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INSTITUTE  
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# Microgrid / IoT Cybersecurity Issues



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# Overview

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- Vulnerabilities – Enterprise vs. Home
  - Internet of Things, Connectivity
- Broader System Issues
  - Emergent Behavior
- Open / Harder Issues
  - Confidence, Stress, Crime

# Micro Grids vs. Security

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## Institutional

- Dedicated / Contracted Team
- Process / Standards

## Home / Consumer



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# Compounding Issues

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- Internet of Things
  - Cheap
  - Rarely Patched
    - Headless
    - Effort
  - Not Isolated
    - WiFi / Bluetooth
  - Poor Security “Hygiene”
    - Passwords



# Why It Matters - Scale

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January 5, 2016

**Sony PSN downed; hacking group claims DDOS attack**

# DDoS and Beyond

- DDoS
  - Distributed Denial of Service
- Cyber Physical Attack
  - Economic
  - Physical Damage
- Emergent Behavior
  - $A + B \text{ yields } C$



Warning sirens in Dallas, meant to alert the public to emergencies like severe weather, started sounding around 11:40 p.m. Friday, and were not shut off until 1:20 a.m. Rex C. Curry for The New York Times

By [Eli Rosenberg](#) and [Maya Salam](#)

April 8, 2017



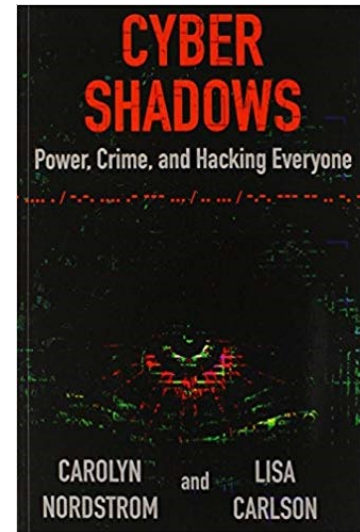
Officials in Dallas said the city's warning system was hacked late on Friday night, disrupting the city when all 156 of its emergency sirens



# Broader Thoughts

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- Consumer Confidence
  - Who to blame?
- Targeted Stress
  - Election day, start of school
- Cyber Crime
  - Buy / sell on open market



Do microgrids help diversify and improve security or make us more vulnerable?

# Quick Links / Collaboration

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