Keynote Speech

IEEE Smart Cities
Helping to Make Smarter Cities a Reality

Saifur Rahman
IEEE PES President
IEEE Smart Cities Workshop
Dhaka, Bangladesh
24 September 2019

Virginia Tech Research Center
Arlington, Virginia, USA

PPT slides will be available at www.saifurrahman.org
www.saifurrahman.org

Use the Presentations tab

www.saifurrahman.org
IEEE at a Glance

Global Reach

423,000+ Members
46 Technical Societies & Councils
190+ Countries
117,000+ Student Members

IEEE at a Glance

Technical Breadth

1,800+ Annual Conferences
4M+ Technical Documents
190+ Top-Cited Periodicals
1,300+ Active Standards
What are Smart Cities

- There is no single consensus definition of a smart city, but there is some agreement that a smart city is one in which information and communication technology (ICT) facilitates improved insight into and control over the various systems that affect the lives of residents.

Smart City

A **smart city** is an urban development **vision** to integrate **information and communication technology** (ICT) and **Internet of things** (IoT) technology in a **secure** fashion to manage a city's assets.

*To be fully “smart,” a city must be “connected.”*

The Connected City

A connected city is one where all relevant city systems—transportation, utilities, employment, health care, public safety, education, and others—are capable of communicating with each other to allow coordination and reduce waste.
Smart/Connected City

- A smart/connected city is a system of interconnected systems including:
  - Employment
  - Health care
  - Retail/entertainment
  - Public services
  - Residences
  - Energy distribution
  - Transportation

- The system of systems is tied together by information and communications technologies (ICT) that transmit and process data about all sorts of activities within the city.

Smart or Resilient City

Smart City deploys electronic data collection

Smart City Characteristics
- Safe
- Secure
- Efficient
- Affordable services
- Small to no carbon footprint

Resilient City also provides quick restoration
Top Ten Resilient Cities

1. Copenhagen, Denmark
2. Curitiba, Brazil
3. Barcelona, Spain
4. Stockholm, Sweden
5. Vancouver, Canada
6. Paris, France
7. San Francisco, USA
8. New York, USA
9. London, UK
10. Tokyo, Japan

Building Blocks of a Smart City
Cities across the world are deploying technology to gather data trying to become cleaner, reduce traffic, and improve urban life. Starting with energy management, to disaster preparedness, to public safety, to parking spot assistance, to paying bills online, to facilitate emergency vehicle movement, and much more.

**Range of Deployments in Smart Cities**

**Connected Transportation**

- Connected vehicles and travelers will be able to share data with all sorts of equipment, and be able to procure mobility as a service, whenever wherever.
Stockholm City Traffic Management

The system allows buses that are more than a minute behind schedule to automatically receive priority at traffic lights.

Elements of a Smart City

A neighborhood in a smart city:
- A smart traffic crossing sensitive to traffic volume
- Synchronized traffic lights for smooth flow
- Emergency vehicle priority access
US Deployment: Smart Lamppost with Camera

Camera can locate empty parking spaces

Smart Trash Cans in Baltimore, USA
Smart Trash Can in Stockholm, Sweden

Regular trash cans need to be emptied 1–3 times per day. Smart ones only need to be emptied four times a week.

Smart City, Japan
Yokohama, Japan Smart City Demonstration

Santander, Spain

Pictures from:
http://www.smartsantander.eu/
Malta Smart City

Source: www.databaseanswers.org

CITIES SET TO BECOME "SMART"
FM ARUN JAITLEY HAD ALLOTTED ₹7,000 CRORE FOR THE PROJECT.

Source: www.indiatoday.in
What is Normal  The New Normal

- Community building
- Conferences
- Content development
- Awareness building
- Outreach to policy makers
With all of the investment and attention being given to smart city development efforts around the world, how do we increase collaboration and coordination?

- Resilient Infrastructures
- Sustainable Agriculture
- Distributed Renewable Energy
- IoT Proliferation
- E-Health
- Smart Water Management
- Cleaner Mobility Technology
- Intelligence & Analytics

Credible Technical Information

smartcities.ieee.org

Conferences  Webinars  Workshops

IEEE Smart Cities Resource Center

IEEE Smart Cities Launches Newsletter

@IEEESmartCities
SHARE YOUR EXPERTISE
Please join one of the following committees

- IEEE Smart Cities Education Committee
- IEEE Smart Cities Marketing Committee
- IEEE Smart Cities Publications Committee
- IEEE Smart Cities R&D Committee
- IEEE Smart Cities Technical Activities Committee

Become a member of IEEE’s team of globally-recognized Smart Cities leaders
For more information, contact smartcities-info@ieee.org

Join the IEEE Smart Cities Technical Community Today!
Visit: smartcities.ieee.org

Get involved. Visit: smartcities.ieee.org

Thank you

Saifur Rahman
www.saifurrahman.org

President
IEEE Power & Energy Society