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Smart city – the concept of future

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Abstract: Success of a country depends on Urbanisation and development of economy. It was prdicted that by 2050, urban population rises to 76% from existing 50%. The level of comfort and quality of life depends on sustainability of economic development, mobility, environment, governance. Smart cities are solution for all these problems which carry out all features. The paper discusses the various layers of smart city , its aspects and government roll in developing smart cities.

Keywords: smart city, sustainability of economy, mobility, environment, incubation groups

INTRODUCTION:

If a country has to successfully build its infrastructure, the only way it can do so is by embracing sustainability and energy efficiency at the core of every single project it pursues. Twenty – first century technologies offer new promise for the future of the cities; more efficient energy resource usage, greater connectivity between people and places. But achieving these great goals need more than just a vision on paper. It should be accompanied by policy framework, major capital investments, and skilled labor that can execute this great vision

Urbanisation and economic development are two sides of the same coin. In 1800 just 2% of the world's population was urbanised. By 1900 this had risen to 13%; in 2000 the figure had reached 47%; and in 2008 it passed 50%. On current trends it is estimated to be 60% in 2030; 70% or even 75% in 2050; and virtually all this growth will take place in developing countries.

This urbanization is achieved through smart cities. **A SMART CITY** has to be built that results in a high quality of life by excelling in multiple key areas; economy, mobility, environment, people and Governance.. Smart cities can change the world for good.

A smart city is basically a developed urban area that creates sustainable economic development and high quality of life by excelling in multiple key areas; economy, mobility, environment, people, living, and government. Excelling in these key areas can be done so through strong human capital, social capital, and/or ICT infrastructure. A smart city basically comprises of sustainable development with high quality of life, with strong economy, environment, governance and people and high living standards.

Key aspects of smart city:

There are five key aspects to smarter approaches, which are strongly information driven:

- **A modern digital infrastructure**, combined with a secure but open access approach to public re-useable data, which enables citizens to access the information they need, when they need it;
- **A recognition that service delivery** is improved by being citizen centric: this involves placing the citizen's needs at the forefront, sharing management information to provide a coherent service, rather than operating in a multiplicity of service silos (for example, sharing changes of address more effectively), and offering internet service delivery where possible (at a fraction of the face to face cost);
- **An intelligent physical infrastructure** ("smart systems or the Internet of Things), to enable service providers to use the full range of data both to manage service delivery on a daily basis and to inform strategic investment in the city/community (for example, gathering and analysing data on whether public transport is adequate to cope with rush hour peaks);
- **An openness to learn** from others and experiment with new approaches and new business models;
- **Transparency of outcomes**/performance, for example, city service dashboards to enable citizens to compare and challenge performance, establishment by establishment,

The design and management of the five main service utilities, with a view to identifying opportunities for in the value

Intelligent transport systems: Traffic monitoring and management,congestion management, road user charging, emergency response, public information systems, smart parking, and integrated traffic light management;

Assisted or Independent Living: telehealth and telecare products and systems, and digital participation services;
Water Management: Water system upgrades, consumption monitoring, wastewater treatment, environmental safety systems, and flood management;
Smart grids or energy net works: Demand management, electronic vehicle support, energy efficiency program, and renewable energy integration; and
Waste management: Waste collection modelling and consistent supply to energy generation

Government's tasks:
a. Encouraging and empowering city authorities to develop the vision and leadership to provide solutions to their own problems;
b. Promoting open data and the capacity of organisations to improve access to open data, to share and to use it, including the development of open standards;
c. Programmes to develop underpinning technologies and to demonstrate their efficacy;
d. Departmental programmes to encourage the adoption of new approaches and technologies, to transform both the service systems and consumer behaviour;

Barriers to Success:

The barriers to change identified are:

The lack of a vision and an innovation culture in city government.

Funding for investment
Procurement rules which inhibit innovation
Data-use legislation

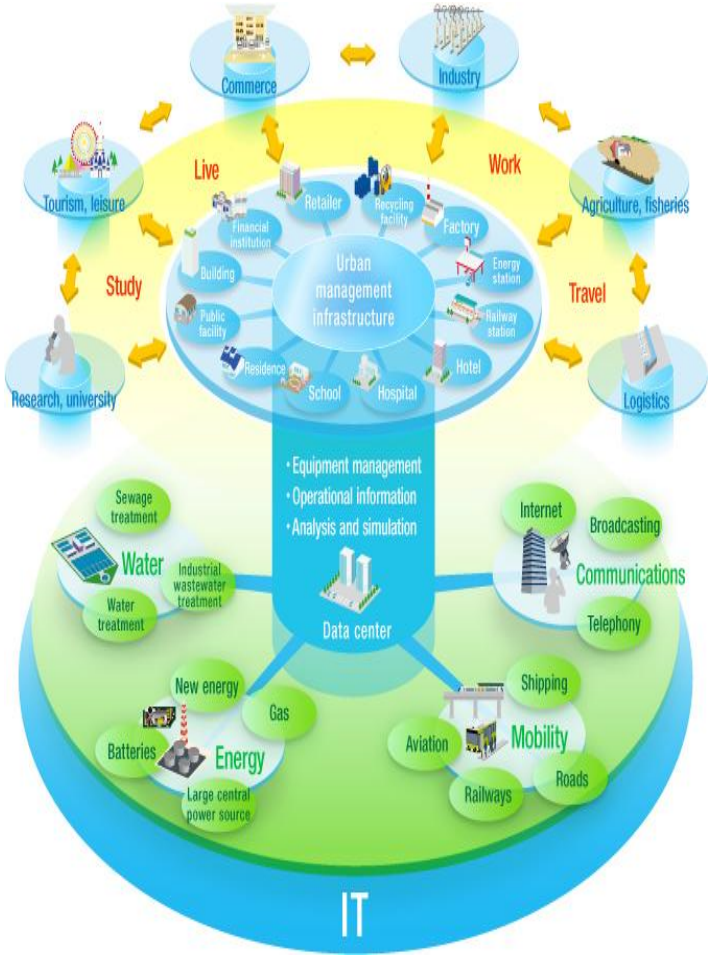

Fig.1 Smart city - the various layers.

The role of incubation groups:
These groups generally hold a sophisticated understanding of the strategic role that technology can play in solving the city's challenges. They are given the freedom to support growth and investment in this area within the city organisation as well as the wider city. Typical roles include:
1.Setting the agenda/ strategy/ vision for 'smart' in the city. Acting as a matchmaker for city stakeholders. To fulfill this remit, these groups need an understanding of strategic dependencies between service providers, the opportunities for innovation and mutual benefit, and then to facilitate connections in order to work across silos.
technologies. This way the council receives products and services at a significant discount, and the vendor is able to obtain high quality feedback, learning and proof of concept. This then enables the product or service to be scaled up (proven value case means that the government would be more willing/able to pay for it), and for the project to act as a reference case for other cities.
3. Providing, as part of the city's regeneration strategy, opportunities for small firms to demonstrate their innovative capacity, simplifying procurement below Rs. 10,00,000 .

4. Inform and engage with all citizens, not only through mobile and social media, but also TV and radio stations, which operate from within the Centre and have access to all the information and film footage. To support social inclusion, including a network of more than 100 locations in the city with access to digital skills training and free online learning resources: health information specialists in low-income clinics to help patients connect to their medical records; and disadvantaged neighborhoods,

The tasks of government:

a.Improving Government support for Smart City leadership Encouraging and empowering city authorities to develop the vision and leadership to provide solutions to their own problems;

b. Strengthening the Knowledge Base and Dissemination: Promoting open data and the capacity of organisations to improve access to open data, to share and to use it, including the development of open standards;

c. Developing a Strategic Approach to Open Standards, Data Management and Data Sharing Programmes to develop underpinning technologies and to demonstrate their efficacy;

d. Departmental programmes to encourage the adoption of new approaches and technologies, to transform both the service systems and consumer behavior;

e.Promoting Access to Public Re-Useable Data Understanding Evolving Supply Chains

Conclusion:

Smart cities are ultimate destination of of urbanization along with sustainable economy and good environment. The smart city concept provides a balance between comfort of living under good environment and urbanization without harming environment. Further improvisation can be done using IT enabled services which may bring smarter cities

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About the author

Dr. NSSR Murthy did his M.Tech, Hyderabad with specialization in Remote sensing & GIS. He did his Ph.D in Remote sensing with specialization in image processing .He is having 22 years of experience in Teaching for M.Tech and B.Tech courses. and 10 years of experience in Research.. He also guided many Projects in UG and P.G level. He was approved supervisor for many universities has guided 3 Ph.D students for Ph.D.. He organized and published many Research Papers in various National & International Conferences and Journals.