

# RSAC<sup>®</sup>Conference2020

San Francisco | February 24 – 28 | Moscone Center

**HUMAN**  
ELEMENT

SESSION ID: PDAC-R07

## How Smart Cities become Wise



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# Agenda

- The Promise
- The Reality
- Becoming Wise
- Moving Forward



# THE PROMISE

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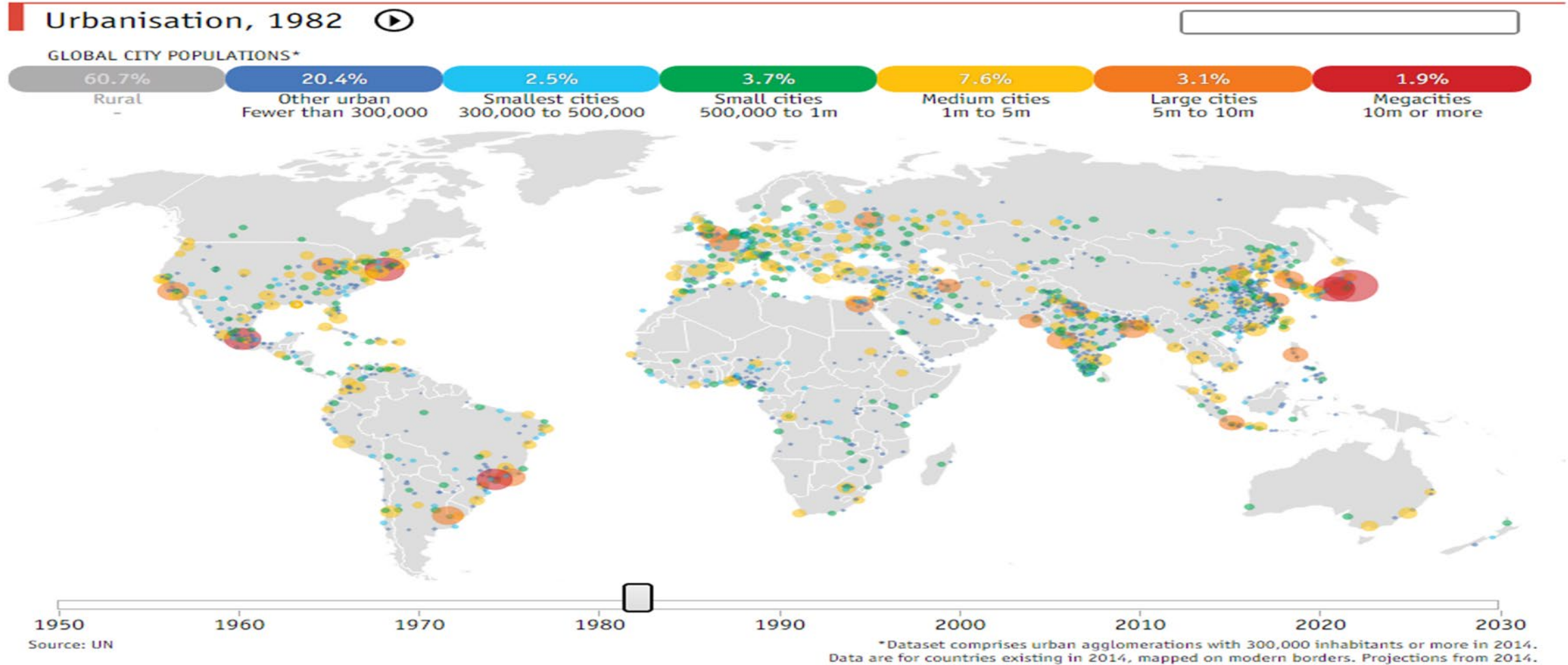




# THE PROMISE

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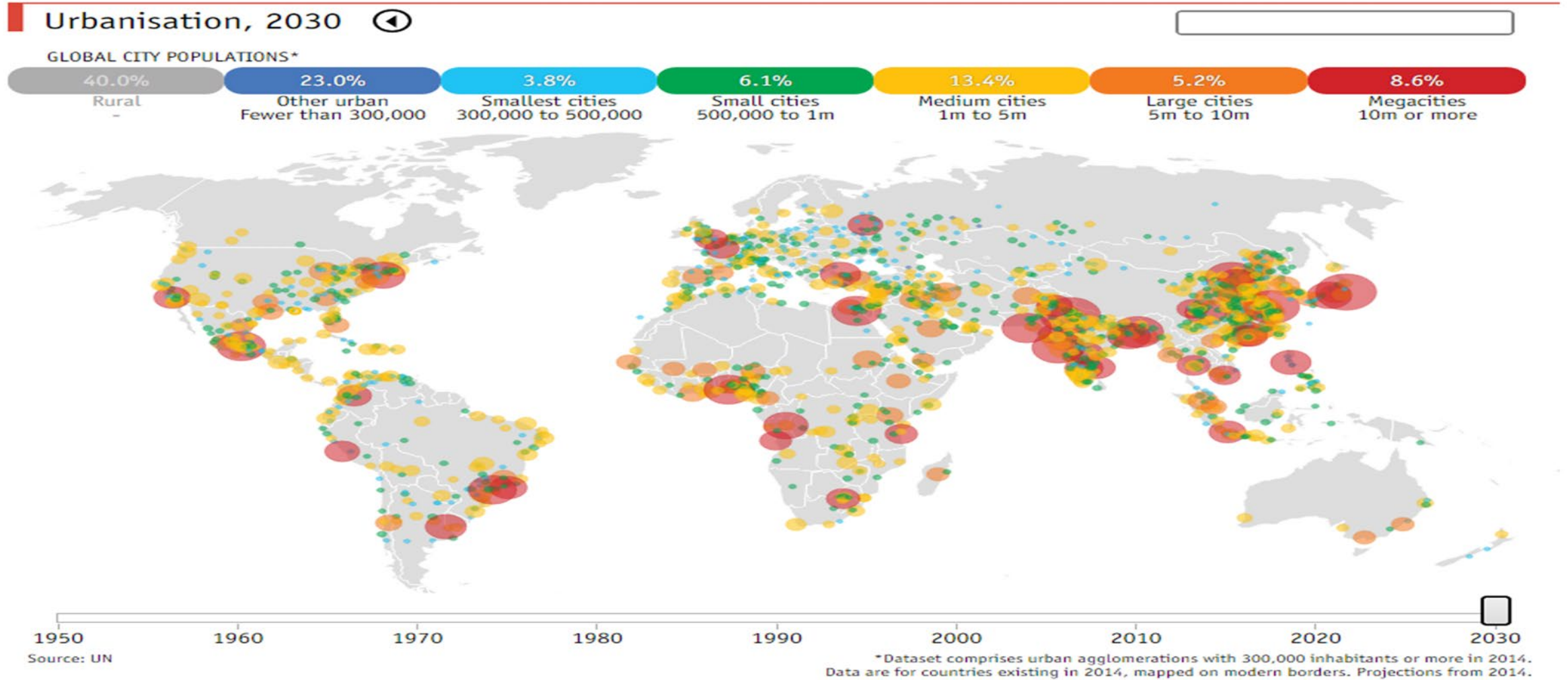
- WORLD POPULATION CENTERS - 1982



# THE PROMISE

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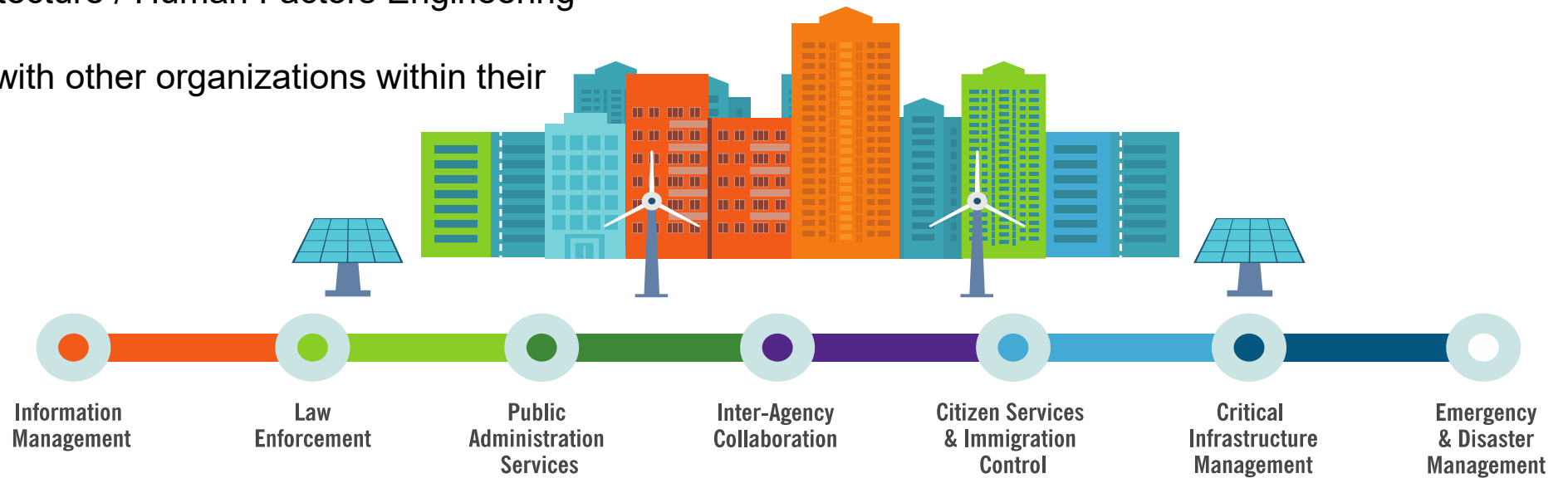
- WORLD POPULATION CENTERS - 2030



# THE PROMISE

## • CITIES MUST PREPARE FOR THIS GROWTH

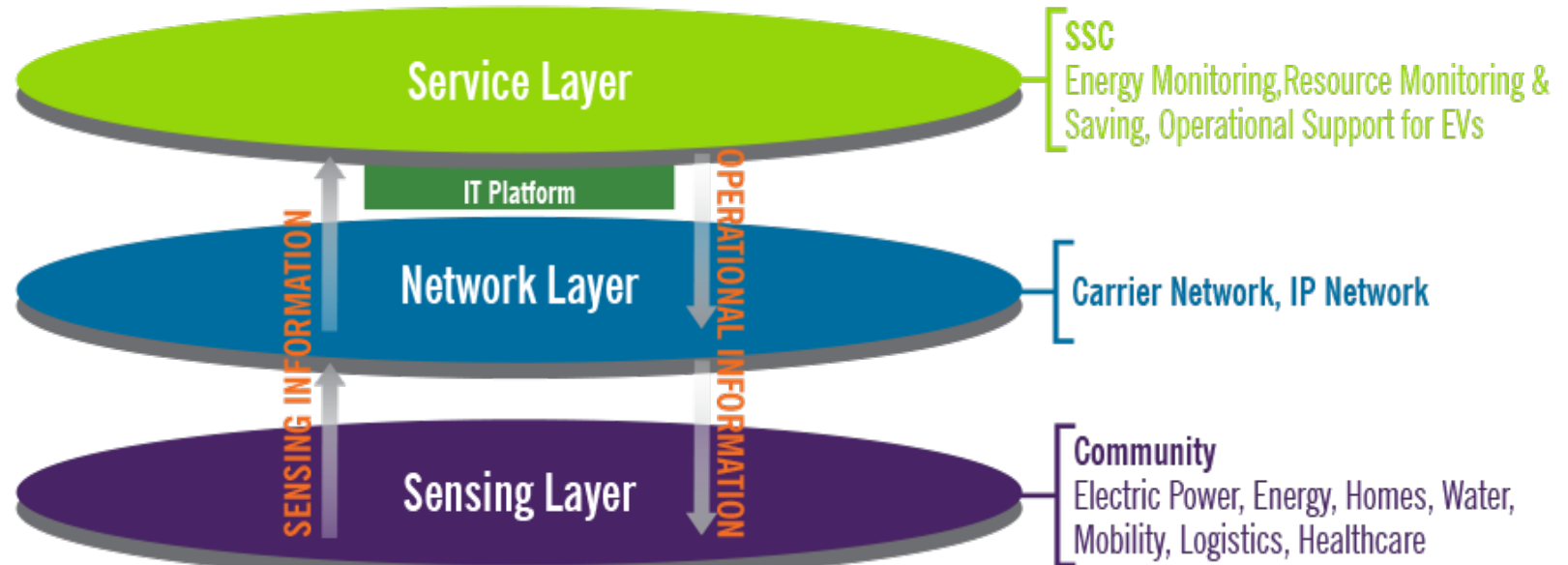
- Use open standards for interoperability, efficiency, application innovation and cost effectiveness. (ISO 37150, 37151 & 37120)
- Smart Cities need to deliver services more efficiently and effectively to residents
- Smart technology to sustain growth and improve efficiency
- Service-Oriented Architecture / Human Factors Engineering
- Smart Cities integrate with other organizations within their boundaries



# THE PROMISE

- NETWORKS WILL NEED TO CONVERGE

Data Center & IT Security



Sensors

Sensors connected to vehicles,  
Traffic, Street Lights, Meters, Water, Police

Future Sensors

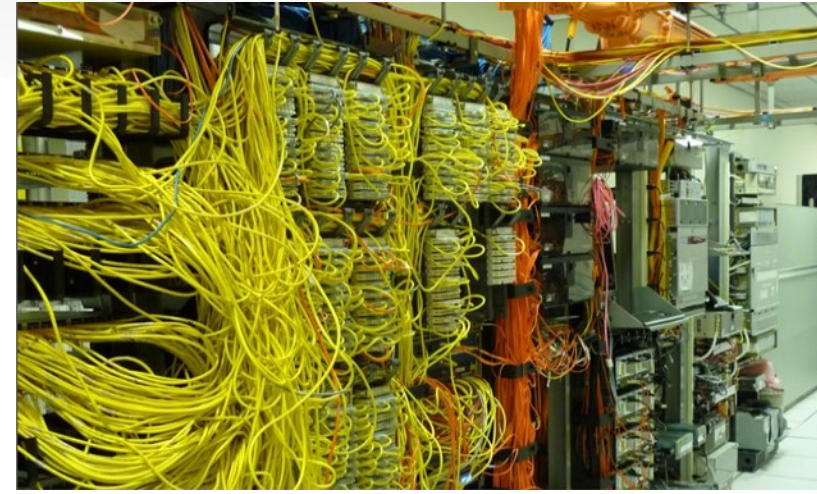
Future Sensors to be connected to department  
sub-segment for optimization of resources







## LEGACY INFRASTRUCTURE CHALLENGES



Legacy systems,  
non-traditional  
endpoints, IoT, BYOD

Network traffic and  
various perimeters

Vendors, outsourced  
IT and services, 3<sup>rd</sup>  
party connections

Limited security  
budgets / staffing  
/ skills

Log information  
and maintenance

One of the more demanding problems to implementing new smart technologies is managing what is currently in place.

# THE REALITY

- SMART TECHNOLOGY HAS IT'S OWN CHALLENGES



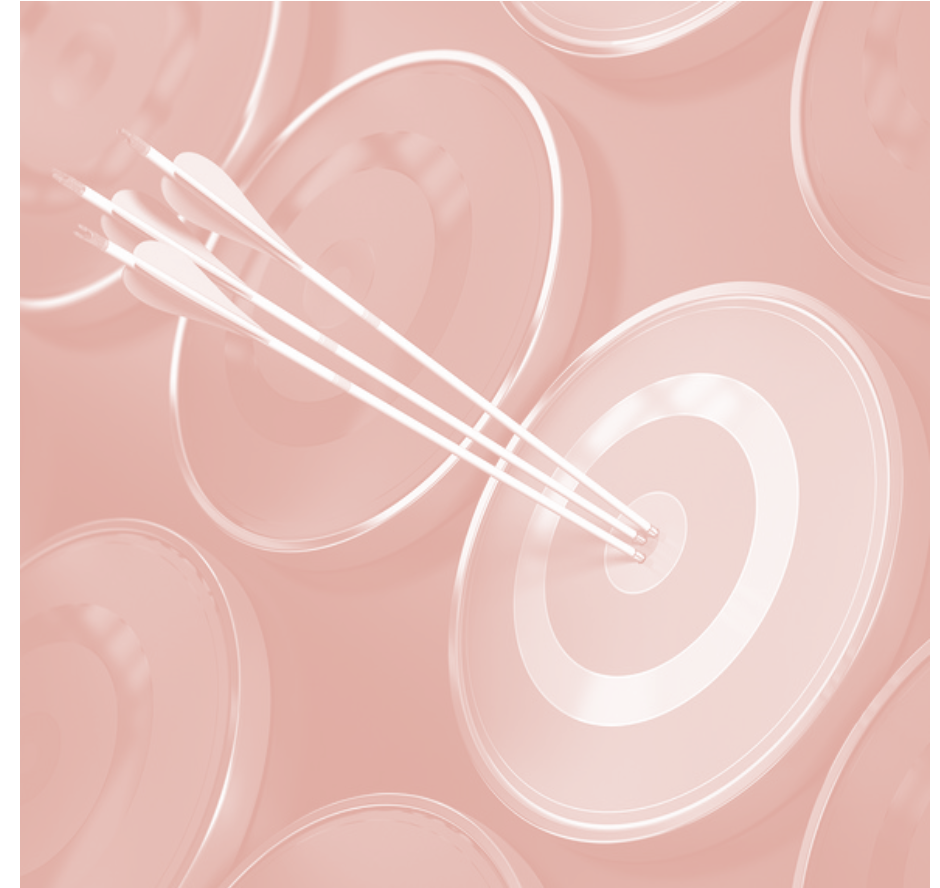


# THE REALITY

## COMMUNITIES, HOSPITALS, UNIVERSITIES - perfect targets for Cybercrime

- Legacy network debt plus new smart technologies results in unforeseen infrastructure complications

- Increased complexity
- Cascading effect
- Patch deployments
- Lack of threat models
- New attack surfaces

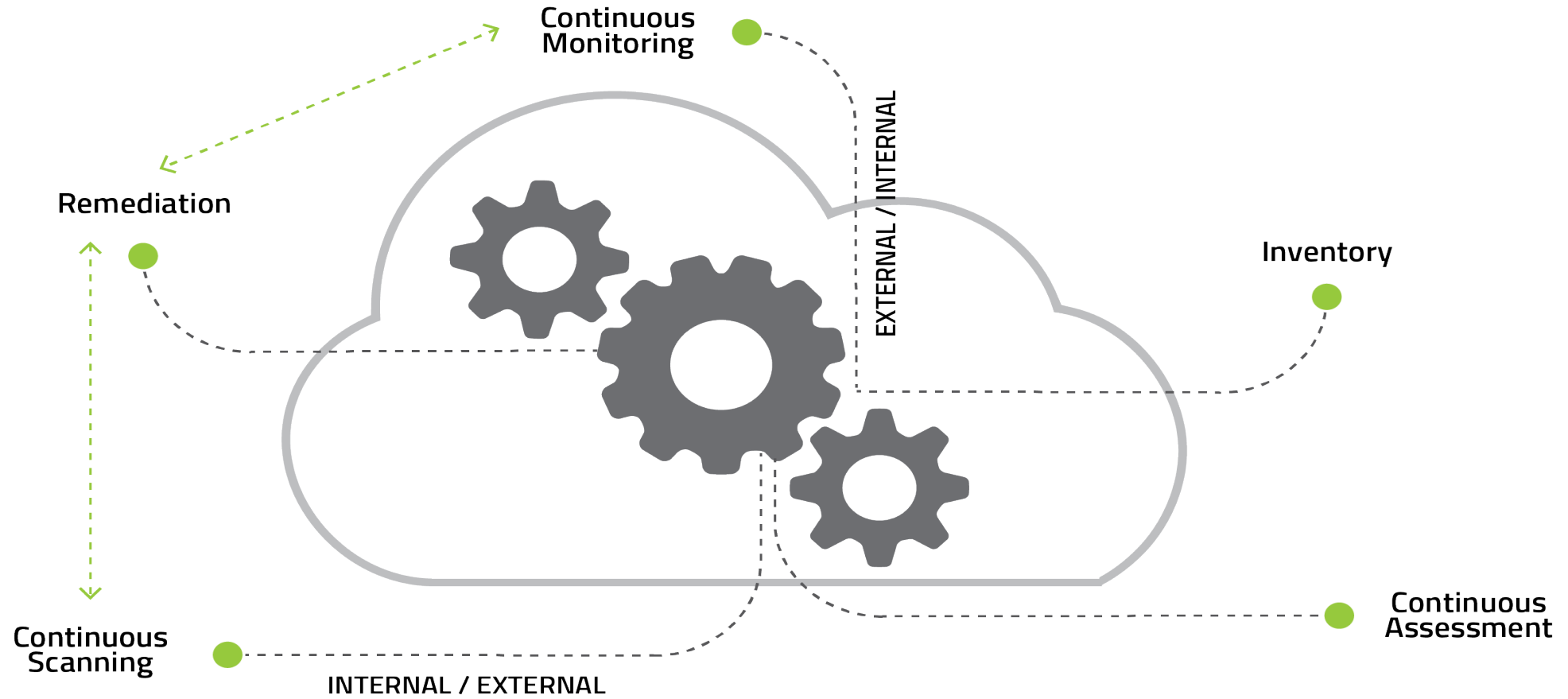


- For 2019 - 966 Government Entities, Universities, & Healthcare Providers
  - 113 state/municipal governments and agencies
  - 89 universities, colleges, and school districts
  - 764 healthcare providers
- Impact to organizations, customers, and communities
  - Emergency patients redirected; surgical procedures canceled
  - 911 systems inaccessible
  - Property transactions halted
  - Online payment portals were inaccessible
  - Schools closed, student grades were lost
  - Payments to vendors were delayed
- Estimated cost \$7.5 Billion, lack of publically available data not possible to accurately estimate true cost \*\*\*<sub>Emisoft</sub>





## Cybersecurity Continuous Life Cycle





- Need to understand what is important to organization
  - Data, Applications, Processes, Partners, Networks
- Deploy a Cybersecurity Framework
  - Town of East Greenwich, Rhode Island
- Implement security controls that don't hinder
  - Inventory, Assess, Monitor, Scan and Remediate

- Through innovation look for secure solutions to aide the business
  - SSO, 2FA (Zero Trust), MDM, Cloud solutions, Data Governance
- Resilient, modular, flexible architecture to be the norm
  - Security & Privacy by design
- Allow organizations to be innovative & deploy smart technologies securely



# MOVING FORWARD

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# MOVING FORWARD

- Better public-private sector cooperation
  - Shared Intelligence
- Need more Intelligence
  - No legal requirement for public entities to disclose
- Legislative restrictions on ransom payments
  - Incentivizing cybercriminals

# MOVING FORWARD

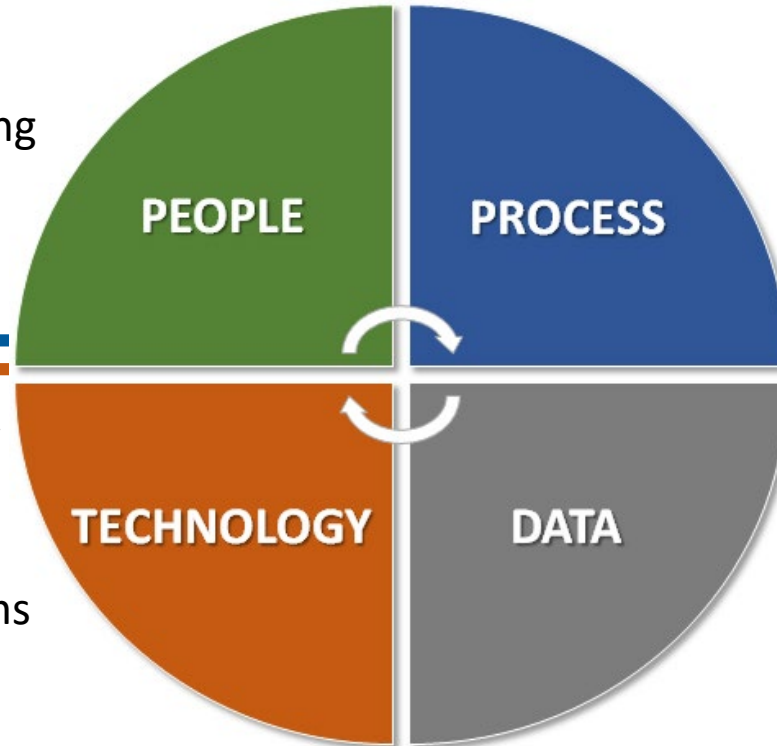
- Security Standards & Governance
  - Provide critical services should be subject to federal/state security baseline
- Frameworks and Guidance
  - Baseline security standards developed for acceptable level of security
  - Not every organization needs same level due to size, complexity, operations, data etc.
- Funding & Grant Opportunities
  - Organizations typically state their security debt is due to lack of funding
  - US Federal or US Dept of Homeland Security initiatives
  - Partnerships with Private Industry (Incubators, Start-Ups, Vendors)



- **Smart Communities accept security as part of normal business operations**

- Smart Organization CERT/ISAC Partnerships
- Information Sharing & Analysis
- Awareness and Skills Competency
- Continual Cyber Awareness training
- Collaboration (Internal/External)
- Identify key stakeholders for Business Continuity

- Defense through layered Security Technologies
- Data Protection Mechanisms
- Segment Unsecure Legacy Systems
- Implement Fail Safe and Manual Overrides
- Continuous Scanning & Monitoring



- Cyber Hygiene is the Norm
- Proactive Patch Management
- Proactive Incident Response/Emergency Preparedness
- Data Access/Usage Registration, Tracking and Monitoring
- Proactive Vulnerability Assessments and Penetration Testing

- Data Governance as a Standard
- Data Integrity in SaaS Apps
- Data Integrity in Open Data
- Data Privacy Protection Mechanisms
- Data Security Standards including Authentication, Authorization, Encryption, Password Management

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## How Smart Cities become Wise Questions?



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