



India has recently adopted a host of technological features to ensure that the progress of the economy is tapped. Such technological advancements have been in the sphere of finance-specially in money transfer, infrastructure development among others. Of late, transforming the nation towards making it smarter has been a key development goal. In a bid to meet the goals, a string of initiatives has been rolled out. A few of those include Smart Cities, and the Smart India Hackathon.

Smart Cities: An overview

While the concept of Smart cities is too broad, for the purpose of easy classification, the Government has outlined a few salient features. Some typical features of comprehensive development in Smart Cities are described below.

- Promoting mixed land use in area-based developments—planning for ‘unplanned areas’ containing a range of compatible activities and land uses close to one another in order to make land use more efficient. The States will enable some flexibility in land use and building byelaws to adapt to change;
- Housing and inclusiveness - expand housing opportunities for all;
- Creating walkable localities –reduce congestion, air pollution and resource depletion, boost local economy, promote interactions and ensure security. The road network is created or refurbished not only for vehicles and public transport, but also for pedestrians and cyclists, and necessary administrative services are offered within walking or cycling distance;
- Preserving and developing open spaces - parks, playgrounds, and recreational spaces in order to enhance the quality of life of citizens, reduce the urban heat effects in Areas and generally promote eco-balance;
- Promoting a variety of transport options - Transit Oriented Development (TOD), public transport and last mile para-transport connectivity;
- Making governance citizen-friendly and cost effective - increasingly rely on online services to bring about accountability and transparency, especially using mobiles to reduce cost of services and providing services without having to go to municipal offices. Forming e-groups to listen to

people and obtain feedback and use online monitoring of programs and activities with the aid of cyber tour of worksites;

- Giving an identity to the city - based on its main economic activity, such as local cuisine, health, education, arts and craft, culture, sports goods, furniture, hosiery, textile, dairy, etc.;
- Applying Smart Solutions to infrastructure and services in area-based development in order to make them better. For example, making Areas less vulnerable to disasters, using fewer resources, and providing cheaper services.



In a bid to promote the spirit of technology among students, the government has launched the Smart India Hackathon. The scheme is dubbed as the world's biggest open platform for the innovators or entrepreneurs of tomorrow to transform towards a smarter India.

The nationwide Hackathon provides students with real-time platform to solve some of the demanding issues of the everyday lives thereby inculcating a culture of product innovation and a mindset of problem-solving. The first three editions SIH2017, SIH2018 and SIH2019 proved to be extremely successful in promoting innovation out-of-the-box thinking in young minds, especially engineering students from across India.



Some of the Ministries and Departments which collaborate for the initiative include:

1. Council of Scientific and Industrial Research (CSIR)
2. Department of Atomic Energy
3. Department of Biotechnology
4. Department of Chemical and Petrochemical
5. Department of Commerce, Ministry of Commerce & Industry
6. Department of Defense Production, Ministry of Defense
7. Department of Empowerment of Persons with Disabilities, Ministry of Social Justice & Empowerment
8. Department of Food and Public Distribution, Ministry of Consumer affairs, food and public distribution
9. Department of Post, Ministry of State(IC) of Communications
10. Department of Rural development
11. Department of SciTech
12. Department of Space (ISRO)

Some of the participating State Ministries include:

1. Government of Andhra Pradesh
2. Government of Arunachal Pradesh
3. Government of Assam
4. Government of Chandigarh
5. Government of Chhattisgarh
6. Government of Delhi
7. Government of Goa
8. Government of Gujarat
9. Government of Kerala
10. Government of Maharashtra
11. Government of Pondicherry
12. Government of Punjab

Some of the corporate houses which have pledged support include:

1. ABB GIS Pvt Ltd
2. Adani Group
3. AGR Knowledge Services
4. Amadeus
5. ANIK
6. Apollo Hospitals
7. ARAI
8. Aurbindo Pharma
9. Axiscades
10. Bajaj Electricals Limited
11. BEML
12. Adani Port and SEZ Ltd
13. Bharat Forge Ltd.

14. Bridgestone
15. CDK
16. CISCO

Technology in India:An overview

India, has been a birthplace for great technology ideas. From computing, space, to the current day technology companies, India is well known for its technological advancements. One solid example of India's technological finesse is the development of PARAM 8000, India's first indigenous supercomputer.

In the bid to keep up with the technology race set in the US, India set up its own Centre for Development of Advanced Computing. PM Rajiv Gandhi approached Vijay Pandurang Bhatkar for this initiative who developed a supercomputer. In 1991, the C-DAC presented PARAM 8000, which was not only India's first indigenous supercomputer but was also the second fastest at the time.

Moving to the present days, the term computing in India has become synonymous with Bengaluru.

Conventionally, the Indian city of Bengaluru has been dubbed as the 'Silicon Valley of India'. However, history has it that Bengaluru was an agricultural patch due to its abundance of labour and widely available land. Post-independence, Bengaluru evolved into a hub for public sector industries- Aerospace, Defense, Space, Telecommunications, among others. The establishment of HAL, The National Aerospace Laboratories, Bharat Earth Movers, Indian Telephone Industries accelerated the growth of the city. Due to the presence of such names, Bengaluru evolved to become the launchpad of the technology revolution in India.

Further, the setting up of Indian IT companies also accelerated the growth. The setting up of Infosys's campus in Bengaluru was a milestone effort in the regard. Over the years, Bengaluru witnessed the birth of startups and become a renowned name for technological establishments.



In a similar vein, the nation, through the consistent efforts of the government has made several contributions to the field of technological advancements. Some of the recent ones that the nation witnessed include:

- PRAGATI (Pro-Active Governance And Timely Implementation) is robust system for bringing e-transparency and e-accountability with real-time presence and exchange among the key stakeholders. The platform was launched on March 25, 2015. The multi-purpose and multi-

modal platform aims at addressing common man's grievances, and simultaneously monitoring and reviewing important programmes and projects of the Government of India as well as projects flagged by State Governments.

- MyFASTag: The National Highways Authority of India (NHA) launched the mobile App to facilitate the availability of FASTags for Electronic Toll Collection. FASTag acts as a device that employs Radio Frequency Identification (RFID) technology for making toll payments directly from the prepaid or savings account linked to it. It is affixed on the windscreen of a vehicle and enables anyone to drive through toll plazas, without stopping for cash transactions.



- National Agriculture Market (eNAM): A pan-India electronic trading portal which networks the existing mandis to create a unified national market for agricultural commodities. The portal aims to promote uniformity in agriculture marketing by streamlining of procedures across the integrated markets, removing information asymmetry between buyers and sellers and promoting real time price discovery based on actual demand and supply.



- Unified Mobile Application for New-age Governance (UMANG): A Government of India all-in-one single unified secure multi-channel multi-platform multi-lingual multi-service freeware mobile app for accessing over 841 services through 127 department central and state government services in multiple Indian languages over Android, iOS, Windows.



- Launch of The National Supercomputing Mission's first indigenously build supercomputer 'Param Shivay' at Indian Institute of Technology, BHU, Varanasi.



- Allocation of Rs 6,302 crore in Union Budget 2020-21 to the Ministry of Science and Technology.
- Arogya Setu app: A mobile application developed by the Government of India to connect essential health services with the people of India in our combined fight against COVID-19.



Arogya Setu

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Further, along with these schemes, a host of technology products such as UPI, BHIM have also been rolled out. BHIM, (Bharat Interface for Money) the Indian mobile payment App developed by the National Payments Corporation of India (NPCI), based on the Unified Payments Interface (UPI) intends to facilitate e-payments directly through banks as part of the 2016 Indian banknote demonetization and drive towards cashless transactions.



To know more about such Government initiatives- Refer to <https://vikaspedia.in/>

Such measures and initiatives ensure that India is on the path to achieve infrastructure development and technological enhancements. With these initiatives, the Government aims to service its citizens better through robust technology with the aim of ensuring that governance is delivered in the most seamless and hassle-free way.