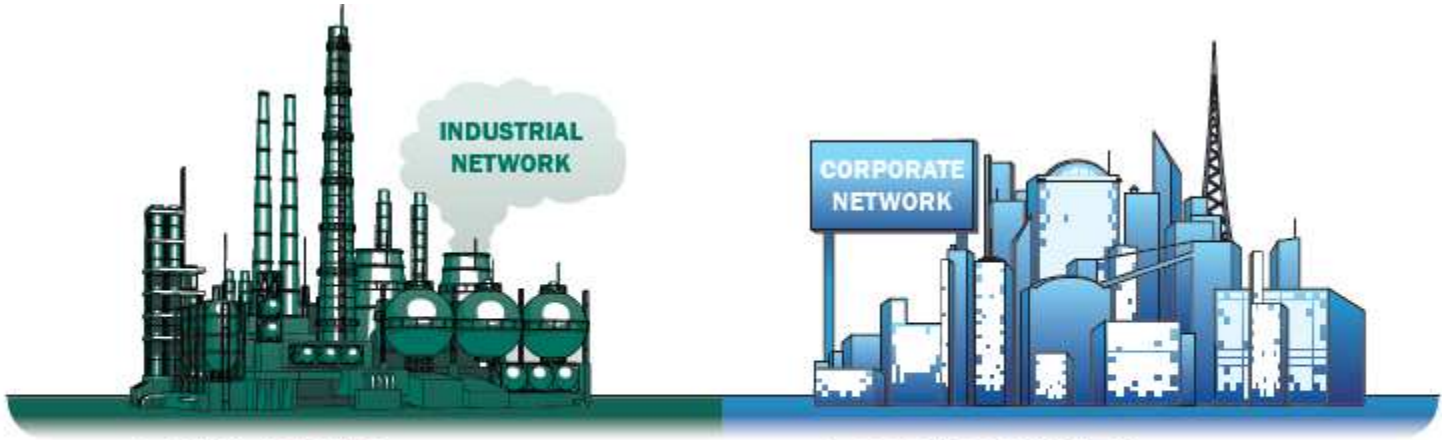


Largest sector of cyber incidents is Energy industry



Challenges in Securing Systems

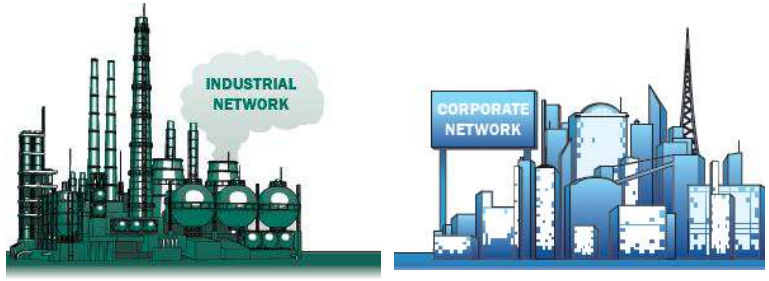
Difference in security attribute between ICS and Enterprise systems



Courtesy: Kaspersky Lab

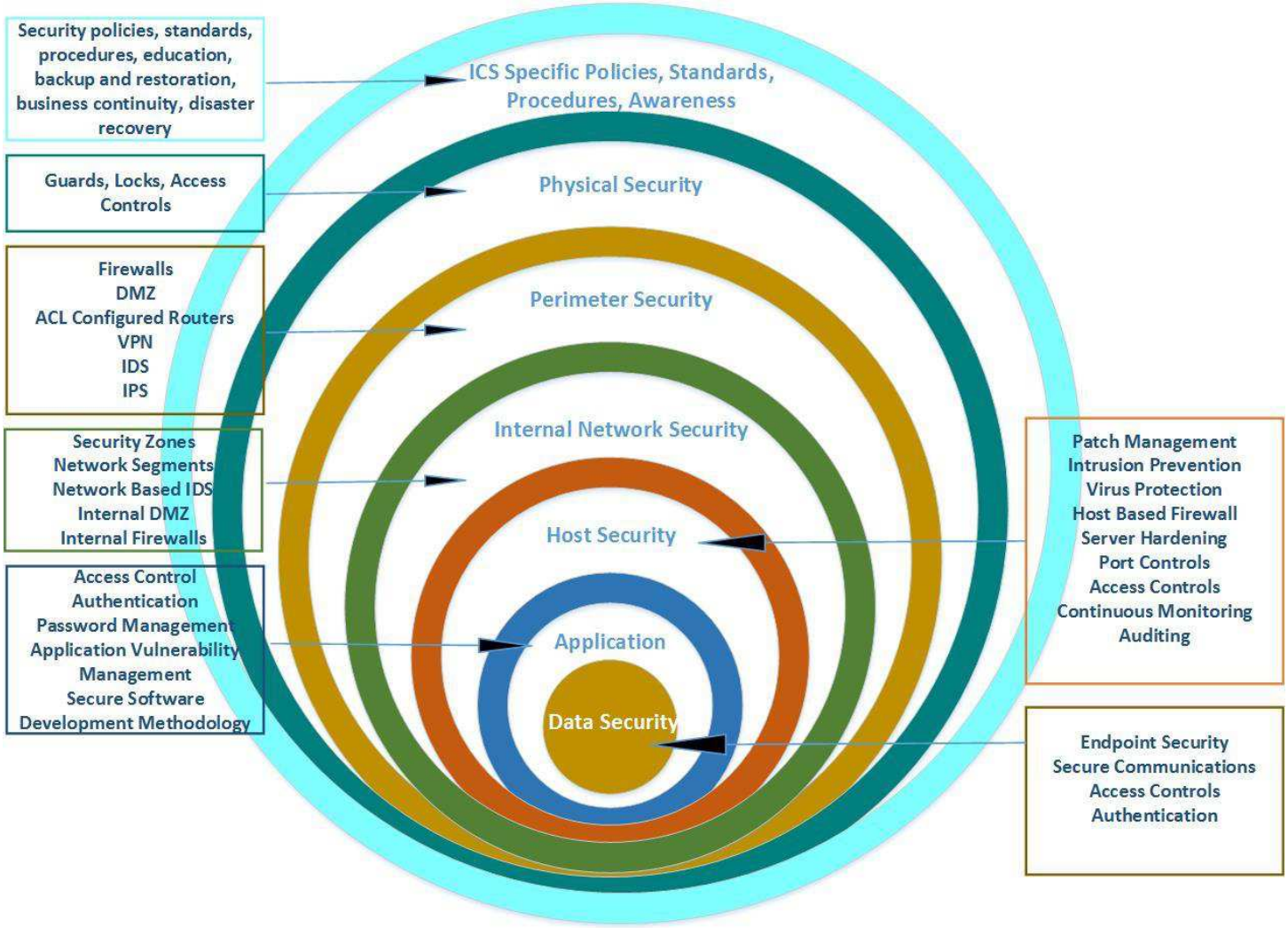
Challenges in Securing Systems

Differences/similarities in security controls considerations between ICS and Enterprise systems

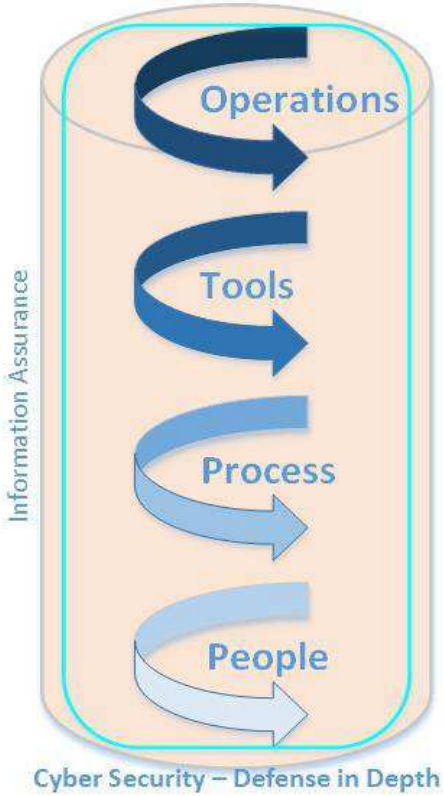


Life Span	15 – 20 years	3 – 5 years
COTS Related Vulnerabilities	Yes	Yes
Third Party Access to Systems	Frequent	Limited
Security Considerations in Implementation	Limited	Yes
Wireless Access to Systems	Significant	Limited

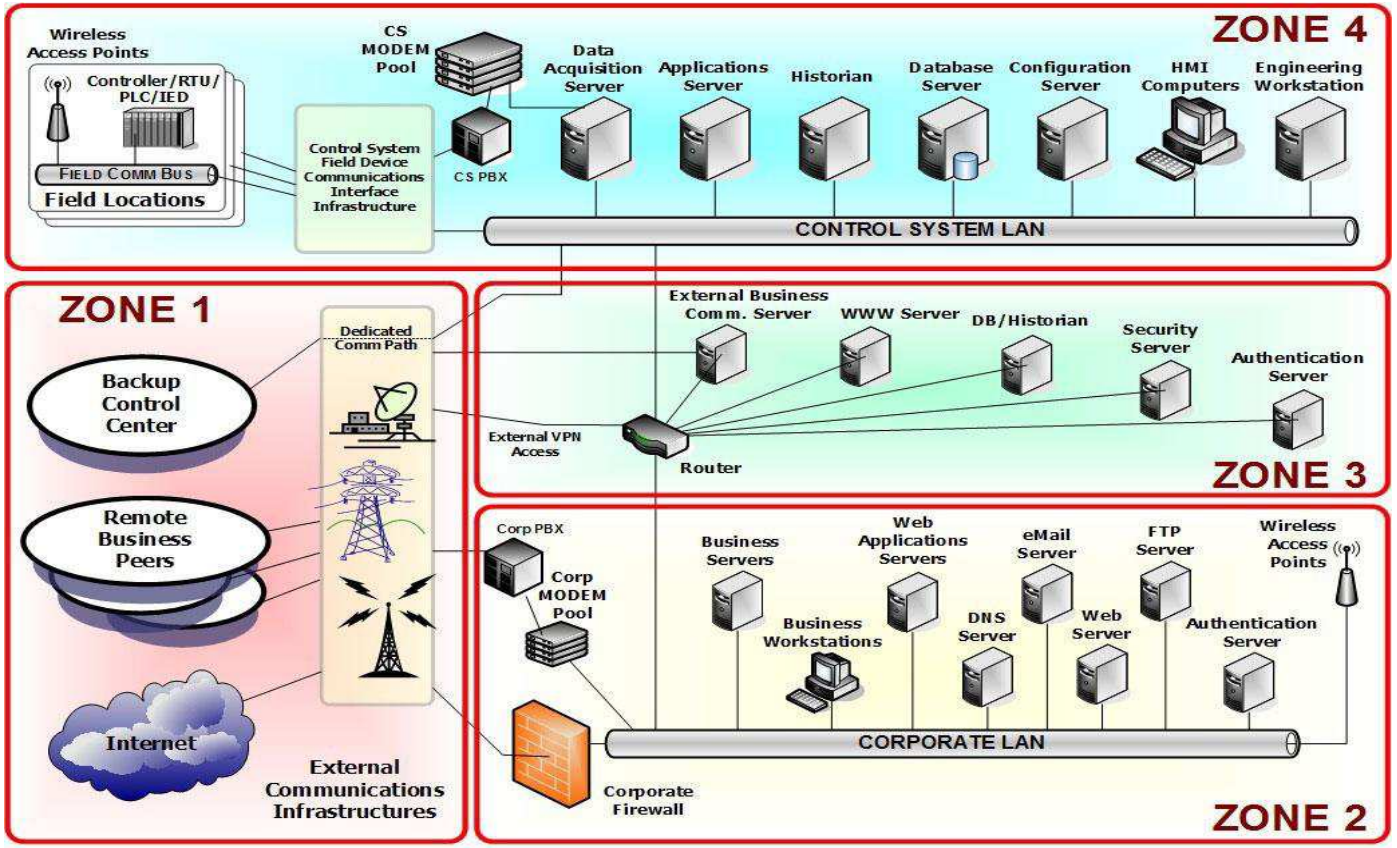
Defense in Depth in securing ICS



Risk Based Approach and Management to Securing ICS



Network Segmentation



(Reference: Defense in Depth Strategies, Idaho National Laboratory, Department of Homeland Security Based on ISA 62443)

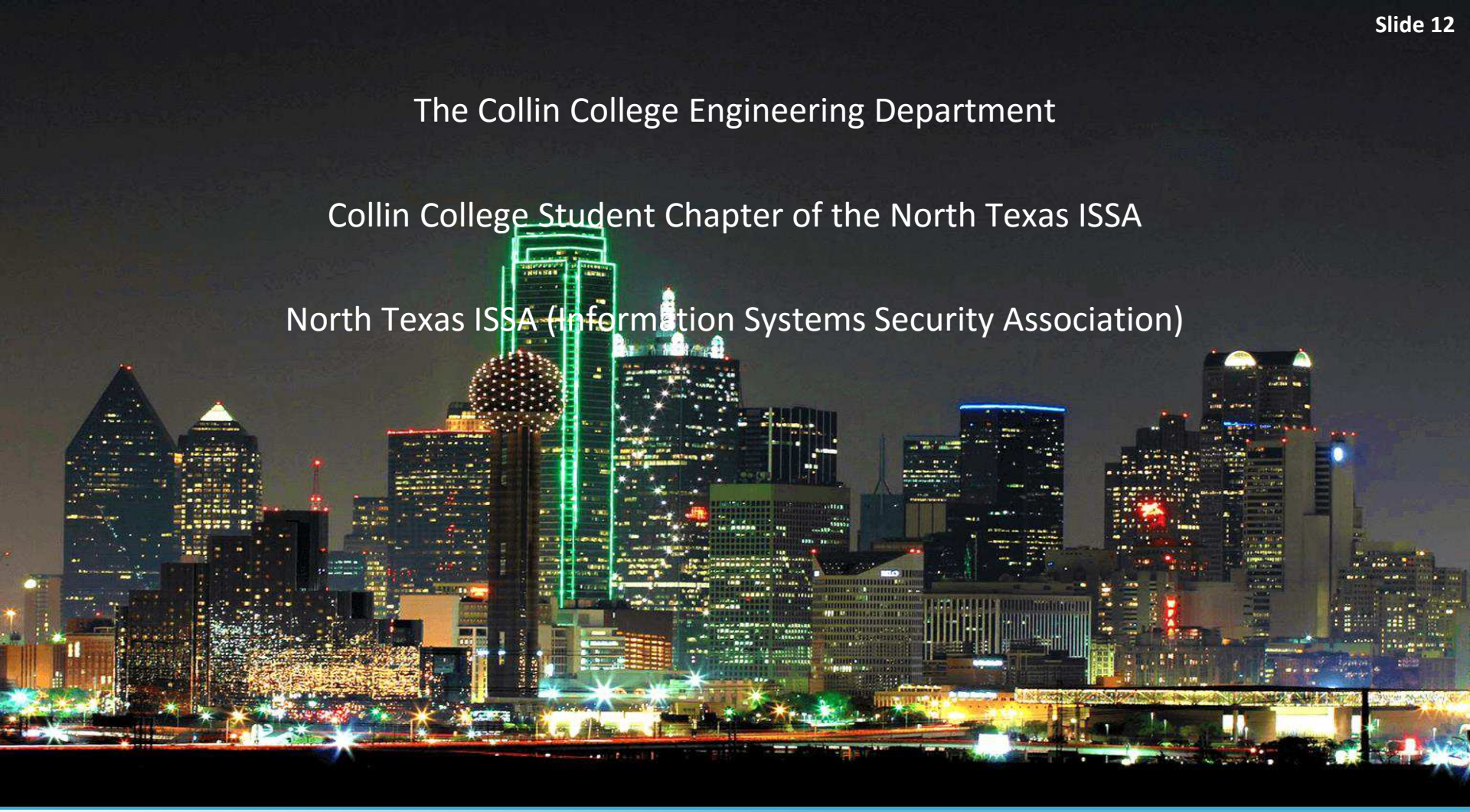
Summary

- Rapid integration of “Commercial Off the Shelf (COTS) in ICS environment comes with vulnerabilities and risks
- Industrial control systems are not easy to secure
- Hacker knowledge base is growing rapidly, resulting in more sophisticated attacks
- Risk has to be managed although it can not be eliminated. Risk based “Defense in Depth” mitigates cyber risks at multiple layers in an organization

The Collin College Engineering Department

Collin College Student Chapter of the North Texas ISSA

North Texas ISSA (Information Systems Security Association)



Thank you

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