World's Elite Club: Internet of Things

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In a recent move to **Strengthen and Empower India's IT Infrastructure Backbone**, and with the vision to develop connected and smart IoT based system for our country's Economy, Society, Environment and global needs, the **Department of Electronics and Information Technology (DEITY) under Ministry of Communications and Information Technology, Govenment of Inda**, has just released nation's first **Internet of Things (IoT)** policy document. This draft will act as a Framework for the Government to fully implement and Execute Policies and campaigns pertaining to Internet of Things in India. The DEITY says that IoT can be defined as "a seamless connected Network of Embedded Objects/ Devices, with identifiers, in which M2M communication without any human intervention is possible using standard and interoperable communication protocols." - Phones, Tablets and PCs are not included as part of IoT.

With the advent of IoT, there will be wonders. Let's delve into this magnificent policy of DEITY and explore, that how we can cultivate Billion Dollar revenue IT industry. The IoT is a multi-tier architecture plan, divided into three distinct steps. The collection of data by the Sensors or Devices forms the first step, followed by an application which analyzes the data and lastly the Decision Servers for decision making and transmission of data.

The whole logic centrifuges around the concept of decision making process power of IT using Analytical engines and Big Data.

A budget of **Rs 1 lakh crore** has already sanctioned to implement all the future plans under this vision. Our government has already allocated Rs. 7,060 crores for the development of 100 Smart cities across India. This concept of Smart cities will be one of the massive milestones of IoT. Some of the key aspects of a smart city will be: Smart parking, intelligent transport system, Tele-care, Woman Safety, Smart grids, Smart urban lighting, Waste management, Smart city maintenance, Digital-signage, Water Management etc.

As per this policy document, the government envisions to **create a market worth $15 billion** (Rs 90,000 crore) by 2020.

In today's fast techie world, all the news and views are monitored in the form of Numbers. So here we come up with couple of mind-blowing number facts, which duly includes Objectives and Framework Policy of IoT:

- The number of Internet-connected devices in India will increase from **200 million currently to 2.7 billion by 2020.**
- Globally, the number of devices which are connected with Internet surpassed the global population in 2011, when 12.5 web connected devices existed, compared with 7 billion people. It is estimated that **by 2020**, there would **26 billion to 50 billion Internet connected devices.** According to an EMC report, **Data Universe will expand to 44 Trillion GigaBytes by 2020!**

- Proposed plan include **Development of Tools to Monitor** Quality of Water flowing in taps and levels in reservoirs; monitor the quality of air present in cities and rural areas; tools to access biological changes in human beings, and then sending health alerts and news to their assigned physicians.
- Proposal to establish **'International IoT Research Collaboration scheme' (IIRC);** which may collaborate with foreign IoT providers (viz, USA, South Korea, China), and develop joint ventures for Indian cities.
- IIRC will allocate 50% of the budget for such futuristic projects, and work on bidding system with tenders invite from all over the world.
- Setting up of incubation centres titled — **National Centre of Excellence** in association with Nasscom and other associations. A budget of **Rs 100 crore has been benchmarked for these centres**, wherein latest gadgets and instruments would be provided for researchers to come up with ideas pertaining to IOT implementation.
- Besides development of smart cities, for which a budget of **Rs 7500 crore has already been granted, IoT infrastructure development** will also target human resource development for the campaign. The policy has suggested **introduction of IoT based curriculum in B.Tech and M.Tech courses**, along with introduction of research programs in this field.
- Short terms courses will also be launched by the **Government to teach and train** more people about concepts and ideas of IoT.
- Funds of Electronic Development Fund specifically may be directed to support companies in IoT related domains like Memory, Processor, Sensors, Low power devices and solar electronics, based on the concept of low/ Zero cost funding of eligible projects.

Apart from the positive impact IoT can have on our day-to-day lives, innovative businesses have a lot to gain here. The IoT market was valued at €473 million last year, and will be worth an estimated €5.5 trillion between now and 2020.