Distributed & Tailored AI/ML for Smart Sustainable Cities

Dr Chesub Lee
TSB Director
What does being smart mean?
Essential technical elements for being Smart

Collaborative Knowledge (Op)
Compatibility (Ser/App)
Integrity (Platform)
Interoperability (Data)
Interconnectivity (Infra)
ICTs Today

Verticals today (Silo Structures)

- Infrastructures
- Platforms
- Services/Applications
- Operation
- Data

Fragmented
Restricted Knowledge
In-Efficiency
In-Effectiveness

Difficult being Smart
Role/Value of ICT Innovation

Smart Cities (Pol/Reg)

Infrastructures (Devices/Systems)

Data

Platforms

Services/Applications

Operation

Integrity

Orchestrability

Interoperability

Compatibility

Re-usability

Connectivity

Interoperability
City has been built and has changed:
- Physical location
- Local History & Culture
- Citizens’ behaviors
- Tons of other reasons
- No cities are the same
City Priorities
- Culture, History
- Citizens' behaviors
- Efficiency & Economics

Centralized AI vs Distributed AI

Generalized AI vs Tailored AI
Internet of things (IoT) and its applications

Smart cities and communities, including its e-services and smart services

Internet of things identification

Regional Groups
- SG20RG-LATAM
- SG20RG-ARB
- SG20RG-AFR
- SG20RG-EECAT

JCA-IoT and SC&C

FG-DPM

SDOs collaboration
What is SG20 currently working on:

**Internet of things (IoT)**
- Drones for IoT
- IoT requirements for edge computing
- Artificial Intelligence and IoT
- Smart Manufacturing - Industrial Internet of things
- Blockchain and IoT
- IoT for developing countries
- Intelligent Transport Systems (ITS) based on IoT
- Privacy and trust of IoT systems
- Interoperability

**Smart cities and communities**
- Open Data in Smart Cities
- Use cases, requirements and architectures for Smart cities and communities
- Smart Services in rural communities
- Requirements and functional architecture for Smart parking lot in smart city
- Disaster notification of the population in smart cities and communities
- Smart Tourist destinations
- Smart City Infrastructure

**Data management & processing**
- Data structure and data transfer protocol for automotive emergency response system
- Function description and metadata of Spatio-temporal Information Service for SSC
- Integrity
United 4 Smart Sustainable Cities (U4SSC)

U4SSC is a United Nations Initiative coordinated by ITU and UNECE and supported by other 14 UN agencies to respond to the Sustainable Development Goal 11: "Make cities and human settlements inclusive, safe, resilient and sustainable.

It advocates for public policy to encourage the use of ICTs to facilitate and ease the transition to smart sustainable cities.
U4SSC is currently working on the following deliverables:

- Guidelines on tools and mechanisms to finance SSC projects
- Guidelines on strategies for circular cities
- City science application framework
- Blockchain 4 cities
- Guiding principles for artificial intelligence in cities - New
- The impact of Artificial Intelligence and cognitive computing in Cities - New
- The impact of data processing and computation in cities - New
- The impact of sensing technologies and IoT in cities - New

Join the U4SSC now
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
- Singapore
- Valencia
- Wuxi
- Foshan
- Kairouan
- Moscow
- Manizales
- Pully
- Guangshan
- Bizerte
- and many others...
KPIs Project for Smart Sustainable Cities to Reach SDGs

The Case of Singapore

87% of the KPIs verified

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<thead>
<tr>
<th>Category</th>
<th>Total</th>
<th>% KPIs Verified of Total KPIs</th>
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<tr>
<td>Total</td>
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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)
2nd AI for Good Global Summit:
15~17 May 2018

GOAL OF 2018 AI SUMMIT

- Identify practical applications of AI to accelerate progress towards the UN SDGs
- Identify projects - more than just talk shop
2018 PARTICIPANTS
- +700 attendees
- +60 countries
- 36% women
- 83% Developed countries
- 17% Developing countries

2018 SPEAKERS
- 148 speakers
- +30 countries
- 35% women
AI FOR GOOD
AI + SATELLITE IMAGERY

AI + Satellite projects

✓ Predicting deforestation

✓ Tracking livestock to reduce conflict

✓ Micro insurance for crops
3 AI + Smart city projects

- Tailored smart city
- Give a voice to the voiceless
- Internet of cities
15 AI + Health projects

- Mining health trends in realtime
- AI Digital Identification
- AI for Health Focus Group with WHO
TrustFactory.ai
Open-source the challenge of engineering and earning trust for AI for Good

- Stakeholder communities
- Across boundaries
- AI systems
Thank you

ITU-T, IoT and smart cities & communities

http://itu.int/go/tsg20

tsg20@itu.int