LIDS SMART URBAN INFRASTRUCTURES WORKSHOP

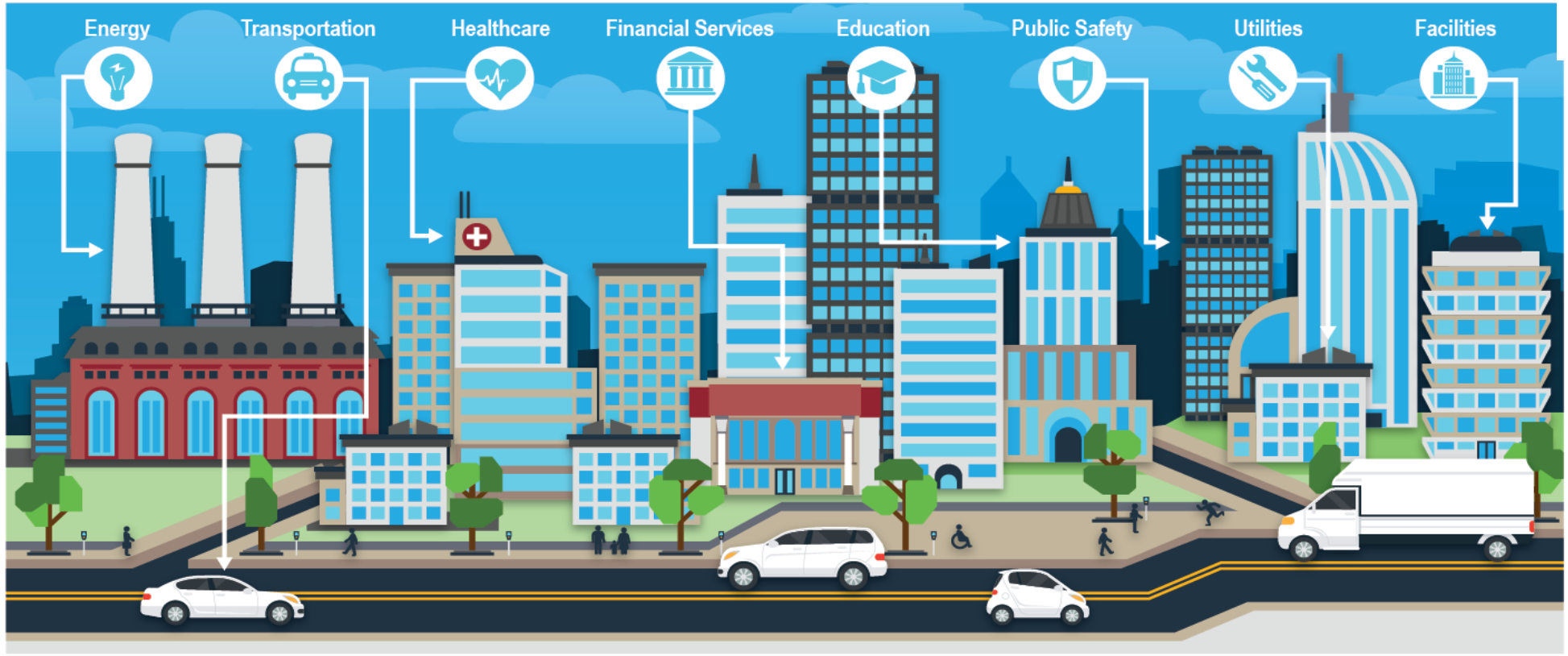
PANEL: SMART CITIES AND COMMUNITIES

DWAYNE HENCLEWOOD, PHD

BOOZ ALLEN HAMILTON

MAY 11, 2017

THE PHRASE 'SMART CITIES' HAS EMERGED AS A MEGATREND FOR HOW MULTIPLE INFRASTRUCTURE SYSTEMS BECOME CONNECTED, AND INCLUDE DATA-DRIVEN OPERATIONS



Energy: Integration of providers and energy sources with end-user systems to enhance consumption efficiency, manage demand, and reduce waste

Transportation: Connected and automated vehicles communicate with a connected infrastructure to prevent crashes and redefine personal mobility

Healthcare: Advanced data management and predictive analytics to provide precision healthcare solutions for individuals and healthcare providers

Financial Services: Institutions rapidly identify customer needs through integration of systems and applications to provide targeted products and solutions

Education: Connected technologies and digital resources support collaboration between instructors and peers for interactive and individualized learning experiences

Public Safety: Integrated systems and communications enhance incident detection and response during disasters and threats to critical infrastructure

Utilities: Advanced sensors, network monitoring, and predictive analytics will reduce disruptions to electric, gas, and water utilities

Facilities: Connected systems and predictive analytics enhance operational management and emergency response in commercial, military, and public facilities

A Smart City allows various, previously disconnected domains or industries to **share information and analytic findings** to deliver more **real-time, predictive, and targeted information** to users and consumers. Connectivity and sharing of information within and among domains is key to uncovering **new efficiencies and opportunities.**

Source: Booz Allen

ANALYTICS CONNECTS “DATA” TO SMART CITY “OPERATIONS” AND DRIVES INNOVATION - THE BEDROCK OF A SMART CITY

(Non) Traditional sensors and sources

Media agnostic transmission

Dynamic and scalable, for real-time and off-line analyses

Seamless application integration

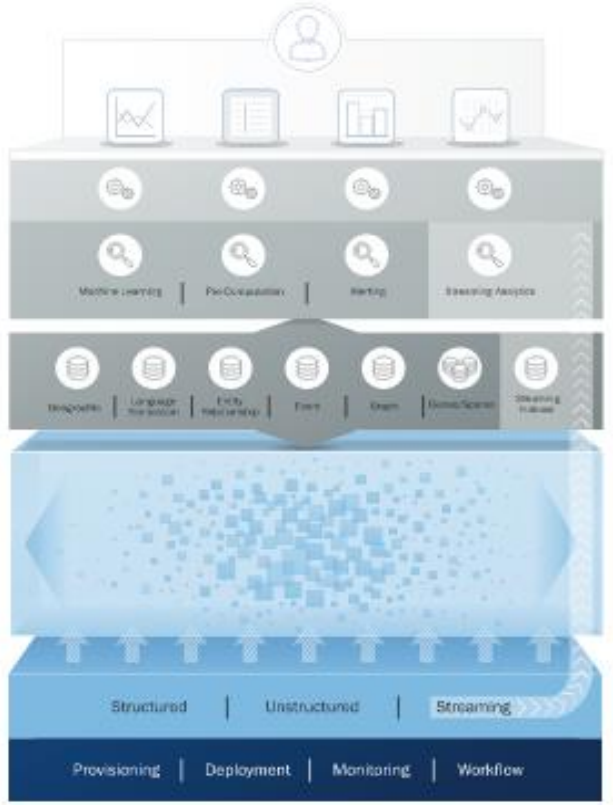
Effective service delivery

Source: Booz Allen, Noun Project: Hakan Yalcin, Vinaya Kumar P.V., Pravin Unagar, Adrien Coquet, Gregor Cresnar, Andrey Vasiliev, Andrea Mazzini, sai aditya, Third Eye

TO REALIZE THE FULL POTENTIAL OF SMART CITIES WE HAVE TO RE-THINK CURRENT DATA SHARING AND OPERATING PRINCIPLES

Today:

- *Data silos still dominate many inter and intra business practices*
- *Safe guards to protect personal and commercially sensitive data are not in place*
- *Decisions, even real-time ones, are being made based on archived data, and potentially obsolete data and principles*



Tomorrow:

- *Greater interoperability among data is needed to support a smart city*
- *The use of real-time / streaming data is as integral as the use of archived data in operation*
- *The right incentives and new business / revenue models are needed to encourage public, private and research entities to participate and steer the direction of smart cities*

Source: http://typeacommunications.com/silo-busting-better-customer-experience/, Booz Allen

ACADEMIA IS OUR INDEPENDENT AND TRUSTED PARTNER, DRIVING THE SMART CITY AGENDA, AND PROVIDING THE PERSONNEL TO SUPPORT ITS IMPLEMENTATION

Evaluation

- *The potential for Smart Cities is well understood however, it is imperative that it's impact and implications are thoroughly evaluated*
- *This evaluation needs to span every aspects of the smart city concept, from data generation, sharing, analysis, and usage to privacy and security to impact, especially on disadvantage communities*

Academic Rigor

- *Access analytics tool and platforms have become ubiquitous, however scientists and engineers need to be fortified with a firm understanding of the theories that give rise to the tools of the trade*

Curiosity

- *Though intangible curiosity can be and must be fostered as it is the engine that will power smart city and the requisite innovation to turn the concept into a reality*

Source: https://future-of-libraries.mit.edu/sites/default/files/image-10.jpg

THANK YOU