

MESSAGE

SHANKAR AGGARWAL, IAS
SECRETARY
Ministry of Urban Development
GOVERNMENT OF INDIA



शंकर अग्रवाल, आई.ए.एस.
सचिव
शहरी विकास मंत्रालय
भारत सरकार

Message

I am pleased to be a part of this important seminar on " Smart Cities in India : Reality in the Making " being organized by World Trade Centre Mumbai and All India Association of Industries in association with Indo- French Chamber of Commerce and Industry on January 29, 2015

India is riding on the wave of transition. Economic growth and speedy urbanization is fast changing the pace and pattern of our people's livelihood and lifestyle. Modern technology is driving the wheel of our industry and economy. With heightened industrialization, migration and labour, mobility is the order of the day. All these factors are fast changing the contours of our cities. In the backdrop of this scenario, our country is faced with the reality of providing urban spaces to our citizens keeping in view the changing needs and aspirations of our society.

Indian government has unveiled a plan to build smart cities across the country. These cities would be built to improve the quality of urban governance, provide modern amenities and citizen- centric services to the people living in these cities. Well equipped with modern and efficient infrastructure, these cities will provide the ideal setting for human habitation. The core aim is to ensure all- round convenience and comfort of modern living.

The experts addressing this important Seminar will provide new direction to this initiative and offer valuable insights for its effective implementation. I once again compliment the organizers for their endeavour and wish the event great success.

(Shankar Aggarwal)

PROGRAM

Welcome Address

Mr. Kamal Morarka
Chairman, World Trade Centre Mumbai

Felicitation of Panelists

Mr. Vijay Kalantri
President AIAI and Vice-Chairman, World Trade Centre Mumbai

Session 1: Paving the way to sustainable growth

Prof. Jagan Shah
Director, National Institute of Urban Affairs (NIUA)

Mr. Sanjay Sethi (IAS)
Additional Metropolitan Commissioner- I
Mumbai Metropolitan Region Development Authority (MMRDA)

Dr. Ekroop Caur (IAS)
Managing Director, Bangalore Metropolitan Transport Corporation

Mr. Amit Kataria (IAS)
Chief Executive Officer, Naya Raipur Development Authority

Mr. Abhishek Lodha
Managing Director, Lodha Group

Mr. Ravi Kant Malhan
Director, Head Business Development: Smart Cities and Special Projects,
Schneider Electric India

Keynote Address

Shri Shankar Aggarwal (IAS)
Secretary, Ministry of Urban Development Government of India

Session 2: Smart cities and sustainable development

Dr. Laveesh Bhandari
Founder and Chief Economist, Indicus Analytics Pvt. Ltd.

Mr. Nilesh Purey
Vice President, ICT, Gujarat International Finance Tec-City Co. Ltd

Dr. Amiya Kumar Sahu
Founder, National Solid Waste Association of India (NSWAI)

Mr. Sanjeev Thukral
Country Sales Head and Director, Steria India Pvt. Ltd.

Mr. Apurba Dhar
Director- Business Development, RATP DEV Transdev India Pvt. Ltd

Mr. Bhaskar Som
Country Head, IRR Advisory Services Pvt Ltd

Vote of Thanks

Ms. Laura Prasad
Secretary General, Indo French Chamber of Commerce and Industry (IFCCI)

Dr. Laveesh Bhandari heads and is the chief economist for Indicus Analytics, India's leading economics research firm. He has studied in Boston, worked for Indian Institute of Technology, Delhi and National Council of Applied Economic Research, Delhi. He is a member of many committees and is also a well-known economic commentator.

He has authored and co-authored numerous publications on socio-economic development, health, education, poverty, inequality, etc.

His work on performance of states and districts with Bibek Debroy and other co-authours is referred to widely. He writes frequently for newspapers such as Business Standard, Economic Times, India Today, etc



Dr. Laveesh Bhandari
Founder and Chief
Economist,
Indicus Analytics Pvt. Ltd.

Mr. Nilesh Kumar Purey is working as Vice president -Information and communication Technology for GIFT city Ltd.

Mr. Purey has master's degree in Electronics and telecommunication and MBA with specialization in Information System from Devi Ahilya University, Indore .

He is a Certified information systems auditor (CISA) and Certified Information security manager (CISM) from ISACA.ORG , Illinois, USA . Along with other certificate like lean expert and ITIL, he is also a ITSM(Information technology service management) auditor

Mr. Purey is a prominent speaker in various forums on the domain of Smart Cities, Information Security and role of ICT in infrastructure development.

Mr. Purey has won multiple awards including Cisco Technology Award -2014, IDC-ICONIC Award & e-LETS award for Innovation .

He has around 18 years of experience in designing, rolling out and managing green field multi-location IT and telecom projects. His area of expertise are Telecom, BFSI, Retail and Infrastructure domains .



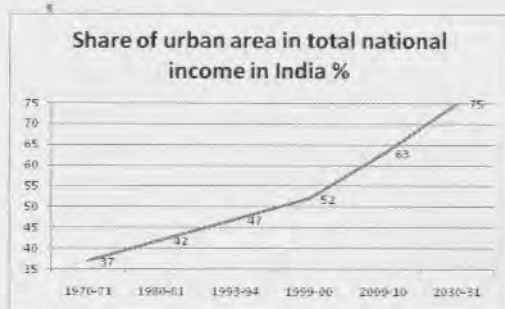
Mr. Nilesh Purey
Vice President, ICT
Gujarat International
Finance Tec-City Co. Ltd

SMART CITIES

A Brief Overview

The new government of India, under the dynamic leadership of Shri Narendra Modi has envisioned the developing of 100 “Smart Cities” as satellite towns of larger cities and by modernising the existing mid-sized cities. This dream of the government cannot be considered too ambitious given the imperatives of the urban development in the country.

The urban population of the country currently stands at around 31% and it contributes over 60% of total national income. In the next 15 years, it is projected that urban India would contribute almost 75% of the national income (see chart below).



According to experts on urbanization, India would continue to maintain this trend of urbanization for some more time.

Therefore, the central government considers cities as the “engines of economic growth” and ensuring that they function as efficient engines is critical to our economic development.

The global experience is that a country’s urbanization up-to a 30% level is relatively slow but the pace of urbanization speeds up thereafter, till it reaches about 60-65%. With an urban population of 31%, India is at a point of transition where the pace of urbanization will speed up. In order to support this process of urbanization, the government has appropriately envisioned the goal of setting up 100 “Smart Cities” in the country by 2020.

Across the globe, different think tanks and organizations have defined Smart Cities differently. In this book, we mention a few that reflect the true idea of a Smart City. The UK Department of Business, Innovation and Skills considers Smart Cities a process rather than a static outcome, in which increased citizen engagement, hard infrastructure, social capital and digital technologies make cities more liveable, resilient and better able to respond to challenges.

The British Standards Institute defines it as “the effective integration of physical, digital and human systems in the built environment to deliver sustainable, prosperous and inclusive future of its citizens”.

Investment Requirement

With the government considering such a mammoth goal of setting up 100 Smart Cities, one must be wondering the magnitude of investment it would require to realize it. The High Power Expert Committee (HPEC) on Investment Estimates in urban infrastructure has assessed a Per Capita Investment Cost (PCIC) of Rs 43,386 for a 20 year period.

Their estimates cover water supply, sewerage, sanitation and transportation related infrastructure.

Using an average figure of 1.0 million people in each of the 100 Smart Cities, the total estimate of investment requirements for the services covered by HPEC comes to Rs 7.0 lakh crores over 20 years (with an annual escalation of 10% from 2009-20 to 2014-15).

This translates into an annual requirement of Rs 35,000 crores. However, it is expected that most of the infrastructure will be taken up either as complete private investment or through public private partnership (PPPs). The contributions from the central government, state governments, urban local bodies, parastatal would be largely

by way of Viability Gap Support (VGF).
Some of the salient features of Smart Cities are as follows -

Energy Efficiency

A key feature of Smart Cities is energy efficiency. Energy efficient practices are adopted in transportation systems, lighting and all other services that require energy. In Smart Cities, authorities design tariff structures such that energy conservation has incentives. Awareness programs lead to a culture of conservation. Good areas to focus energy efficiency measures would be the building material used, the transport system, sewerage and water supply systems, street lighting, air-conditioning systems and energy consumption in buildings.

Improved access to information

A very important feature of all Smart Cities is good citizen access to information. Whether it is regarding city specific data or the measures being taken by municipal bodies or information relating to various service providers such as transport and similar information relevant for potential investors has to be conveniently available. This could be through multiple channels - internet, mobile apps, radio, TV, print media, etc.

Smart Governance

For cities to become smart, it is essential that the governance structure is also smart. The existing government setup in the urban local bodies or parastatal is rather fragmented with each department working in silos. The result of this is lack of coordination which is reflected in the form of poor services to the citizens.

Therefore, these local bodies would need to make effective use of information and communication technologies (ICTs) in public administration to connect and coordinate between various departments.

This combined with organizational change and new skills would improve public services and strengthen support to public. This will mean the ability to seek and obtain services in real time through online systems and with rigorous service level agreements with the service providers.

Financial Hub

Having a financial hub is a crucial feature of a Smart City. A strong and robust financial hub would attract industrial and commercial development as financial institutions support economic activity. A prominent example of a Smart City envisioned on the lines of a financial hub is the Gujarat International Finance Tech City (GIFT). GIFT is a 50:50 joint venture between a state government undertaking and Infrastructure Leasing and Financial Services (ILFS) Limited. The city was planned as a global financial and Information Technology services hub spread over 886 acre near Ahmedabad airport and is may create a million direct and indirect jobs.

Smart Cities with all the above features would redefine the lifestyle of the ordinary Indian citizen in ways unimaginable. Recognizing this revolutionary impact of the central government's Smart Cities project, the World Trade Centre Mumbai in association with All India Association of Industries (AIAI) and Indo-French Chamber of Commerce & Industry (IFCCI) has organized the event titled 'Smart Cities in India : Reality in the Making'.

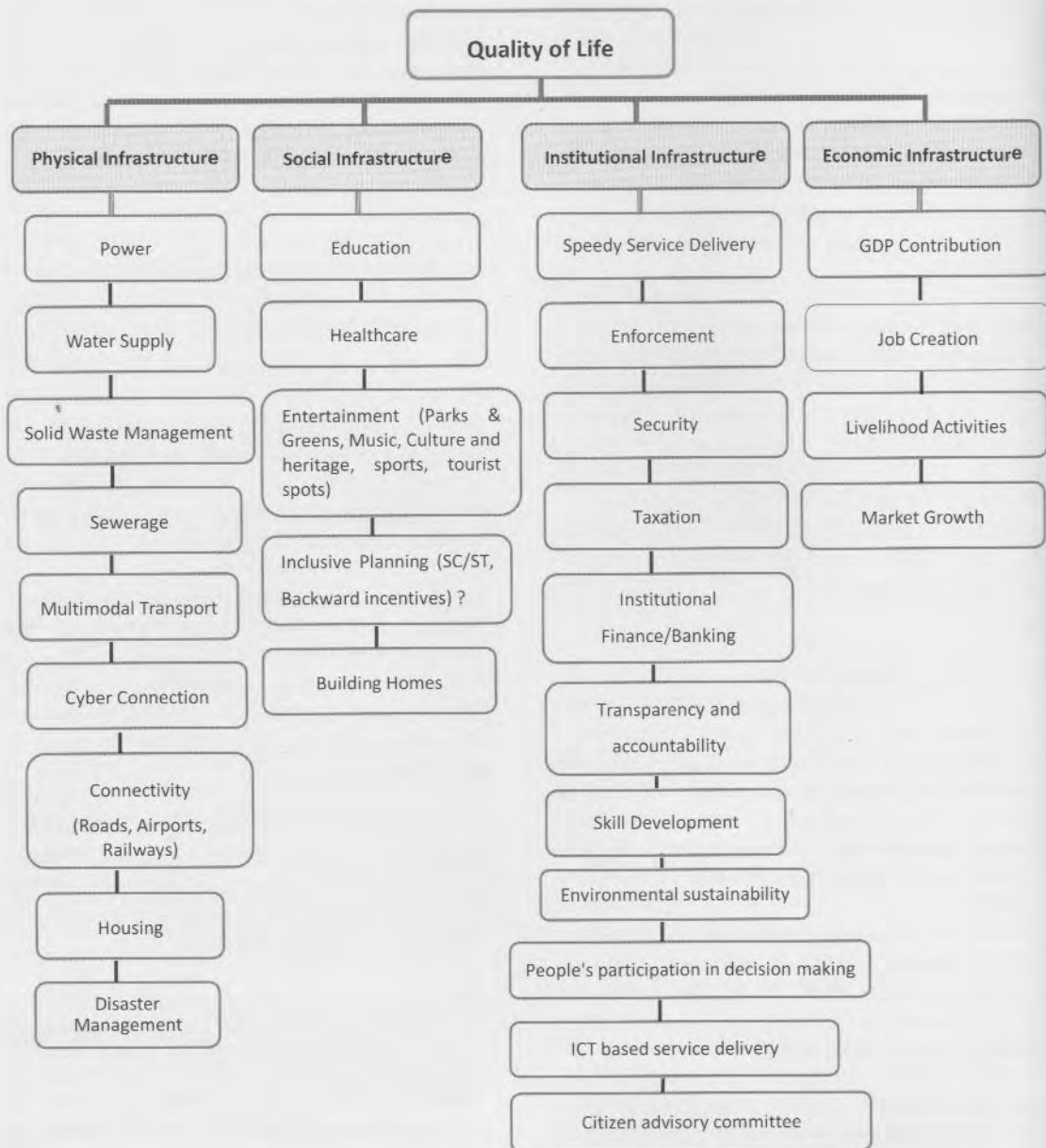
Let us recall the words of our Honorable Finance Minister Arun Jaitley when he presented his maiden union budget in July 2014 -

"As the fruits of development reach an increasingly large number of people, the pace of migration from the rural areas to the cities is increasing.

A neo middle class is emerging which has the aspiration of better living standards. Unless, new cities are developed to accommodate the burgeoning number of people, the existing cities would soon become unliveable.

The Prime Minister has a vision of developing 'one hundred Smart Cities', as satellite towns of larger cities and by modernising the existing mid-sized cities."

Pillars of a Smart City





Smart Cities: What to do & What not to do

ABSTRACT

A smart city is one that embraces change to enhance people's lives by using the latest in technology and infrastructure, builds responsive and participative governance, and universal access to security of life and property, and gives opportunities from progress.

BACKGROUND

The idea of creating many smart cities has caught the imagination of a resurgent young urban India unlike little else has in recent times. The most exciting part of the idea is that India is finally envisioning something that is at par with or even ahead of the rest of the world. While the Swachh Bharat, Garibi Hatao, Beti Padhao etc. campaigns are about correcting the ills of the past, "Hundred Smart Cities" is forward looking. It aims at setting the tone that many of us desire the most – riding the high paced world of the future.

The government thinks of a smart city as largely a technologically and infrastructurally superior animal. Smart cities as we can gauge from informal conversations with government and political functionaries appear to be about tall buildings, broad band connectivity, low energy consumption, recycling, clean roads etc., but there is no clear vision that has been articulated beyond the PM's own words. Globally as well there is no consensus though the Smart City Council defines it as "embedded digital technologies in all its functions", yet the conversations in India are much more than simply incorporating digital embedded technologies in cities. Other terms that come up repeatedly in various smart city definitions found on the net are provided below:

- High quality of life
- Digital technologies
- Participation of citizens
- Sustainable development
- Investment in human and social capital
- Wise management of natural resources
- Respond quicker to change
- Regional competitiveness
- Resilient, excels in multiple areas

Some also take the trouble of defining the ambit of the concept of smart city, and that includes

tends to include all its aspects - smart governance, smart energy, smart building, smart mobility, smart infrastructure, smart technology, etc. In other words, all aspects of a city need to be incorporated within the larger term. However, India's definition of smart city will need to be driven from the PM's vision for it to have any tractability in today's India.

There is one emerging city landscape in Gujarat which was supported by the PM Narendra Modi, and may even have been his brainchild. This is the Gujarat International Finance Tec-City or GIFT. The city is already functional though a large part of the construction is complete and the rest is to be completed rapidly. This vision is no doubt one that is of high technology infrastructure and includes:

- 24x7 outage free power
- 24x7 water
- 24x7 district level cooling
- 100% ICT connectivity
- Automated Solid Waste Management
- Public Transport: Walk to work and 90:10 Public: Private Split

As a vision of what hi-technology infrastructure is about this is a flawless vision. And this political vision needs a strategic formulation for the country to understand and implement. The first step at a strategic formulation is providing a definition – what a smart city is and is not. There seems to be little clarity there, and I have not at the time of penning this monograph come across any definition used by the Government of India. While I came across six different definitions being used globally, and there may be many more, but surprisingly there is absolutely no consensus on even one element of what constitutes a smart city.

WHAT INDIA NEEDS

Cities are inherently feasible because they enable the functioning of markets and markets are about interactions between a large number of buyers and sellers. In other words, cities that are designed for facilitating interaction between people are able to create a far greater value than those which are not so structured. Enabling interaction requires the creation of public spaces, public transport, footpaths etc. But

merely interaction does not do the job or Karachi and Beirut could also have been labelled as smart cities.

All of economic progress is built upon the trust and faith that citizens have in the safety of their lives and property. In other words, while good urban planning, good infrastructure, and modern technology can provide the hardware of a city, the software is what defines its character and sustained growth. And the software is about how a city is run.

When we build these smart cities, we will be faced with a massive surge of people who will desire to enter these cities. We will be forced to keep them out. This is the natural way of things, for if we do not keep them out they will override our ability to maintain such infrastructure. There are only two ways to keep people out of any space – prices and policing. In other words, the prices will automatically be higher in such cities – the notion that they will be low cost is flawed. Even if possible from a cost of provision perspective, they cannot be low cost from a demand supply perspective.

Even with high prices, the conventional laws in India will not enable us to exclude millions of poor Indians from enjoying the privileges of such great infrastructure. Hence the police will need to physically exclude people from such cities, and they will need a different set of laws from those operating in the rest of India for them to be able to do so. Creating special enclaves is the only method of doing so. And therefore GIFT is an SEZ, and so will each of these 100 smart cities have to be.

Safety and security are the outcomes of a city where the rule of law defines daily lives and where justice is the dominant notice of resolving disputes. But all disputes are not resolved through laws, policing or a judiciary; a well-functioning political mechanism is by far the best dispute resolution mechanism. Democracy is therefore not important simply as a first principle, but city democracy enables a whole range of counteracting forces to be resolved in a civilized manner.

Here a related factor will need to be recognized – the politics of the past has favored command and

control hierarchies. In other words, a Prime Minister ordered his ministers who ordered their secretaries who ordered their department heads who ordered the section heads and who in turn ordered the office in-charges to implement government policy. But the smart cities would be different, being totally networked and e-enabled, every file, every order, every decision of the government will be up for scrutiny. And therefore the current way of governing will just not be possible. Demands from citizens will flood government officers who will either be forced to ignore them, or evolve a more participative approach to governance. In other words, such cities will either simply become like service centres, where democracy cannot be allowed, or be much more participative where citizens are part and parcel of every decision. This will be a new challenge for the government as well, India is not yet used to participative decisionmaking, especially at the local level. But participative local democracy is an idea whose time has come in India.

There are millions of examples across India of how the lack of a democratic political process impacts the growth of cities. For many decades, Kolkata ruled the commercial landscape of India, no one is sure precisely how it happened, but Mumbai rapidly took that position; today it appears that Gurgaon, Pune and Bangalore are doing to Mumbai what Mumbai did to Kolkata. There is one common element between both Mumbai and Kolkata and all major Indian cities is that their local politicians serve state or national constituents, not the city residents. In London and New York and Moscow the bureaucracy reports to the Mayor who reports only to the citizens and not some other master.

To put it all together – the smart cities will need to have a different set of laws and a much stronger policing mechanism, and also a different way to govern than is currently operating in the country. Building such infrastructure is important, because only after we build a few will we realize that it is actually possible for India to be at the forefront and dirty ill-kept ill-governed cities is not a problem of culture but that of governance. However, merely building infrastructure will not really do the job – the infrastructure and spatial hardware – even if done right, will need synergistic software.

Laws, governance mechanism, policing, rules of entry and exit will need to be framed. The government will then need to decide whether to continue with building such enclaves, or use these enclaves as an example, and expand such services across all of India's 8000 odd cities. If it is the former it will need to expand the degree of policing to make sure such enclaves are protected from the masses. If it is the latter, it will need to move forward on a spate of urban reforms – land controls, rent control, consumer grievance and utilities, notify the 74th Amendment, empower and directly elect Mayors, and many other changes that many committees have recommended for the last five to six decades.

Finally, for a long time now, India has been scared of change. Most major reforms in India have occurred either in stealth mode, or the foxtrot mode (slowly forward, quickly sideways), and they have occurred under duress. A society that refuses to change will stagnate and die.

Recall another set of smart cities about 3000 years back. At that time they were the smartest cities on the planet. They had running water, attached bathrooms, covered drains, clean and well maintained streets, public spaces, well ordered public planning, garbage renewal. They also had some type of low cost housing on the outskirts, public spaces, and protection from outsiders. We do not know how they died out. But we do now why they could not survive.

Whether it was a new group of people on horses, or rivers that dried up, or a new virus, or an asteroid whose falling dust blocked the sun, we do not know. But we do know that a civilization that grew and prospered for 3000 years took another 1000 years to die because it could not change with changing times. Steadily time ate into its stagnant foundations and finally a great civilization disappeared from history.

Therefore, a smart city is one that can change with the times. Where laws, urban planning, rules and regulations, systems of conflict resolution, democracy and both rulers and the ruled encourage change and not hinder it. A smart city is one that is not afraid to make a mistake, but charge ahead, and correct mistakes as it moves forward.

IN CONCLUSION

So we finally come to India's definition for its smart cities. First and most importantly, the smart cities are an aspiration to grab the future; they are about doing things differently and being in the forefront. Smart cities are therefore those that are able to change with the times and do so rapidly. The second is about the technology, where technology is used intensively to serve the requirements of new India. And here it is not simply digital technology, but technologies that together enhance and improve our lives and lifestyles. The third component of smart cities is about their governance, and more specifically about how they are run. These cities should be about participative governance where the citizens can actively participate in decision-making. This is only possible when cities are run in a decentralized manner where those who run the city are responsible to the people of the city. In other words, an elected Mayor who tells the municipal commissioner what he may or may not do, and has the power to hire or transfer not just those who run municipal services but also the police. The fourth component is about being practical and economical, how will the city address migrants? It will be ideal if smart cities do not keep them out, and accept them with open arms instead. Low cost of operating such cities and enhanced productivity will be a desirable byproduct. But for all of this low cost housing will need to become an integral part of the smart cities. And finally, economics and value creation lie at the core of any city; this is only possible when those in charge of the city promise to uphold the rule of law for each person in an even manner, where the security of life and property are guaranteed to one and all. It is the last that is the most scary – smart cities by definition will become enclaves where a different set of laws will apply than the rest of the country. Hopefully the government will rapidly seek to expand the leanings from these few smart cities to the rest of the country within a limited ten year lifespan.

Dr. Laveesh Bhandari
Founder and Chief Economist,
Indicus Analytics Pvt. Ltd.

Gujarat International Finance Tec-city (Gift City)

Gujarat International Finance Tec-City (GIFT) is a globally benchmarked International Financial Service Centre (IFSC) developed by Government of Gujarat through a joint venture between its undertaking Gujarat Urban Development Company Ltd. (GUDCL) and Infrastructure Leasing & Financial Services Ltd. (IL&FS).

Recognising the potential of the State as a centre for the financial services industry, the Government of Gujarat formulated GIFT to realise the vision of Hon'ble Prime Minister of India, Shri Narendra Modi:

"The vision of Gujarat would be incomplete without capitalizing on the in-house financial business acumen.

To tie up with technology, to create a hub complete with infrastructure, meet the needs of modern Gujarat, modern India and to create a space in the global financial world...that is my dream."

GIFT is a global Financial and IT Services Hub, a first of its kind in India, designed to be at or above par with globally benchmarked financial centers such as Shinjuku, Tokyo, Lujiazui, Shanghai, La Defense, Paris, London Dockyards etc. The project is located on the bank of the Sabarmati River and is around 12 km from Ahmedabad International Airport. GIFT is easily accessible from all directions through 4-6 lane State and National Highways.

GIFT is catering to India's large financial services potential by offering global firms, world-class infrastructure and facilities. It is attracting the top talent in the country by providing the finest quality of life. It is estimated that GIFT would provide 5,00,000 direct and an equal number of indirect jobs which would require 62 million square feet of real estate office and residential space. Like all leading financial centers, GIFT targets 6-8% share of the financial services potential in India. The GIFT City is being developed as an integrated smart

city which will also host social and residential facilities like ICSE School, Training Centre, Business Club, Retail Mall, Hotel and Residential Apartments.

GIFT is being developed on 886 acres of land. GIFT facilitates Multi Services SEZ of 261 Acre and Domestic Finance Centre and associated social infrastructure (on 625 acres). The SEZ is divided into two parts; 131 acres for Processing Area and 130 acres for Non-Processing Area. Govt has accorded a status of International Financial Service Centre (IFSC) to GIFT SEZ. GIFT SEZ is the only Multi Service SEZ with IFSC status in India. GIFT is supported by state-of-the-art internal infrastructure encompassing all urban infrastructure elements along with an excellent external connectivity by roads and proposed MRTS, BRTS, etc.

GIFT City has been conferred as "Smart City of Future" by Cisco Technology Award 2014. In August 2012, GIFT won the most prestigious award in the category of 'Best Industrial Development & Expansion' at the 'Infrastructure Investment Awards - 2012' organized by World Finance Group based in London. GIFT Project was considered of world class value in terms of its potential for enabling economy growth in the region – through the relocation and centralization of India's financial and IT sectors and in providing the turn-key location for global financial & IT firms.

Mr. Nilesh Purey

Vice President, ICT, Gujarat International Finance Tec-City Co. Ltd