



Global Summit on
**Smart, Secure &
Sustainable Cities**
OPPORTUNITIES AND CHALLENGES IN INDIA

17th - 20th July, 2016
Harte & Garter, Windsor,
Royal Berkshire, UK

Smart Buildings for Smart Cities - a way forward

The continuous debate and deliberations on the need for smart cities have established by now that there is no straight jacket formula for the creation of one. The local context within which these cities will be “smartened” or rather formulated will depend upon that very context it will be embedded upon. However, what assumes a ‘pan’ ideological character are the larger aspirations that these cities need to fulfil, one of the core being that of the sustainability and environmental friendliness of its infrastructure.

Due to the rapid disintegration of environmental stability, there is added pressure upon policy makers to ensure that any new kind of planning takes into account ensuring environmental sustainability. Pressures on the environment have in turn created three kinds of broad pressures on human lives according to the International Electro Technical Commission. Firstly, by being a resource limitation such as scarcity of water, fuel etc. The second pressure which is mostly relegated to the background, especially in the developing world, is the impact of environmental degradation (air pollution, increased CO₂ emission etc.) on human health and quality of life; and thirdly the pressure to resolve the effects of environmental shocks (earthquakes, flash floods etc.), caused by climate change. A combined mitigation of the three aforesaid pressures can be largely done through putting green structures in place within smart cities that would ensure resource efficiency, conservation, transition from waste to energy and a lowered carbon footprint. It is within this context that green buildings become a central component whilst constructing smart cities.

According to the Intergovernmental Panel on Climate Change, 38% of all human greenhouse gas emissions are from buildings. This is because a lot of energy goes into the operation of a functional building such as lighting, air conditioning, heating etc. As the energy required comes mainly from fossil fuels this naturally leads to a heightened carbon footprint.

Countries like India have developed comprehensive plans to transform many of their cities to smart cities, it is imperative that existing or proposed new buildings in the upcoming smart cities be green. A green building is one which consumes much less energy than a traditional one through the use of smart energy saving solutions. These solutions are throughout the building's life-cycle: from siting to design, construction, operation, maintenance, renovation, and demolition and include use of natural lighting, energy efficient appliances as well as waste



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efficient fittings and waste water management. The innovative techniques to ensure this transition are still under exploration and as of now seem very expansive.

The potential savings are significant. The Guardian newspaper estimates the smart growth “with expanded public transit, energy-saving buildings, and better waste management - could save as much as \$22tn and avoid the equivalent in carbon pollution of India’s entire annual output of greenhouse gasses”. In case of India, the investment opportunities for green technologies within and outside the prism of smart cities are tremendous since corporates are increasingly taking to green buildings due to the rise in cost of power. A recent report released by the United States Green Building Council stated that there a total of 1928 Leadership in Energy and Environmental Design rated green buildings in India which is the highest in number outside of North America. If such buildings become the edifice of the building infrastructure in the smart cities in India, many targets will be met with a single solution.

Despite various evident benefits, why does a major reticence towards such approaches like green buildings still exists? Or rather despite innovative brain storming since many years, why are smart cities still largely policy concepts gaining momentum only recently through a clear cut plan for identification and implementation henceforth? One of the major issues to this effect as has been pointed in a report by UK’s Environment Industries Commission is the reluctance of funders to invest without the evidence of impact. However, the dichotomy here is that there will not be an impact without the necessary investments. India under the existing government is taking leaps towards such innovative steps like smart cities with its plan to upgrade its urban scenario by developing 100 cities into smart cities, attracting an investment of 1.2 billion dollars along with foreign private investments. Green buildings being an integrated part of this scheme, the potential for investments in this arena is exponential. This evidently becomes the most conducive time to bridge the aforesaid dichotomy and make the smart move towards an energy efficient future for the generations to come.