



**Homeland
Security**

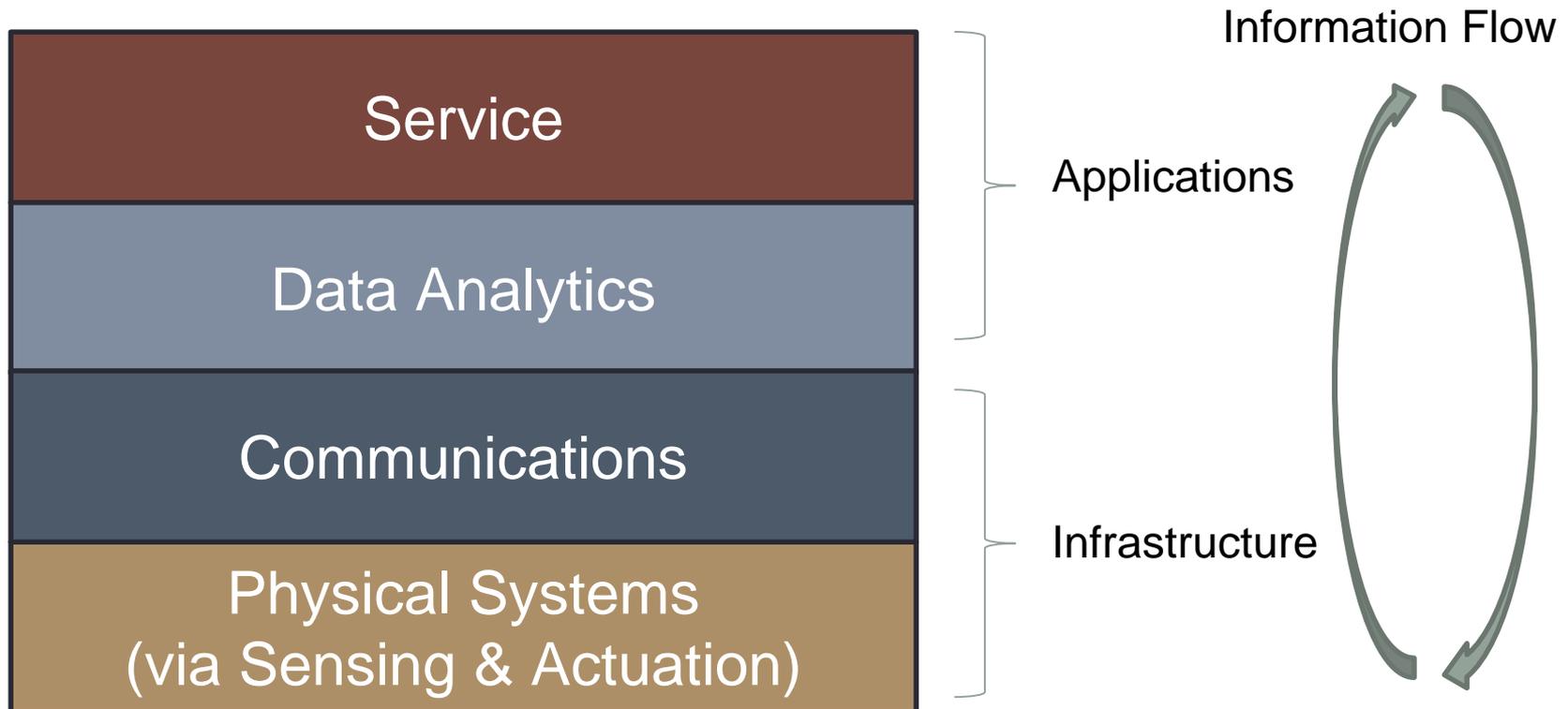
Science and Technology

SMART AND SECURE CITIES AND COMMUNITIES

Sokwoo Rhee

Associate Director of Cyber-Physical Systems Innovation
National Institute of Standards and Technology (NIST)
U.S. Department of Commerce

Internet of Things (IoT) and Smart Communities/Cities



Global City Teams Challenge (GCTC)

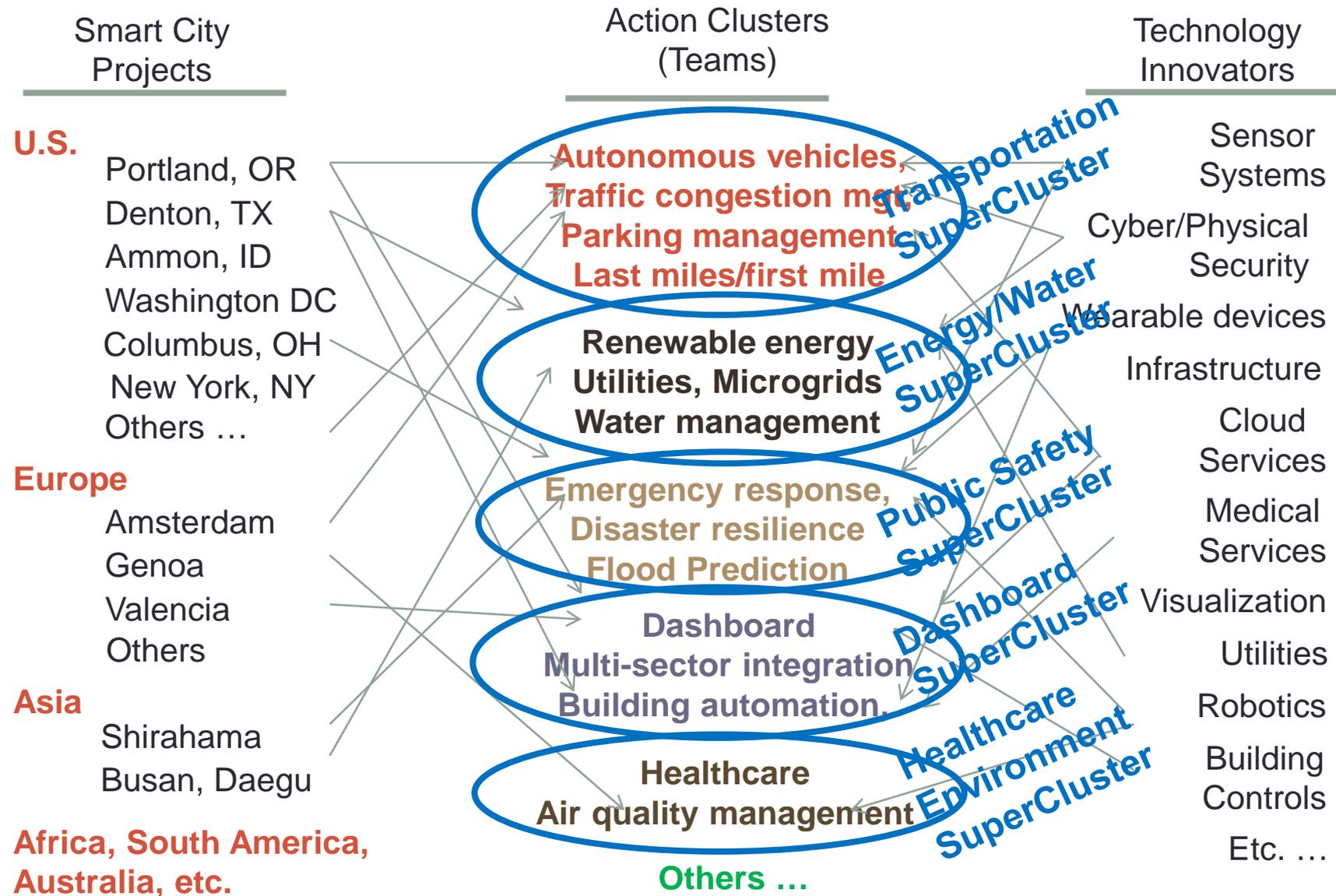


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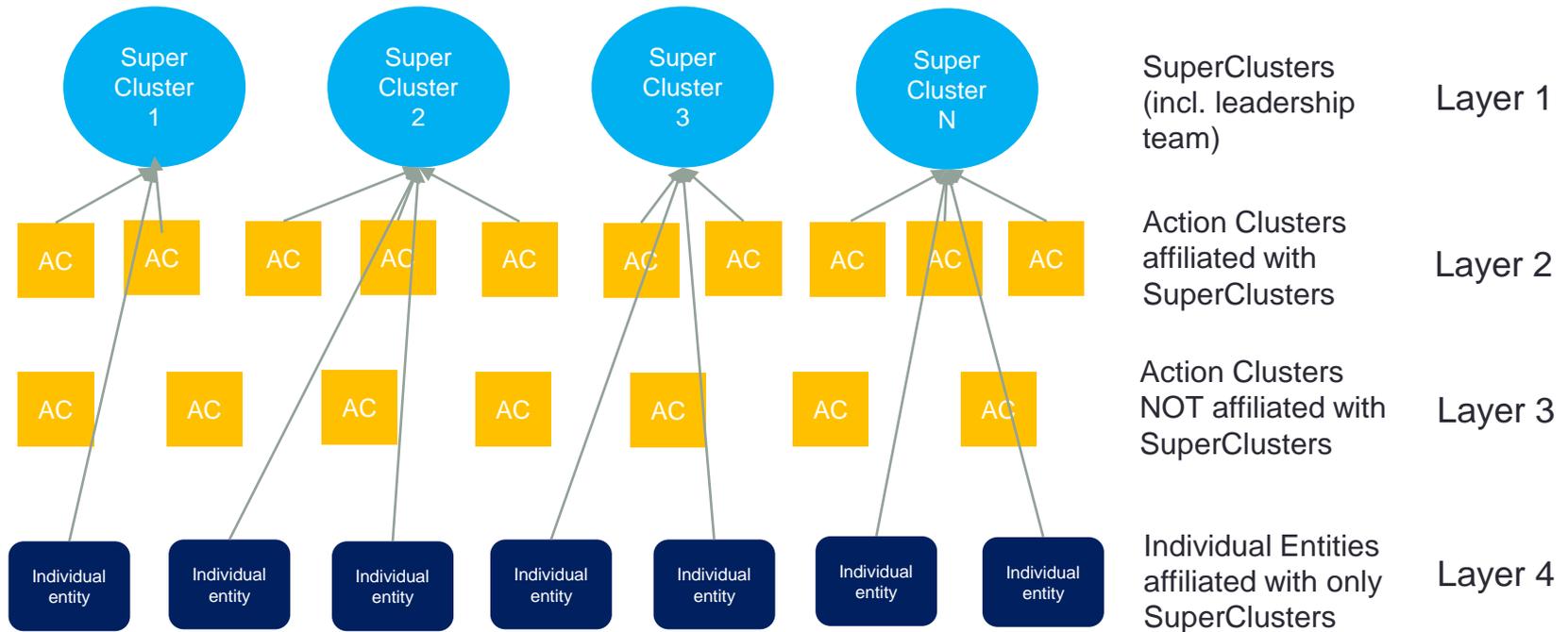
- Establish and demonstrate replicable, scalable and sustainable models for collaborative incubation and deployment of interoperable, standard-based Internet of Things (IoT) solutions and demonstrate their tangible and measurable benefits in communities and cities
- Tackle the cybersecurity, privacy, and trustworthiness issues as the first order concern.

GCTC Approach “SuperClusters”



GCTC Structure

- Action Cluster is the basic unit of participation. It is a team of technology providers and one or more municipal partners. Action Cluster may choose to be affiliated with a SuperCluster.
- SuperCluster is a collaboration of Action Clusters with participation from additional individual entities.



Expo Exhibit/Presentation Opportunities

- Layer 1-3: Eligible for an independent exhibit space and a presentation slot, assuming municipal participation
- Layer 4: Can be part of a SuperCluster exhibit/presentation, but no independent space/presentation slot

StormSense Project

Forecasting Flooding from Storm Surge, Rain, and Tide



Partners (as of April 2016):

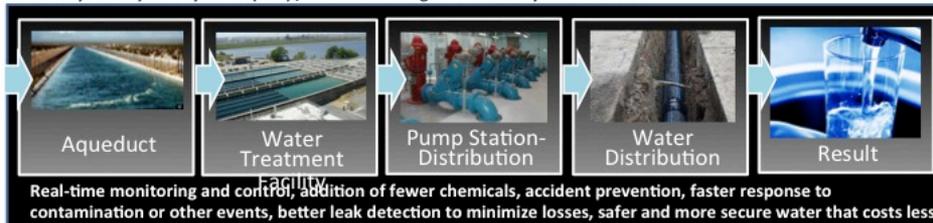


Enhanced Water Distribution Infrastructure Enabled by Cellular-Based CPS

Conservation * Security * Environmental Benefits * Lower Cost



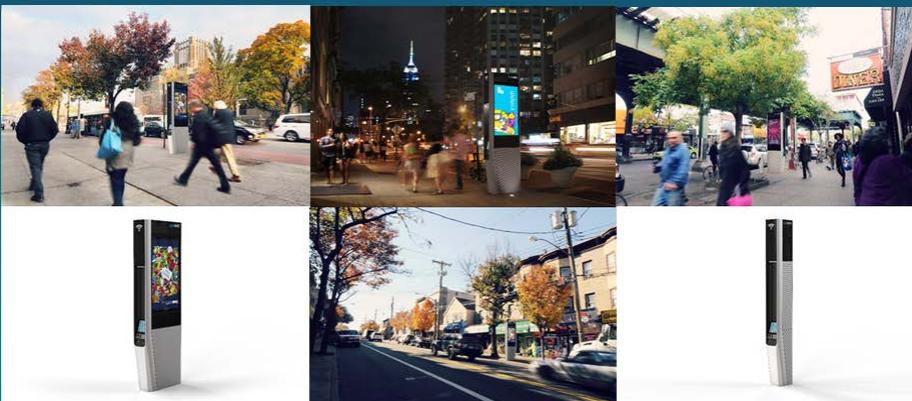
USING Cyber Physical Systems (CPS) / M2M to manage our water system means...



Real-time monitoring and control, addition of fewer chemicals, accident prevention, faster response to contamination or other events, better leak detection to minimize losses, safer and more secure water that costs less

LinkNYC by City Bridge

First-of-its-kind communications network that will bring the fastest available municipal Wi-Fi to millions of New Yorkers and visitors



Source: www.linknyc.com

SMART MOBILE OPERATION: OSU TRANSPORTATION HUB (SMOOTH)



First Mile/Last Mile Solutions

- On demand automated vehicles will move passengers the first mile to the bus stop and the last mile from the bus stop (bottom picture).
- Scheduled or on demand vehicles will move passengers through a closed loop within OSU campus (through roads and pedestrian areas, top picture).
- The vehicles will:
 - use automated driving technology;
 - use V2V communication for convoy driving;
 - be equipped with vulnerable road user protection technology enabling them to function in pedestrian zones.
- SMOOTH will keep track of vehicles and guide them.
- Smartphone applications will be developed to schedule and track the on-demand automated vehicles.



PARTNERS

- Ohio State University - Center for Automotive Research
- City of Columbus
- Mid-Ohio Regional Planning Commission (MORPC)
- Team ARIBO

Location: Columbus, Ohio



GCTC Clusters

- Over 250 Action Clusters since 2014
 - 160+ cities and communities, 400+ companies, universities, non-profits
 - <https://pages.nist.gov/GCTC/action-clusters/>

- 7 SuperClusters

- Transportation
- Public Safety
- Utility
- Wireless
- City Data Platform
- Data Governance/Exchange (**New**)
- Agriculture and Rural area (**New**)



- More information: <https://pages.nist.gov/GCTC/super-clusters/>

Smart City Blueprints from SuperClusters

- The Main Goal

“Help the cities and communities to jumpstart planning and deployment of replicable and successful best practices without going through the painful and complicated process that other cities may have already gone through.”

- Download for free at <https://pages.nist.gov/GCTC/super-clusters/>

2018 GCTC-Smart and Secure Cities and Communities Challenge (SC3)

NIST-DHS S&T CSD Partnership

- Many cities and communities are aware of the cybersecurity, privacy, trustworthiness risks in their deployments, but not many of them have a clear vision and expertise to address them.
- Industry stakeholders are eager to address cybersecurity, privacy, and trustworthiness issues in smart cities/communities as well, but struggling to find a clear business and engagement model.
- 2018 GCTC, in partnership with US Department of Homeland Security Science and Technology Directorate (DHS S&T) will tackle these issues as the first order concern.

2018 SC3 Concept

Smart Cities Partnership



- Building on NIST's Global City Teams Challenge (GCTC) program, NIST and DHS S&T will run a 12-14 months program for teams of cities and innovators to demonstrate value and return on investment for designed-in trustworthiness for smart city deployments.



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SC3 Schedule

- **February 6-8, 2018, FHI Conference Center, Washington, DC**
 - 750 registered attendees
 - 50+ speakers and over 30 cities, communities, states, and countries represented
 - 7 Official SuperClusters
 - 6 Breakout sessions
 - 3 Plenary sessions
 - 5 Sidebar group meetings
 - Security and privacy experts from DHS and NIST
- **June 2018, Mid-course Tech Jam, Portland, Oregon, USA**
- **Winter 2018/Spring 2019, SC3 Expo (location TBD)**

For More Information

- Contact
 - Sokwoo Rhee (sokwoo.rhee@nist.gov)
 - Scott Tousley (scott.tousley@hq.dhs.gov)
 - Gary Dennis (gary.dennis@associates.hq.dhs.gov)
- Participation Guide
 - <https://pages.nist.gov/GCTC/about/participation-guide/>
- News
 - <https://pages.nist.gov/GCTC/news/>
- GCTC web sites:
 - <https://pages.nist.gov/GCTC/>
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