Happy Cities

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Smart Cities by leveraging technologies in Industry 4.0 shall drive India towards heaven dream by Rabindranath Tagore.

Where the mind is *without fear* and the head is held high.
Where *knowledge is free*
Where the world has not been broken up into fragments by narrow domestic walls.
Where words come out from the *depth of truth*
Where tireless striving stretches its arms *towards perfection*
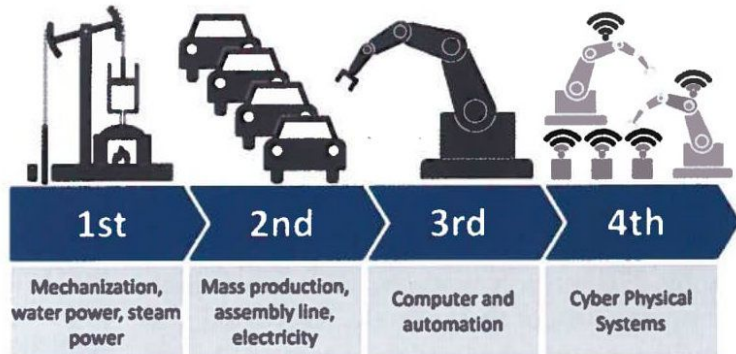Where the clear stream of reason has not lost its way into the dreary desert sand of dead habit
Where the mind is led forward by thee into *ever-widening thought and action*
Into that heaven of freedom, My Father, let my country awake

Industry 4.0, cyber-physical systems communicate and cooperate with each other and with humans in real time, via Internet of things, Big data Analytics and make data driven decisions.

Before 1700, India contributed > 25% of global GDP, but now its ~2%, reason being India did not transform itself with changing industry revolutions. At present also, most of the Indian industries are working in Industry 1.0 or 2.0 which is impacting India's wealth creation. Other side Education system lost its relevance, for not considering changing Industry needs; resulting in high Unemployment. For India to be a great nation, we need to leverage the technologies like Internet of Things, Big Data Analytics and follow design thinking process.

1st	2nd	3rd	4th
Mechanization, water power, steam power	Mass production, assembly line, electricity	Computer and automation	Cyber Physical Systems

Internet of Things (IoT): network connecting objects in the physical world to the Internet. Devices connected to internet increased 31% from 2016 to 8.4 billion in 2017. Experts estimate that the IoT will consist of about 30 billion objects by 2020. It is also estimated that the global market value of IoT will reach $7.1 trillion by 2020. IoT allows physical world to be sensed using sensors, and communicate data via various networks, collected data shall be analyzed based for data driven decisions.
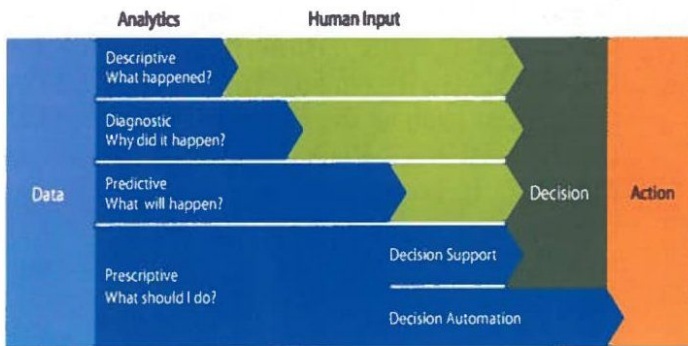
Data Driven Decision Making: Data is being generated by Sensors, Social Media, YouTube ....etc. at high Velocity, Volume, Variety, Variability, and Veracity. Challenge is to extract knowledge or insights from this big data. Data Analytics drives the extensive use of data, for statistical and quantitative analysis to drive decisions and actions

Design thinking: human-centered approach to innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success.

Motivation: In India, for decades people's motivation for happiness has been Money, Power, Praise or fear. But to lead a happy life in Industry 4.0 era, one should focus on capabilities:

Autonomy: capacity to make an informed, un-coerced decision.

Mastery : comprehensive knowledge/skill in a particular subject or activity.

Purpose : the reason for which something is done or created

Government, Citizens, Industry, Institutions should work together to make India a Happy Country.

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