IoT @ Healthcare

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What is IoT?

- IoT is a combination of hardware and software technology that produces trillions of data through connecting multiple devices and sensors with the cloud and making sense of data with intelligent tools

- Anything can be IoT device, if it can transmit and receive data over the cloud and designed to process a unique task

Car that automatically senses the wear and tear and self-schedules the maintenance

Train that dynamically calculates arrival times and intimates to waiting passengers

IoT Market

- McKinsey Global report, May 2013: Economic impact about $3trillion to $6trillion by 2025
- Gartner report, 2014: IoT market revenue is about $300billion by 2020 by connection devices ranging about 25billion to 200billion
- Intel says 31 billion devices and 4 billion people will be connected by 2020 with an average of 7 to 8 devices per person connected by internet
- Global Mobile data forecast 2012: By 2017 1.7billion M2M connections with the growth rate of 36%. So the data usage of per M2M module is going to increase from 64MB at 2012 to 330MB by 2017 per month
- ABI research: By 2016, the sale of wearable wireless medical device grow more than 100million every year and it would exceed by $2.9billion

So Where are we?

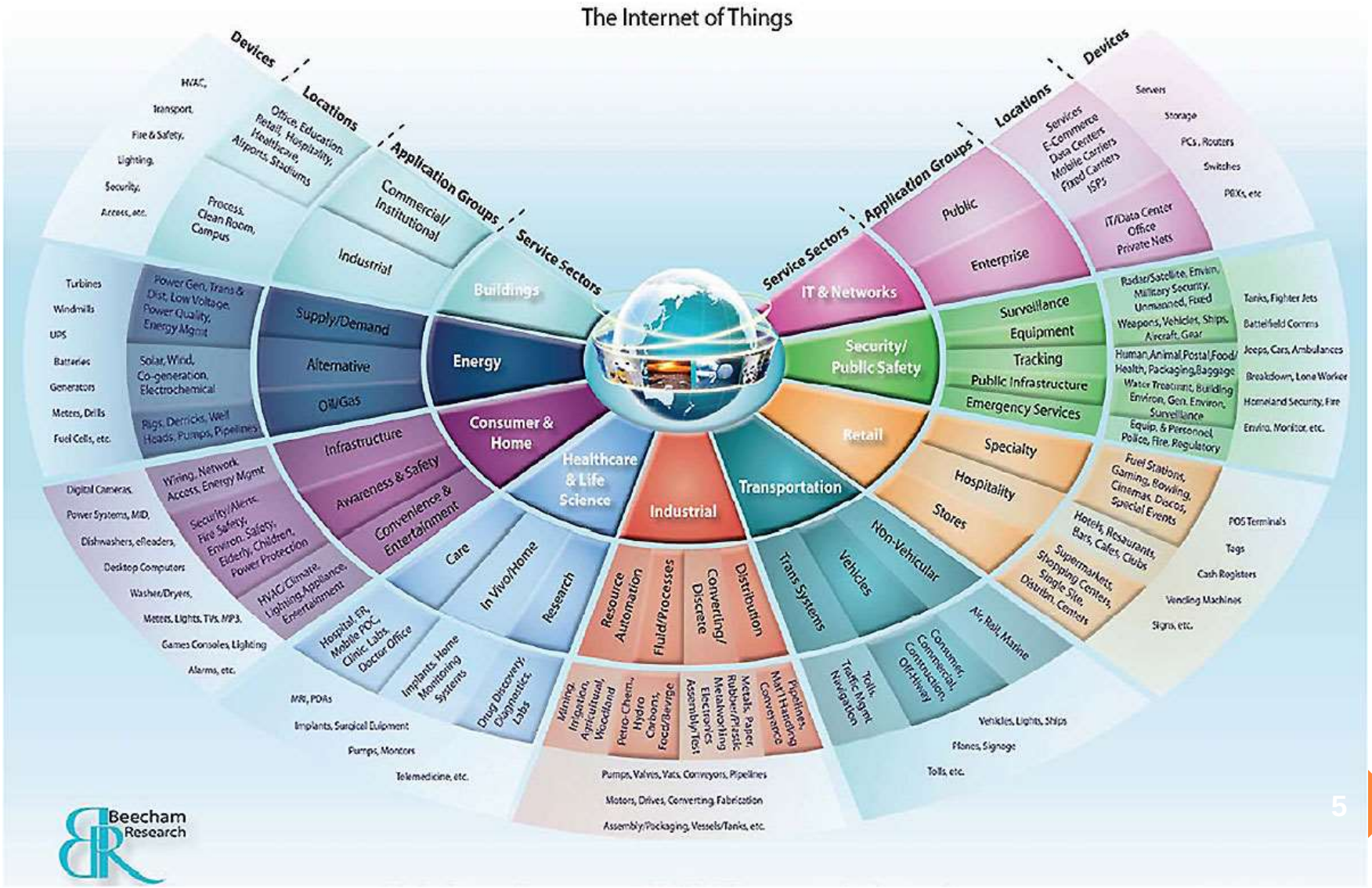
The Learning

- Massive impact on life and business and Global economy
- There will be a huge influx of data from connected devices
- Raw, unstructured and unpredictable data
- Challenge to IT system to manage the enormous volume of data
- Conventional IT system cannot sustain this tremendous pressure

The Act

- Need innovations in sensor technology
- Setup an intelligent network
- Superior high performance cloud computing
- Most advanced analytics software

Applications using IoT



IoT & TeleHealth

IoT in Healthcare

IoT in Healthcare is a heterogeneous computing, wirelessly communicating system of apps and devices that connects patients and health providers to diagnose, monitor, track and store vital statistics and medical information.

Few examples of IoT in Healthcare

- Headsets that measure brainwaves
- Clothes with sensing devices
- BP monitors
- Glucose monitors
- ECG monitors
- Pulse oximeters
- Sensors embedded in medical equipment, dispensing systems, surgical robots and device implants
- Any wearable technology device……..

What is TeleHealth?

- TeleHealth is the delivery of healthcare services and clinical information to remote locations
- TeleHealth is an FDA approved, HIPPA compliant platform that interactively connects patients with a nationwide network of licensed doctors 24/7 using Internet, Internet of Things (IoT), video chats, smartphones and Electronic Medical Record (EMR) clouds
- TeleHealth is an hour-in-need solution in the 21st century

TeleHealth is a new paradigm in the Healthcare industry

Services under TeleHealth Umbrella

- **TeleMedicine:** Providing a professional consultation to a patient in a remote location or assisting a primary care physician in rendering a diagnosis. According to the American Medical Association (AMA), 78% of emergency care care could be handled efficiently using TeleMedicine

- **TeleMonitoring:** Collecting patient data using IoT and sending the data to a healthcare monitoring agency for remote testing and diagnosis. TeleMonitoring TeleMonitoring services also include personalized alerts that inform a patient's patient's healthcare provider in times of physical/mental trauma

- **TeleSurgery:** Enabling the surgeon to perform an operation on a patient from a distant location using TeleRobotics technology

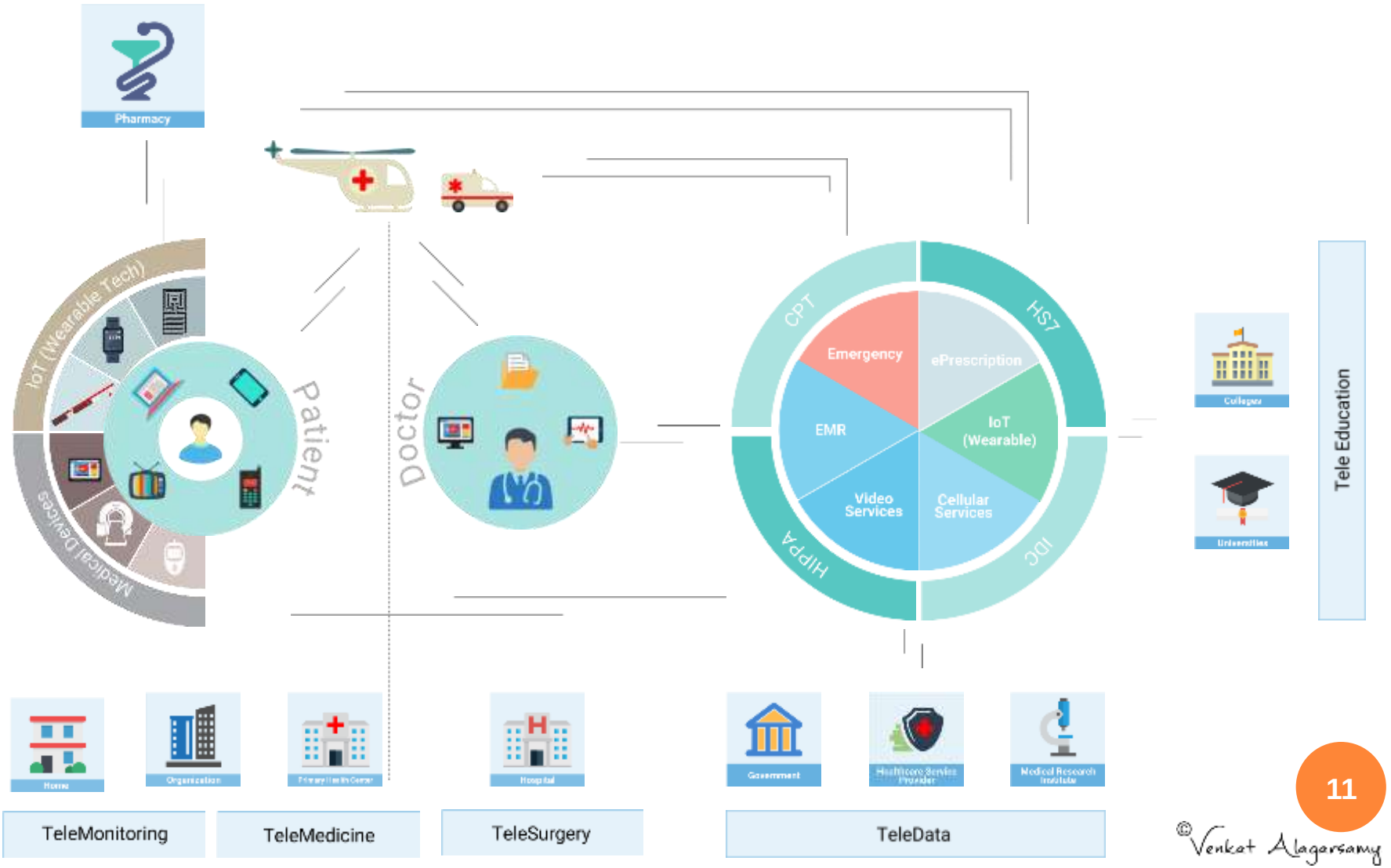
- **Remote Medical Education:** Providing medical education to the health care service community and targeted groups from a geographically different location location

- **TeleHealthData Service:** Share specialized health information with other Health service providers, the education industry, research firms, and the government government etc

Benefits of TeleHealth Services

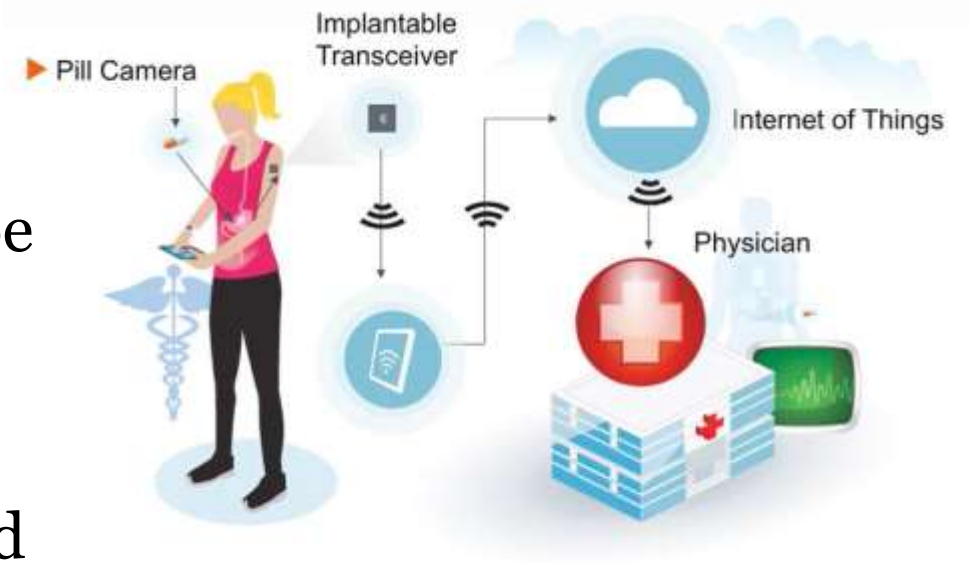
- Immediate medical attention especially during times of medical emergency and natural disasters
- No need for waiting in long queues to see a physician
- Eliminate the need to physically go to a medical facility. TeleHealth reduces the distance barriers
- Reduced documentation and paperwork
- Cost effective – The growth in TeleHealth space will extensively reduce insurance premiums and potentially reduce the time a patient has to be away from work
- Equal and comprehensive healthcare provisions to everyone by eliminating geographical barriers
- Better communication - Communication to the primary care doctor and specialist happens at the same time because everyone is virtually present in the same room during diagnosis
- Expanded reach to various health service providers

TeleHealth Service – A concise view



In Nutshell

- IoT and TeleHealth are here to stay.



- The way healthcare will be administered to people is going to change forever. More and more advancements in this field are happening each day.

- I am really excited about the prospects this technology can hold for us. Change is the only constant and for the healthcare industry, that change is now here.

Thank you

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