



DHOLERA: BUILDING GREENFIELD SMART CITIES

Alkesh Kumar Sharma, CEO & MD, Delhi Mumbai Industrial Corridor (DMIC) and Jagdish Salgaonkar, Senior Vice President, Major Programs, AECOM, told delegates about how you approach the mammoth task of building a smart city from the ground up.

India is one of the world's fastest growing economies and urbanization is increasing rapidly. Some 600 million people will live in Indian cities by 2030, which need to be rethought to become smarter to cope with this rise in urban population and its accompanying issues.

There are two types of city in India's smart city initiative: Greenfield cities (developed from the ground up), which fall under the Ministry of Commerce & Industries and where the Delhi Mumbai Industrial Corridor Development Corporation (DMICDC) plays a key role for; and brownfield cities (revamping existing cities), which are part of the overall Ministry of Urban Development initiative. Dholera is one of the greenfield cities along the DMICDC.

SMART CITY COMPONENTS

The team has identified key smart city components and goals:



The greenfield cities are aimed at enhancing industrialization and manufacturing and creating jobs. Dholera has been selected as a greenfield site for a number of reasons, such as its large areas of government land and strong transport links.

Where to start

How do you start with such a huge initiative? Salgaonkar gave some insight into plans and learnings so far. Dholera has started with an 'activation area' of around 22 km².

The first phase is building all the trunk infrastructure. This will cost about \$1 billion, which has come from seed capital from the government. However, after that the project will be self-sustaining. About 50 percent of the land in the activation area is dedicated to industry, sitting alongside residential, commercial and mixed-use developments and green spaces.

Benchmarking

Salgaonkar told the audience that in planning the city, the Dholera team has looked at best practice from around the world. For example, they looked at the performance of the best cities in the world in each infrastructure discipline — such as water, waste-water and power etc. They took the key parameters and benchmarked Dholera against them, designing Dholera to match or improve on what they have achieved.

BUILDING DHOLERA

When complete:

Dholera will be **920 km²**The developable area is **422 km²**Will have a population of **2 million people**Over **827,00 jobs**

Salgaonkar says, “That’s how we can call ourselves a world-class’ city”.

Building a sustainable foundation

A common theme across all infrastructure planned for Dholera is that it is sustainable: Everything will be designed to be recyclable and renewable energy will be used throughout. Salgaonkar said they are aiming for a “future-proof” city, as far as that is possible, for the next 30 to 50 years. Everything that needs to be embedded underground – such as fiber, water infrastructure, storm drains etc. – is already planned and in place.

Further, everything has been planned in a modular fashion so it can be extended as the development moves beyond the activation zone.

Business-ready

Initially the City of Dholera is interested in attracting businesses such as aviation and manufacturing firms – they will bring employees, and their families.

At the plot level, each business will get all the utilities that they need to operate – water, sewerage, gas, ICT, right there on the doorstep. They can come in, put up their factory and start business, Salgaonkar says.

Master planning

As well as a physical master plan Dholera also has a digital master plan. The team looked at the future of technology for the next 30 years and envisioned the number and types of devices that people will probably be using by then, when the fiber is embedded into the road system. However, the business model for the management of that fiber is still work in progress.

ACTIVATION AREA GOALS

Population: **96,000**Jobs: **76,000**

There will be over 10,000 sensors across the city, related to pollution, leak detection, traffic management, smart grid, automation and more. There will also be a City Integrated Operations Center – city data will be combined with analytics and used for smart decision-making, through a city portal for citizens and a dashboard for city managers.

City governance

India is looking at a new way of managing cities – rather than being politically led, they are run through special purpose vehicles (SPVs). These are run by a managing director who reports to a board of directors against a set of key performance indicators. This idea is to make it easier to do business and have accountability for smart city initiatives. Salgaonkar called this a “major step forward”.

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Community

Dholera is also focused on community: “It won’t just be a manufacturing city, but also a community that people are joining,” Salgaonkar said.

Planners have created the concept of REAPE, as in:

- Recreation
- Education
- Awareness
- Public art
- Economic growth

Salgaonkar explained, “We have addressed each of these components so people can have a good life.”

Open spaces was one of the things they benchmarked. So, within 400 meters of every residence there will be neighborhood park, and within 800 meters there will be a community park. There are also larger city parks.

The planners have mapped out key pieces of social infrastructure such as pharmacies, kindergartens, hospitals and even hawker [street seller] zones, so that citizens and businesses will know for certain how close these facilities will be.

Planning and designing is complete. Dholera is now in the construction phase. In 2018 it will be ready for business, Salgaonkar told delegates.