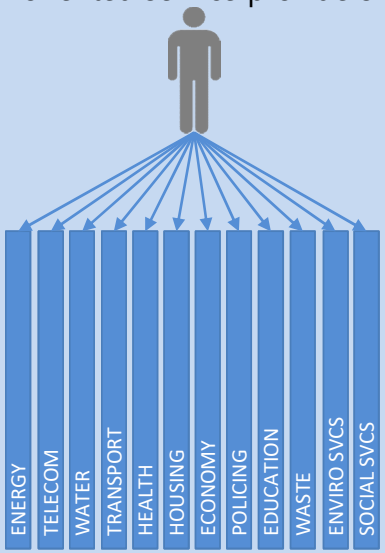

Distributed & Tailored AI/ML
for Smart City

ITU-T SG20: IoT and Smart Cities & Communities

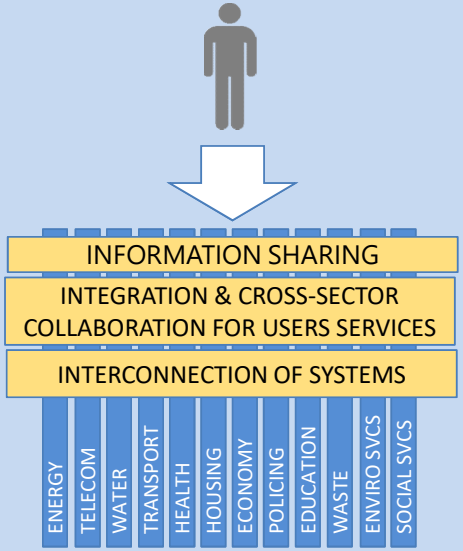
FROM

Closed & un-connected vertical silos of functionally-oriented service providers



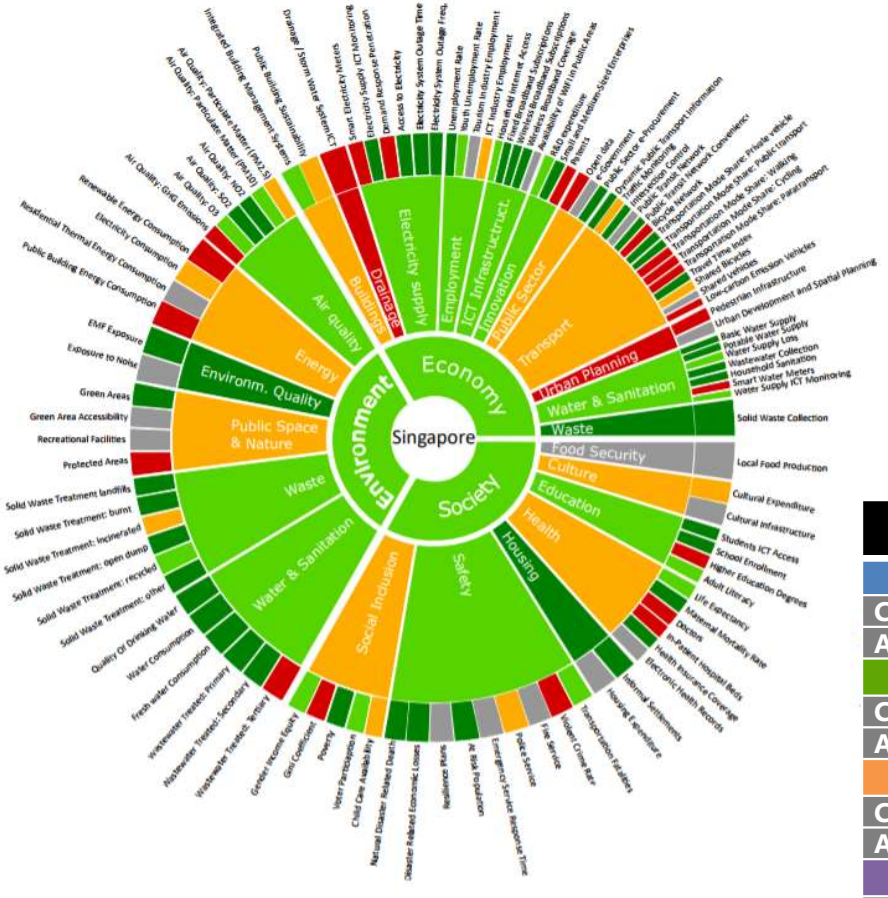
TO

Innovative and collaborative new models that connect these vertical silos



- Internet of things (IoT) and its applications
- Smart cities and communities, including its e-services and smart services
- Internet of things identification

KPIs Project for Smart Sustainable Cities to Reach SDGs



The Case of Singapore

87%

of the KPIs verified

	Total	% KPIs Verified of Total KPIs
Economy		
Core KPIs	23	100%
Advanced KPIs	22	82%
Environment		
Core KPIs	12	100%
Advanced KPIs	5	60%
Society & Culture		
Core KPIs	20	90%
Advanced KPIs	9	56%
Overall		
Core KPIs	55	96%
Advanced KPIs	36	72%
Total	**91**	**87%**

Target(s) has (have) been reached

- completely (+/- 5%)
- by more than two thirds
- between one and two thirds
- by one third or less
- no target found (i.e. no score available)

KPIs Project for Smart Sustainable Cities to Reach SDGs

- To support cities in the implementation and use of the SSC KPIs
- To test and verify the applicability of SSC-KPIs in several cities in the world.
- To develop a global **Smart Sustainable Cities (SSC) Index**.

More than **50 cities** are participating in the project

Dubai

Maldonado

Singapore

Manizales

Valencia

Pully

Wuxi

Guangshan

Foshan

Moscow

Kairouan

Bizerte

and many others...

ITU-T SG20 and U4SSC work on Artificial Intelligence:

ITU-T SG20: IoT and SC&C

- Technical Report on "**Unlocking Internet of Things with Artificial Intelligence: Where we are and where we could be**"
- Draft Recommendation Y.SSC-AISE-arc on **"Reference architecture of artificial intelligence service exposure for smart sustainable cities"**

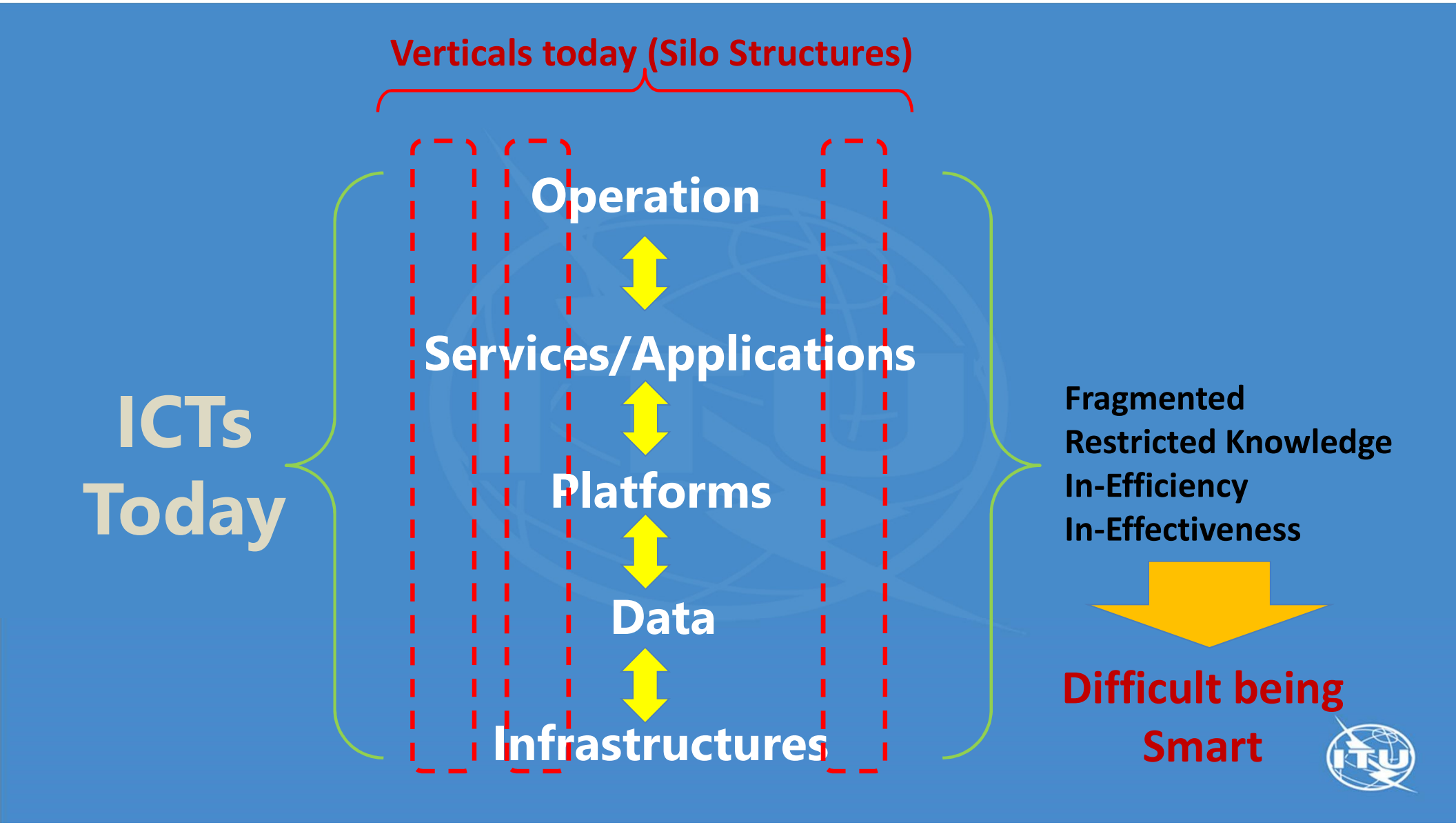
U4SSC

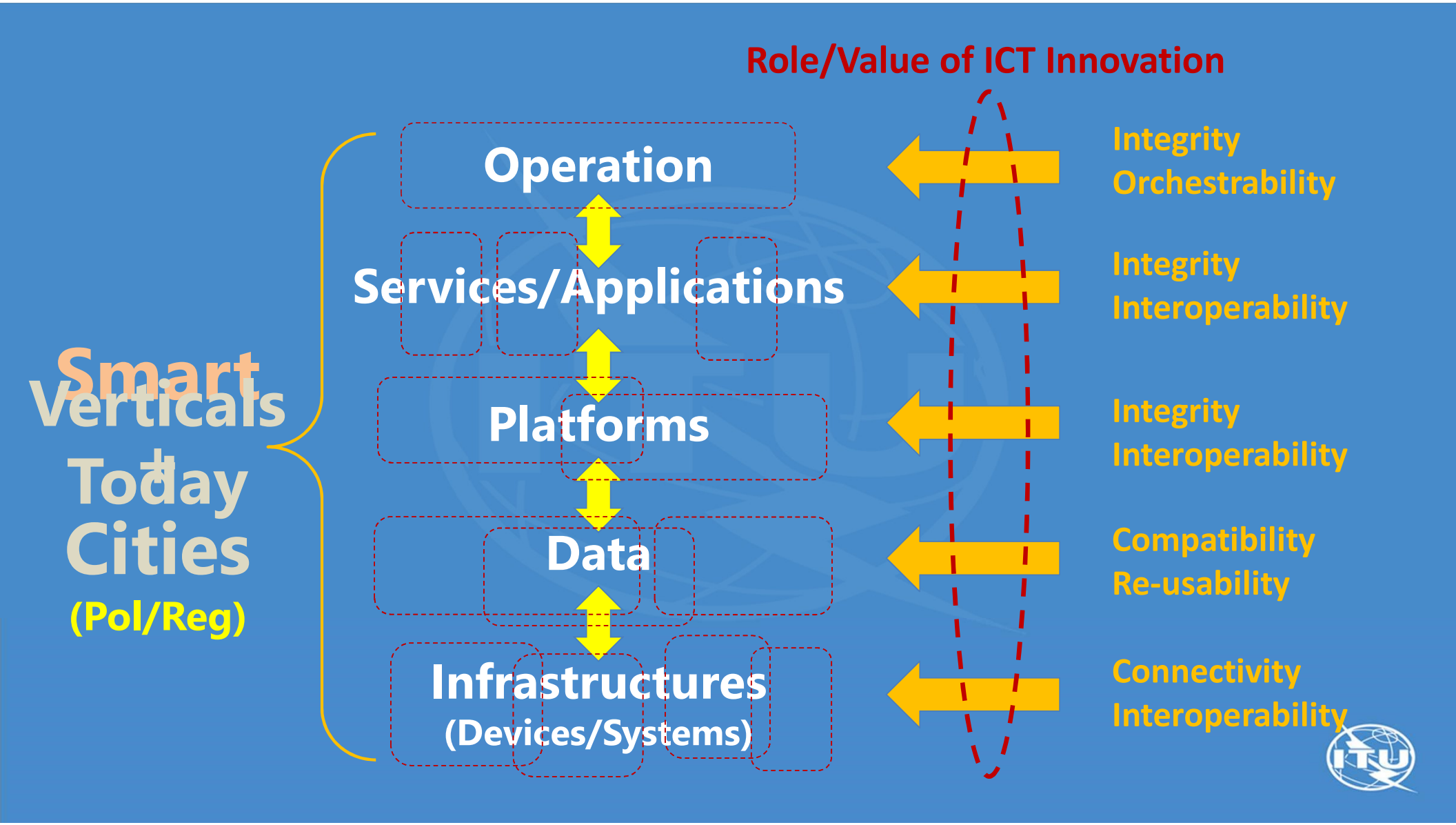
- **Report on "City science application framework"**
  - Includes urban problem techniques based on AI (e.g. machine and deep learning, cognitive computing, etc).
- **Report on "Guiding principles for Artificial Intelligence in Cities"**

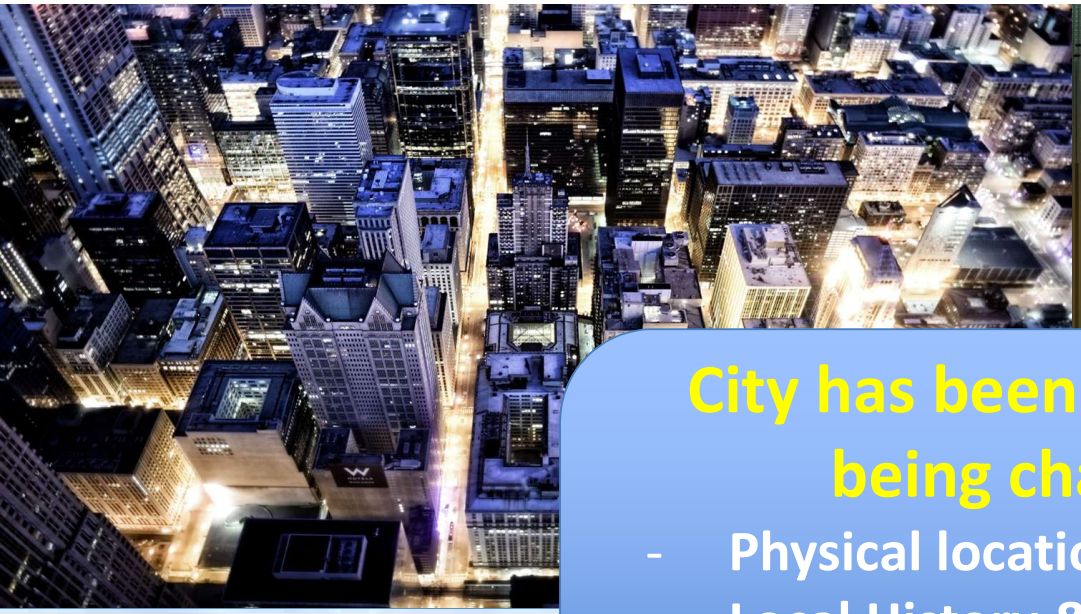
This report will:

- Identify potential uses of AI in Smart Sustainable Cities (SSC)
- Determine regulatory, policy and ethical aspects of AI usage in SSC
- Design a suggested local and global ecosystem for enhancing AI usage in SSC (open and private algorithms, linkage to data availability, partnerships, etc.)

Essential technical elements for being Smart


Verticals today (Silo Structures)
ICTs Today
Operation
Services/Applications
Platforms
Data
Infrastructures
Fragmented
Restricted Knowledge
In-Efficiency
In-Effectiveness
Difficult being Smart


Role/Value of ICT Innovation
Smart Verticals + Today Cities
(Pol/Reg)
Operation
Services/Applications
Platforms
Data
Infrastructures
(Devices/Systems)
Integrity
Orchestrability
Integrity
Interoperability
Integrity
Interoperability
Compatibility
Re-usability
Connectivity
Interoperability



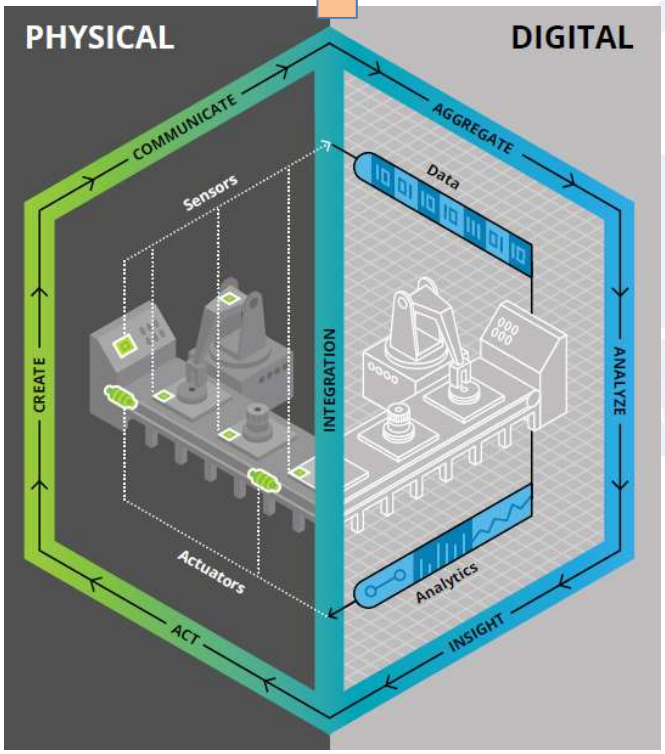

City has been built and is being changed:

- Physical location
- Local History & Culture
- Citizens' behaviors
- Tons of other reasons
- **No cities are the same**


Smart City, Digital Twin and AI

City Priorities

- **Culture, History**
- **Citizens' behaviors**
- **Efficiency & Economics**



Source: Deloitte University Press

Centralized AI

vs

Distributed AI

+

Generalized AI

vs

Tailored AI