

CYSE 200T

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SCADA Systems

What are critical infrastructure systems? Critical Infrastructure are those assets, systems, and networks that provide functions necessary for our way of life (*Critical Infrastructure Security and Resilience* | *Cybersecurity and Infrastructure Security Agency CISA*). Some vulnerabilities include cybersecurity threats, aging infrastructure, physical security risks, and supply chain vulnerabilities. Although they are essential to society's operation, critical infrastructure systems like electricity, water, transportation, and communication networks nonetheless have several weaknesses.

Role of SCADA Applications in Mitigating Risks

What is “SCADA Systems?” Supervisory Control and Data Acquisition (SCADA) systems. Critical infrastructure management and protection depend heavily on SCADA systems (“SCADA Systems - SCADA Systems”). How does SCADA protect critical infrastructure systems? Continuous process monitoring is made possible by SCADA systems, which enable operators to quickly identify and address any irregularities or breakdowns. This talent aids in keeping minor problems from turning into more serious emergencies. Early detection of trends and possible problems is possible with SCADA systems. Infrastructure dependability is increased, and downtime is decreased with predictive maintenance capabilities. During catastrophes, SCADA solutions can automate alarms and put response protocols into place, enabling speedier measures to reduce damage and restore services. SCADA can be used in conjunction with other security and monitoring tools to manage vulnerabilities throughout vital infrastructure in a comprehensive manner (Team, Claroty. “SCADA Risk Management: Protecting Critical Infrastructure.” *Claroty*, 30 July 2024, claroty.com/blog/scada-risk-management-protecting-critical-infrastructure.)

Conclusion

SCADA programs play a major role in limiting the risks that are posed by the vulnerabilities of critical infrastructure systems. These vulnerabilities could potentially result in severe problems. SCADA systems contribute to the resilience and security of critical services by enabling real-time

monitoring, data analytics, and rigorous security measures. This helps to ensure that vital services continue to function normally and remain safe in spite of the obstacles that are always emerging.