

URBANA

A Smart City's → Smart Magazine



Year



Anniversary

Interview With Pradeep Misra

CMD-REPL / Urban
Planner of Bhopal
Smart City



UW: Smart cities are emerging fast and they introduce new practices and services which highly impact policy making and planning, while they co-exist with urban facilities. How do you see the contribution of urban Planning smart City frame work?

PM: Making any city smart is a continuous process. Since decades cities are growing, some organically on its own pattern and some through various planning interventions. Now making a city smart in planning framework with technological interventions aims at making it sustainable, more livable, socially inclusive, and efficient in all respect, hence the term "SMART CITY".

UW: Retrofitting the heritage core of the Bhopal city poses many hurdles and also difficult to set up a fire station in Old City. How do you see the solutions? I think Bhopal case is a redevelopment, please confirm it from the sources?

PM: Retrofitting in an old city has always been a challenge, due to its limited scope of development in the existing settlement, having no space for improvement as per norms, very limited scope for new projects/facilities to develop, etc. Same applies in the case of Bhopal old city, having very limited space available even for a fire station. Solution may lie in the approach of strict imposition of firefighting norms at building level, and converting one of the government buildings with fully equipped

UW : Please share your visualization on vehicle free area in the Bhopal Smart City ?



PM: In Shivaji Nagar - Bhopal (ABD area), it was tried to keep maximum area free of regular traffic by providing loop road around the ABD area. Underground spine road and land use distribution (Mixed use development) was kept in such a way that every facilities are at walkable distance (within 500m), with strategic location of parking facilities.

firefighting facilities for surrounding areas.

In Bhopal, redevelopment of Shivaji Nagar was chosen as Area Based Development (ABD) in Smart City Challenge.

UW: It is now needed to understand the smart city's contribution in the overall urban planning and vice versa to recognize urban planning offerings to a smart city context. How urban planning highlights and measures smart city and urban planning interrelation and identifies the meeting points among them.

PM: Any development, if planned in a proper way through various interventions, makes the development efficient, effective, and sustainable leading to Smart development. So, it is mainly the proper urban planning which gives platform to other

smart features to sync, in order to make the city smart.

UW: How do you see the complex issue of traffic management in Bhopal smart City with reference to LRT & BRT?

PM: LRT and BRT, as they facilitate mass public movement at one go, reduce the load of private vehicles on the road. Particularly, LRT caters more population in shorter period so it has a significant impact on traffic and transportation issues in the city. This mass rapid transport system has high impact on landuse at their nodes, resulting in mixed used, dense and compact development, called Transit Oriented Development (TOD). The TOD concept increases walkability, encourages more use of public transport and reduces pressure on road which results in less traffic congestion.

UW: Bhopal Smart City will have some diverse hubs like digital innovation hub. Please share your thoughts. What is the rationale behind this plan?

PM: OBhopal city's area based development has been divided into various hubs based on specialized and high-end activity of particular type in respective hub. All hubs are self-sustained and have all facilities, but dominance of specialized activities of its own type.

The Digital Innovation Zone (DIZ) aims to promote Digital Media, IT and entertainment industries — as well as companies whose core business requires the use of information, communication, and media technologies — to grow and prosper in the global business environment.

The DIZ serves the nation's larger goals of strengthening innovation economy and promoting Bhopal as an alternative hub for commerce, being Central to whole of India.

DIZ will be the home of Digital Media R&D firms; firms that create cultural material; R&D Centres for software development, Information Technology, Nanotechnology, Bio-Technology, Animation, Online Games & Content Generators for Online Education, and technology-oriented office spaces.

DIZ will host entertainment and retail establishments, technology companies, prestige housing, R&D institutions. It will feature Digital Street which will provide an opportunity to develop and test new technologies, and to refine them in a living laboratory environment. The street will mix entertainment and retail usages with technology companies, incorporating the most advanced and interesting digital urban devices. A permeable realm that blurs the transitional edge between public and private space will be created by juxtaposing digital information with physical places. This will naturally have its own positive impact on employment opportunities at various levels.

UW: How Bhopal Smart City will tackle the water management for the city? Is there any arrangement of Rain Water Harvesting system?

PM: Water is a precious natural resource. Therefore, water demand of the city is planned to be catered by fresh as well as recycled water. About one third of domestic water demand (for flushing), total water requirement for horticulture, cooling water demand for HVAC (Heating, Ventilating & Air Conditioning) in commercial & institutional area has been planned by treated wastewater recycling.

Yes, rain water harvesting has been proposed for rainwater collected from roof top of all the buildings. Collected rain water will then be carried to rain water recharging pit for recharge of ground water aquifer.

UW: How Bhopal Smart City is equipped with Solid Waste Management?

PM: All household will have twin dustbins. One for organic and other for inorganic waste. All multistoried residential and commercial buildings will be equipped with chute system for collection of waste, and it will then be transported to iBins (with sensors) placed at various locations. There will be separate chute and iBins for organic & inorganic waste. These iBins will be connected by server and a signal will be received after a prefixed level of waste is accumulated. All the iBins will be underground. The driver of waste collection truck will receive signals from all the iBins and may decide the appropriate route for collection. Organic waste will then be transported to composting plant within smart city, and inorganic waste outside at municipal dumping ground.

UW: Please share how the Sewerage System of Bhopal Smart City works.

PM: Sewage collection network will transport all sewage of smart city to a centralized sewage treatment plant. As we have planned to reuse treated wastewater for flushing, horticulture, and cooling water, MBR technology followed by tertiary treatment has been proposed to give good quality of treated wastewater. Treated wastewater will then be pumped into separate water pipeline network to feed all green belts and buildings.

UW: What is the provision for disaster management in Bhopal Smart City?

PM: Provision of earthquake resistant structures, proper provision of drainage to

UW: Is there any innovative solution like Storm Water Management added in the water management system of Bhopal Smart City?

PM: Sustainable urban drainage system has been conceptualized. Perforated pipe drains surrounded by gravels have been proposed in area without basement. This will allow natural percolation of rain water and only surplus water will be disposed. Pervious construction materials will be used for paving.

come out with flooding, efficient fire fighting system with alarms, sensors & alarm system for any type of emergency, makes the city disaster resistant.

UW: What will be the challenges in converting the Plan into reality?

PM: Active and time bounded participation of various private players, cooperation & initiative from government organization, changes in some norms, etc may affect the plan in to action.

UW: What will be the role of ICT? How do you propose to create a robust system which is not very difficult to implement and is equally effective at the same time?

PM: ICT plays major role in this project, as the whole concept revolves around making the city safe, effective, and efficient, which can be achieved only through effective technologic intervention. Through central command system and sensors system the objective can be achieved.

UW: There is a famous thing about India that we are expert of giving high class products/services/facilities but we don't have a maintenance budget for anything? How do you propose to ensure the provision of maintenance?

PM: Through effective alarming and sensors system and sufficient provision of recovery from various services operation & maintenance is ensured. There will be provisions for the financial outlay for maintenance. Also the PPP will ensure that the maintenance is taken care in sustainable manner.



REPL TO FORM JV WITH CHINESE FIRM FOR SMART CITY PROJECTS



Realty and infrastructure consultant REPL will form a joint venture with China based- Beijing Jian Investment & Development (Group) Company to work in the areas like urban planning and smart city projects. Rudrabhishek Enterprises Pvt Ltd (REPL) and Beijing Jian Investment & Development (Group) Company have signed an MoU to set up a Joint Venture company in India for working together in the area of urban planning with the help of Building Information Modeling (BIM) tools and Big data services.

They would also work for application of BIM technology in implementation of Smart City projects, REPL said in a statement.

They will also explore potential investment opportunities in Real Estate & Infrastructure sectors in India. REPL has recently collaborated with Bhopal Municipals Corporation (BMC) to develop a Smart City Plan for Bhopal in consortium with PWC. *Pradeep Misra, CMD of REPL, said: "This association assumes greater importance in the context that the REPL's Smart City plan for Bhopal has recently been selected among top 20 in India".* The Chinese firm has the advanced competencies in providing services for smart cities, he added.

Building Information Modeling (BIM) is an intelligent 3D model-based process that equips architecture, engineering, and construction to more efficiently plan, design, construct, and manage buildings & infrastructure. Through BIM, the construction is virtually built and documented completely in the system, before it takes shape on ground. This gives higher efficiency in terms of time and cost saving. Application of BIM platform is still at nascent stage in India.

Source: PTI

PHILIPS AND VODAFONE JOIN FORCES FOR CONNECTED LIGHTING AND SMART CITY SERVICES

Philips Lighting, a Royal Philips company and the global leader in lighting, announced today a new agreement for Vodafone to become a global Internet of Things (IoT) managed connectivity partner. Under the agreement, the two companies will enable city authorities

worldwide to implement connected street lighting systems which will be connected wirelessly, saving energy and making maintenance easier and more efficient.

The Philips CityTouch street lighting management system will use Vodafone's world-leading machine-to-machine (M2M) network to connect individual light points. Every connected street lamp will contain a Vodafone M2M SIM. City authorities can then monitor and manage lighting through the user-friendly and highly flexible Philips CityTouch system while engineers will be able to check performance, identify faults and control the lighting remotely.

The joint offering allows city authorities to create an infrastructure that is easily scalable, and will be able to support other smart city applications in future.

Vodafone M2M Director, Erik Brenneis, said: "Lighting plays a key role in the smart city. Our agreement with Philips will see this technology transforming cities across the world backed by Vodafone's world-leading innovation, technologies and networks."

“Just less than 12% of the world's street lights are LED and less than 2% are connected. We are at the start of a new era which will see highly energy efficient connected street lighting become the backbone of most smart cities. Robust, reliable wireless connectivity will help make this happen, linking streetlights with sensors, devices and management systems. By partnering with Vodafone we can work together to take light beyond illumination, helping to make cities more energy efficient, more livable and giving people an increased sense of safety.”

- Bill Bien,
SVP, Head of Strategy and Marketing,
at Philips Lighting

SMART CITIES MARKET TO DOUBLE TO \$1.4 TRILLION BY 2020

According to a recently published report by Grand View Research, the global smart cities market will hit \$1.4 trillion in 2020, nearly triple the global market size of \$568 billion back in 2013. The main factors leading to this increase are the rapidly expanding population, speedy urbanization and industrialization. Smart cities are designed and

built to cater to a plethora of challenges and issues – including water management, energy management, urban mobility, street lighting and safety of the citizens. Rapid growth is expected to occur in the smart city market, with an estimated annualized 13.6 % rise each year between 2014 and 2020.

One significant reason smart cities

initiatives are being considered is to reduce the dependency on non-renewable resources for energy, as stated by the Globe Newswire. The most current technologies garnering headlines today are critical in the development of smart cities, including cloud computing, wireless communication, sensor networks and data analytics.