SPECTACULAR VIEWS OF THE CITY
A COMPARISON OF SMART CITY MODELS

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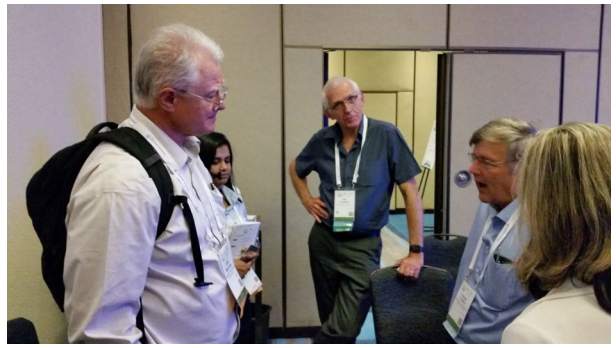
Presentation Outline

- INCOSE Smart Cities Initiative – progress toward current goals
- Models used in Systems Engineering and Project Management
- Current Smart City models
- TUSS model applied to Smart Cities
- Deloitte Smart City model
- Comparison of the TUSS and Deloitte Smart City model viewpoints



INCOSE SMART CITIES INITIATIVE

progress toward current goals

INCOSE Smart Cities Initiative

progress toward current goals

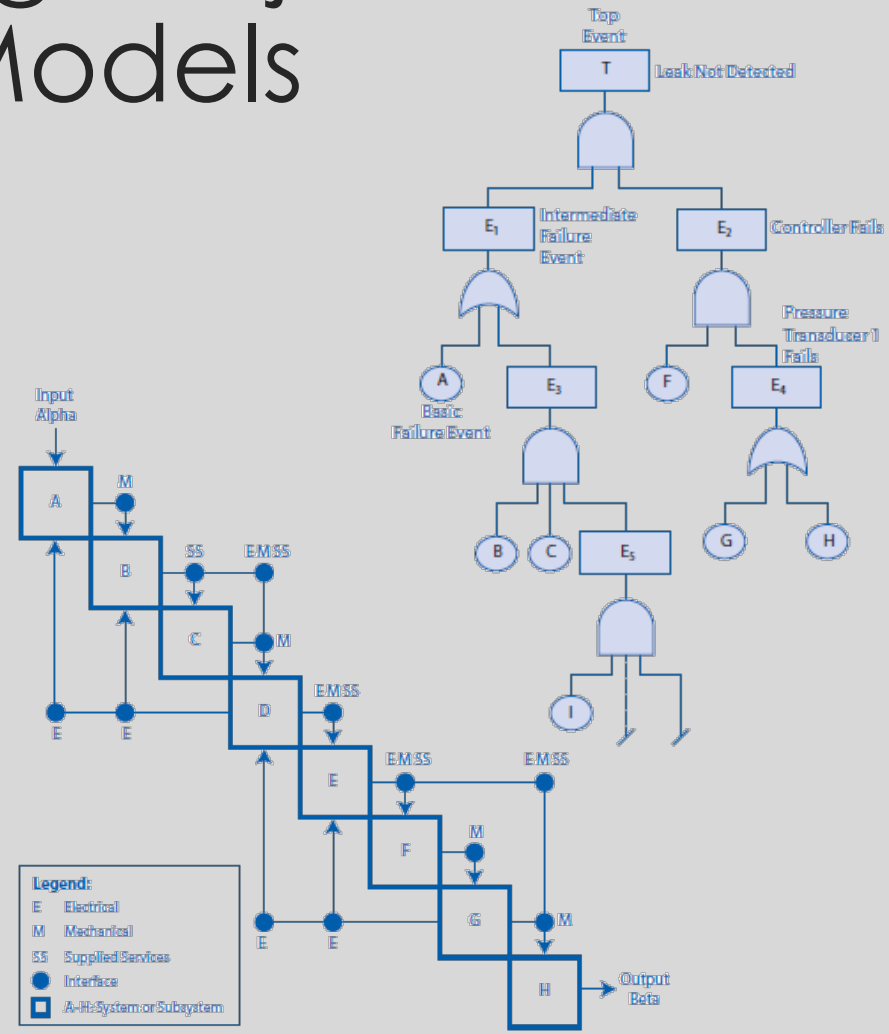
- Definition, Metrics, and Reference Model
- Stakeholder Management Plan
- Case Study of applied model (Ulaanbaatar)
- Viewpoint integration with other Smart Cities models

MODELS USED IN SYSTEMS ENGINEERING AND PROJECT MANAGEMENT

Model: A representation.

Systems Engineering/Project Management Models

- Prototypes
- Vector and matrix methods
- Control and Process Diagrams
- PDCA Diagram
- Flow Chart, Sequence Diagrams
- Bubble Chart
- Gantt Chart/Critical path
- PERT Chart
- Work breakdown structure
- Fault Tree analysis
- Object Oriented Programming Language Structures
- Neural network

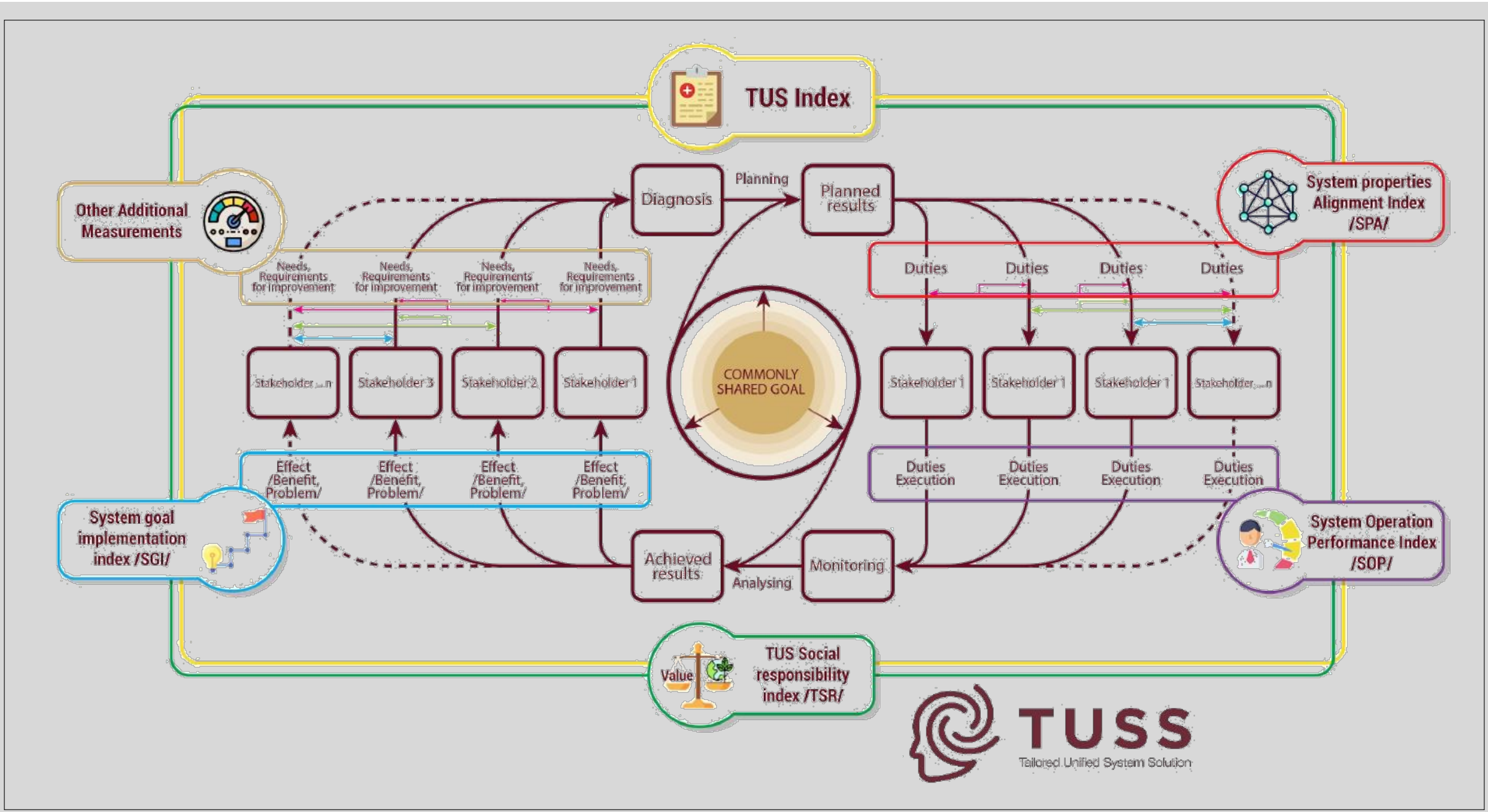


CURRENT SMART CITY MODELS

Current Smart City Models

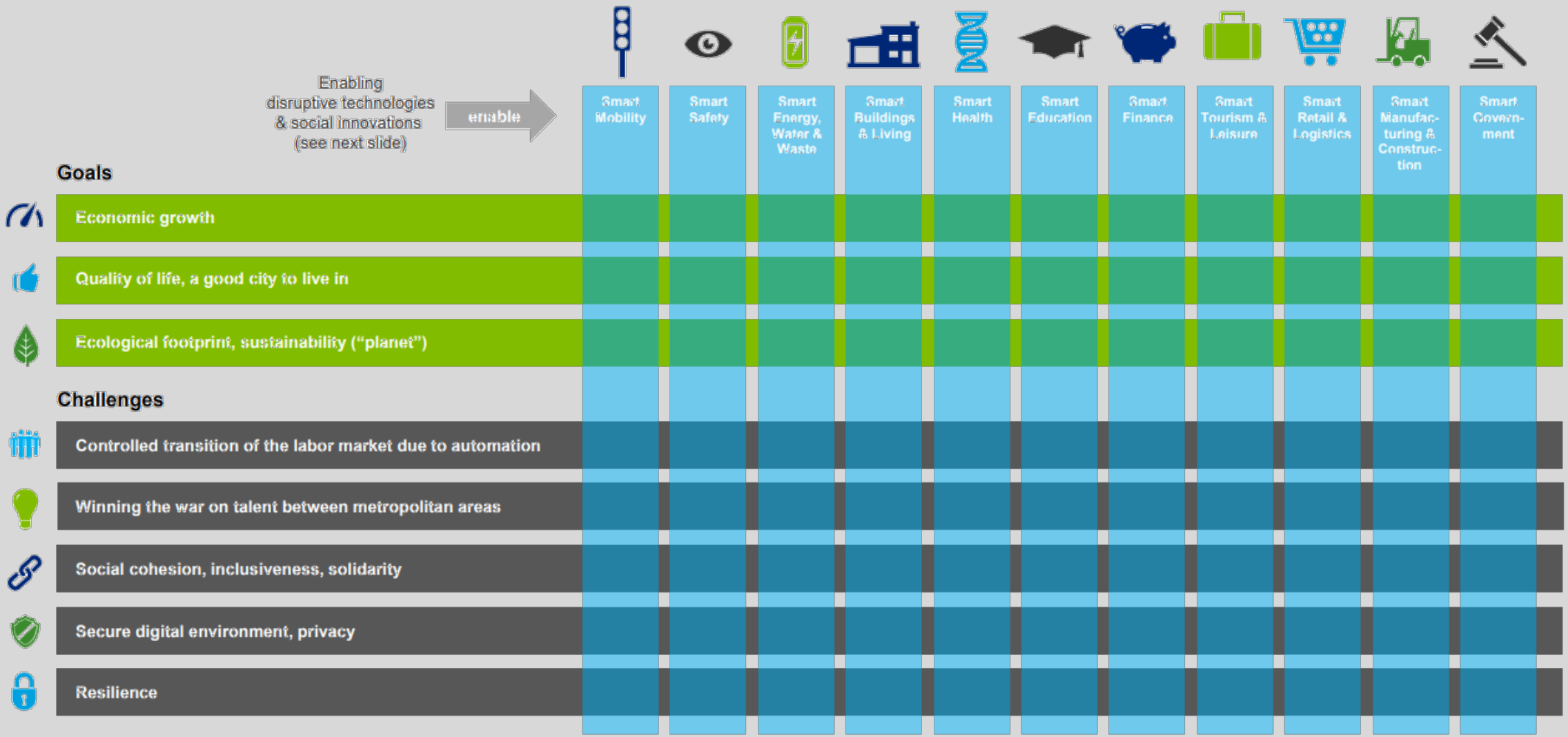
- IBM Research – Watson
  - Smarter City Services, Smarter Cloud
- Tailored Unified System Solutions (TUSS)
  - Smart City Reference Model
- Deloitte Consulting
  - Smart City Capability Framework and Maturity Model
- International Electrotechnical Commission (IEC)
  - Smart Cities Reference Architecture (SCRA)
- Smart Cities Council
  - Smart Cities Readiness Guide
- US Army Engineer Research and Development Center (ERDC)
  - Virtual Testbed for Installation Mission Effectiveness (VTIME)
- U.S. Department of Homeland Security (DHS) Science and Technology Directorate / Open Geospatial Consortium (OGC) Innovation Program
  - Smart City Interoperability Reference Architecture (SCIRA)

TUSS MODEL APPLIED TO SMART CITIES


TUS Index
Other Additional Measurements
Diagnosis
Planning
Planned results
System properties Alignment Index /SPA/
Needs, Requirements for improvement
Needs, Requirements for improvement
Needs, Requirements for improvement
Needs, Requirements for improvement
Duties
Duties
Duties
Duties
COMMONLY SHARED GOAL
Stakeholder ...n
Stakeholder 3
Stakeholder 2
Stakeholder 1
Stakeholder 1
Stakeholder 1
Stakeholder 1
Stakeholder ...n
Effect /Benefit, Problem/
Effect /Benefit, Problem/
Effect /Benefit, Problem/
Effect /Benefit, Problem/
Duties Execution
Duties Execution
Duties Execution
Duties Execution
System goal implementation index /SGI/
Achieved results
Analysing
Monitoring
System Operation Performance Index /SOP/
Value
TUS Social responsibility index /TSR/
TUSS
Tailored Unified System Solution

DELOITTE SMART CITY MODEL

Smart cities emerge as the result of many smart solutions across all sectors of society



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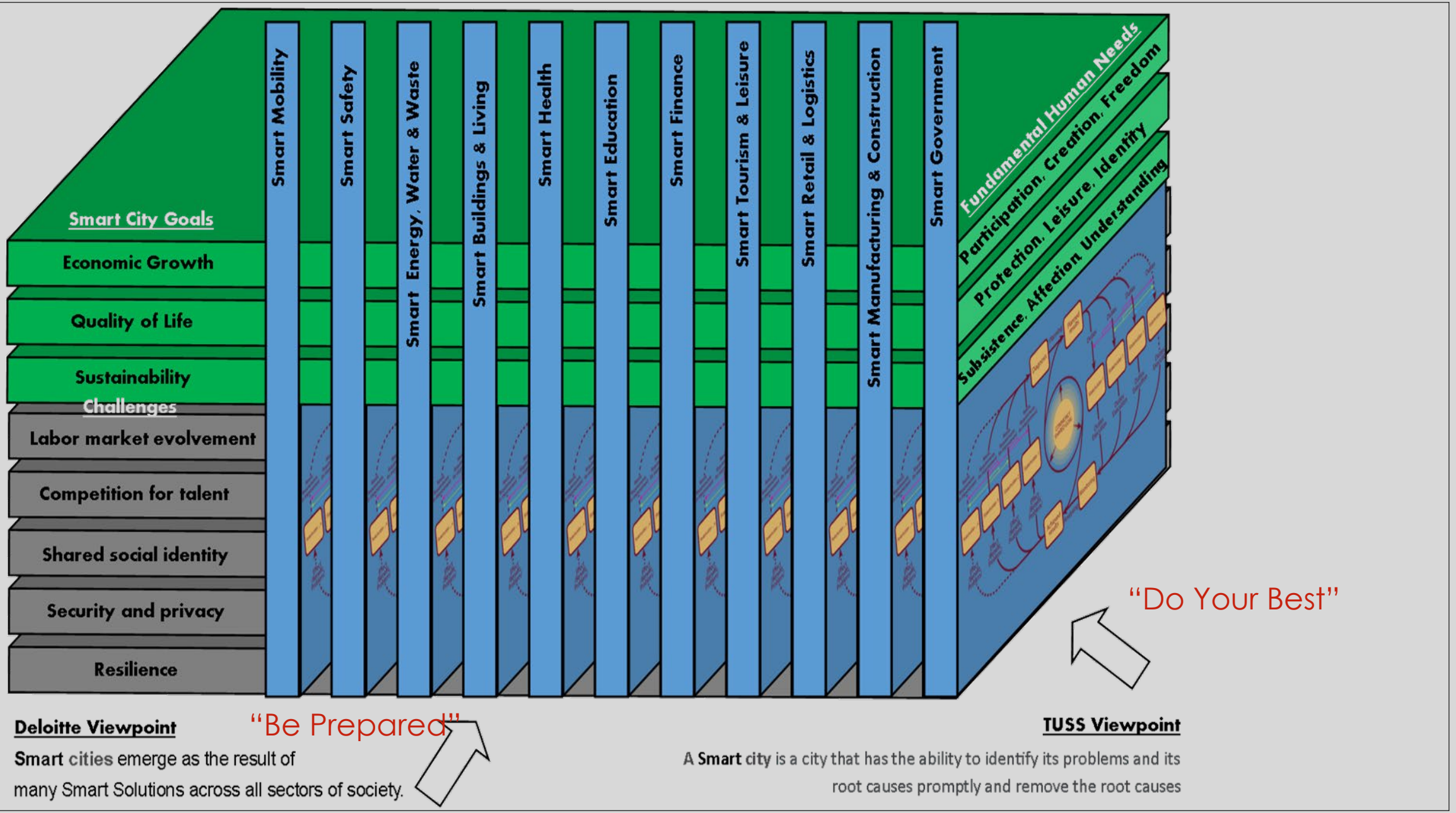
TUSS AND DELOITTE SMART CITY MODEL COMPARISON

Spectacular views of the city.


Smart City Goals
Economic Growth
Quality of Life
Sustainability
Challenges
Labor market evolvement
Competition for talent
Shared social identity
Security and privacy
Resilience
Smart Mobility
Smart Safety
Smart Energy, Water & Waste
Smart Buildings & Living
Smart Health
Smart Education
Smart Finance
Smart Tourism & Leisure
Smart Retail & Logistics
Smart Manufacturing & Construction
Smart Government
Fundamental Human Needs
Participation, Creation, Freedom
Protection, Leisure, Identity
Subsistence, Affection, Understanding
"Be Prepared"
"Do Your Best"
Deloitte Viewpoint
Smart cities emerge as the result of many Smart Solutions across all sectors of society.
TUSS Viewpoint
A Smart city is a city that has the ability to identify its problems and its root causes promptly and remove the root causes

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