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SMART CITY: A NEW DEVELOPMENT TO INDIA

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ABSTRACT

Smart cities optimize the use of technology in the design and operation of infrastructure and buildings in a way which meets the current and future needs of their citizens. To be truly 'smart' they also require consideration of governance and growth, urban development and infrastructure, the environment and natural resources, society and community. Physical digital integration of infrastructure will be of utmost importance for the success and survival of the next generation of cities. From mandating the construction of energy efficient buildings to create intelligent networks, cities are seeking to become "smarter".

KEYWORDS: IoT, Artificial Intelligence, ICT

INTRODUCTION

A city outfitted with high-tech communication capabilities. A smart city uses digital technologies or Information and Communication Technologies (ICT) to enhance quality and performance of urban services to reduce costs and resource consumption and to engage more efficiently and actively with its citizens. A city equipped with basic infrastructure to give a decent quality of life, a clean and sustainable environment through application of some smart solutions. These smart city suppliers are rated on 10 criteria: vision, go-to market strategy, partners, product strategy, geographic reach, market share, sales and marketing, product performance and features, product integration, and staying power. Sectors that have been developing smart city technology include government services, transport and traffic management, health care, water and waste. Assured water and electricity supply, sanitation and solid waste management, efficient urban mobility and public transport, robust IT connectivity, e-governance and citizen participation, safety and security of citizens. Smart city applications are developed with the goal of improving the management of urban flows and allowing for real time responses to challenges. A smart city may therefore, be more prepared to respond to challenges than one with a simple transactional relationship with its citizens. Smart Cities Council India is part of the US- based Smart Cities Council, which is a consortium of smart city practitioners and experts, with a 100-plus member and advisor organizations operating in over 140 countries.

MISSION

All states will get at least one smart city. A Special Purpose Vehicle will be created for each city to implement Smart City action plan. The SPV will be signed with the urban local body, state government and the Centre for implementation of the project. The next step is identification of the 100 cities and for this a "City Challenge Competition" to be conducted by Bloomberg Philanthropies is envisaged and the chosen ones will get Central fund of Rs 100 crore each year for 5 years. The current plan looks to select 20 cities this year followed by 40 each in the next two years. Smart cities will create a network of North Sea e-Government leaders with ambitious transformational e-Government Strategies aiming to deliver innovative and excellent public services with documented improved quality of life and enhanced competitiveness. This mission aims to promote smart solutions for efficient use of available assets, resources and infrastructure for: enhanced urban living, clean and sustainable environment. The area based approach comprising of: retrofitting, redevelopment, pan city initiatives and development of new cities. The main focus is on: adequate clean water supply, sanitation and solid waste management, effective urban mobility and public transportation, reasonably priced housing for poor persons, uninterrupted power supply, strong IT connectivity, e-Governance and citizen participation, safety, security, health and education and sustainable urban environment. Telecommunication networks are going to be used for a large volume of machine-to-machine data transmission. Sensors and actuators will be an essential component in the digital cities of the future.

CHARACTERISTICS

The general appearance of the city has to be pleasing and clean. It would make our tourist sector more attractive and it will lead to earn more money. It makes more efficient use of physical infrastructure (roads, built environment and other physical assets) through artificial intelligence and data analytics to support a strong and healthy, economic, social and cultural development. Engage effectively with local people in local governance



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and decision by use of open innovation processes and e-participation, improving the collective intelligence of the city's institutions through E-governance, with emphasis placed on citizen participation and co-design. Learn, adapt and innovate and thereby respond more effectively and promptly to changing circumstances by improving the intelligence of the city.

GOVERNMENT ACTIONS

Prime Minister Narendra Modi announced that 100 cities will compete for government funding through the India Smart Cities Challenge, a competition designed to inspire and support municipal officials as they develop smart proposals to improve residents' lives. With the country aspiring for a manufacturing-led rebound in GDP growth, experts feel that making cities smart, with adequate infra support, could be the game changer and if implemented well, the project is likely to attract private sector investments.

CHALLENGES

A major challenge to smart city project is the broadband availability. India ranks 122 in the world for broadband penetration and its average internet speed are 1.5 mbps, the lowest among Asia Pacific region. The constraints and integration of legacy data are major challenges in ICT implementation. The other major hurdles are lack of technical knowledge, while some cities say coordination among various departments and delay in administrative approach would be a challenge. Low IT outlays, lack of customization, limited IT personnel as well as lack of administrative and political will would be the other challenges

IOT (INTERNET OF THINGS)

The IoT is a giant network of connected "things" (which also includes people). The relationship between people-people, people-things and things-things. The new rule for the future is "anything that can be connected, will be connected." IoT is the network of physical objects or things embedded with electronics, software, sensors and connectivity to enable objects to collect and exchange data.

Let's take an example: You are on your way to a meeting, your car could have access to your calendar and already know the best route to take. If the traffic is heavy your car might send a text to the other party notifying them that you will be late. What if your alarm clock wakes up you at 6 am and then notifies your coffee maker to start brewing coffee for you?

It allows for virtually endless opportunities and connections to take place, many of which we can't even think of or fully understand the impact of today. It allows objects to be sensed and controlled remotely across existing network infrastructure, creating opportunities for more direct integration between the physical world and computer-based systems and resulting in improved efficiency, accuracy and economic benefit. Each thing is uniquely identifiable through its embedded computing system but is able to interoperate within the existing Internet infrastructure. Experts estimate that the IoT will consist of almost 50 billion objects by 2020.

Things in IoT can refer to a wide variety of devices such as heart monitoring implants, bio chip transponders on farm animals, electric clams in coastal water, automobiles with built-in sensors or field operation devices that assist fire-fighters in search and rescue. These devices collect useful data with the help of various existing technologies and then autonomously flow the data between other devices. Current market examples include smart thermostat systems and washer/dryers that use Wi-Fi for remote monitoring.

ARTIFICIAL INTELLIGENCE

It is the intelligence exhibited by machines or software. It is the science and engineering of making intelligent machines. It is also the name of the academic field of study which studies how to create computers and computer software that are capable of intelligent behavior. It is the study and design of intelligent agents in which an intelligent agent is a system that perceives its environment and takes actions that maximize its chances of success. The goal of AI research includes reasoning, knowledge, planning, learning, natural language processing, perception and the ability to move and manipulate objects.

ICT

ICT is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. The term ICT is also used to refer to the convergence of audio-visual and telephone networks with computer networks through a single cabling or link system. The concepts, methods and applications involved in ICT are constantly evolving on an almost daily basis



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CONCLUSION

The delivery of smart cities is complex and not limited solely to technology, it should include integrated urban design principles which respond to the local context, as well as being supported by a considered business case, it requires collaboration between international and local consultants who are committed to pushing the boundaries of best practice. The establishment of a smart city will go a long way for the creation of sustainable and livable society and contribute to the prosperity and betterment of citizens. This research suggests that what hindered the success of digital cities was that most of the projects under this initiatives were mainly concerned about the physical capital, i.e., either the ICT or on the city's endowment of hard infrastructure.

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REFERENCE

- www.designingbuilding.co.uk
- www.whatisitwellington.com
- <https://en.m.wikipedia.org>
- www.smartcities.info/aim
- www.iamwire.com
- www.researchgate.net
- www.smartcitieschallenge.in
- www.searchcio.techtarget.com