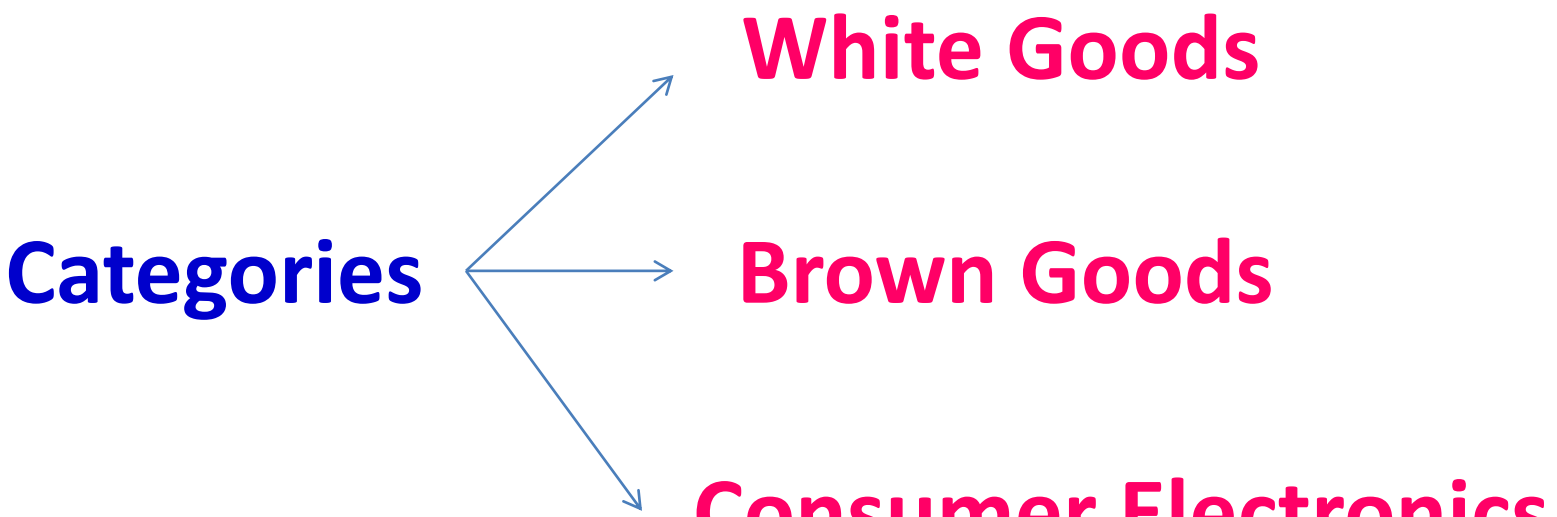
Consumer Durable Industry

Consumer Durables



KEY CATEGORIES

White goods	Brown goods	Consumer electronics
· Air conditioners · Refrigerators · Washing Machines · Sewing Machines · Watches and clocks · Cleaning equipment · Other domestic appliances	· Microwave Ovens · Cooking Range · Chimneys · Mixers · Grinders · Electronic fans · Irons	· TVs · Audio and video systems · Electronic accessories · PCs · Mobile phones · Digital cameras · DVDs · Camcorders

Consumer Durables

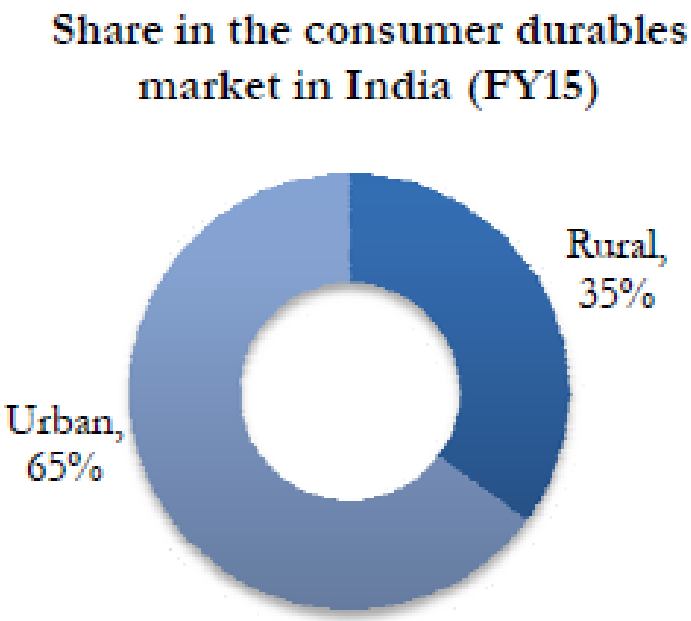
Home Appliances

Consumer Electronics

SWOT analysis of the Consumer Electronics sector in India (CEAMA)

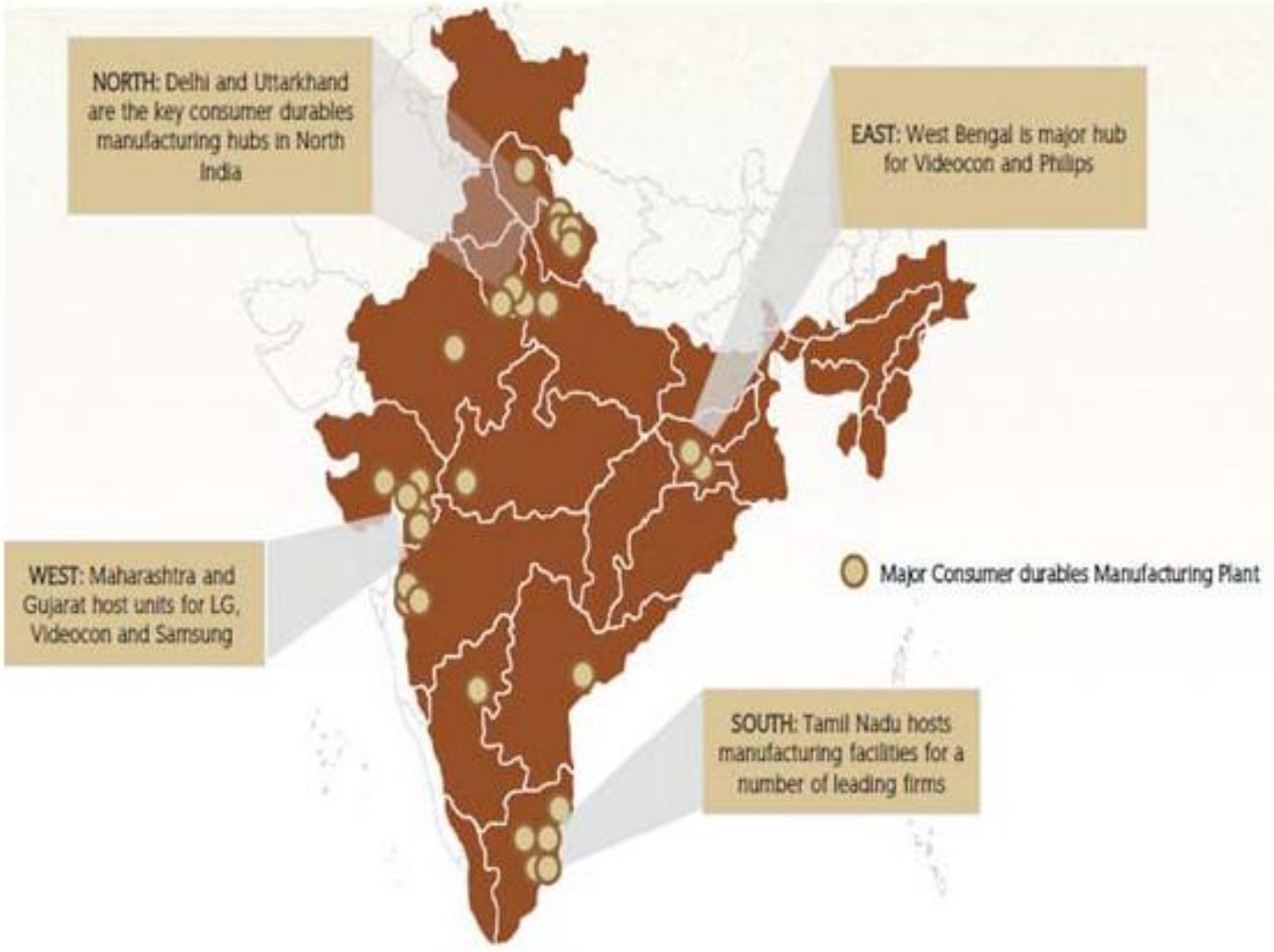
Strengths	Weaknesses	Opportunities	Threats
Presence of established distribution networks in both urban and rural areas.	Demand is seasonal and high during festive season.	In India, penetration level of white goods is lower as compared to other developing countries.	High import duties on raw materials.
Presence of well-known brands.	Demand is dependent on good monsoons.	Unexploited rural market.	Cheap imports from ASEAN at 0% or concessional import Duty & imports from China

CONSUMER DURABLES MARKET



India is Expected to become the 5th largest consumer durables market in the world by 2025.

MAJOR CONSUMER DURABLES MANUFACTURING PLANT



MARKET SIZES AND GROWTH RATES

- Television market in India is expected to grow at a robust rate of 19% CAGR till 2016

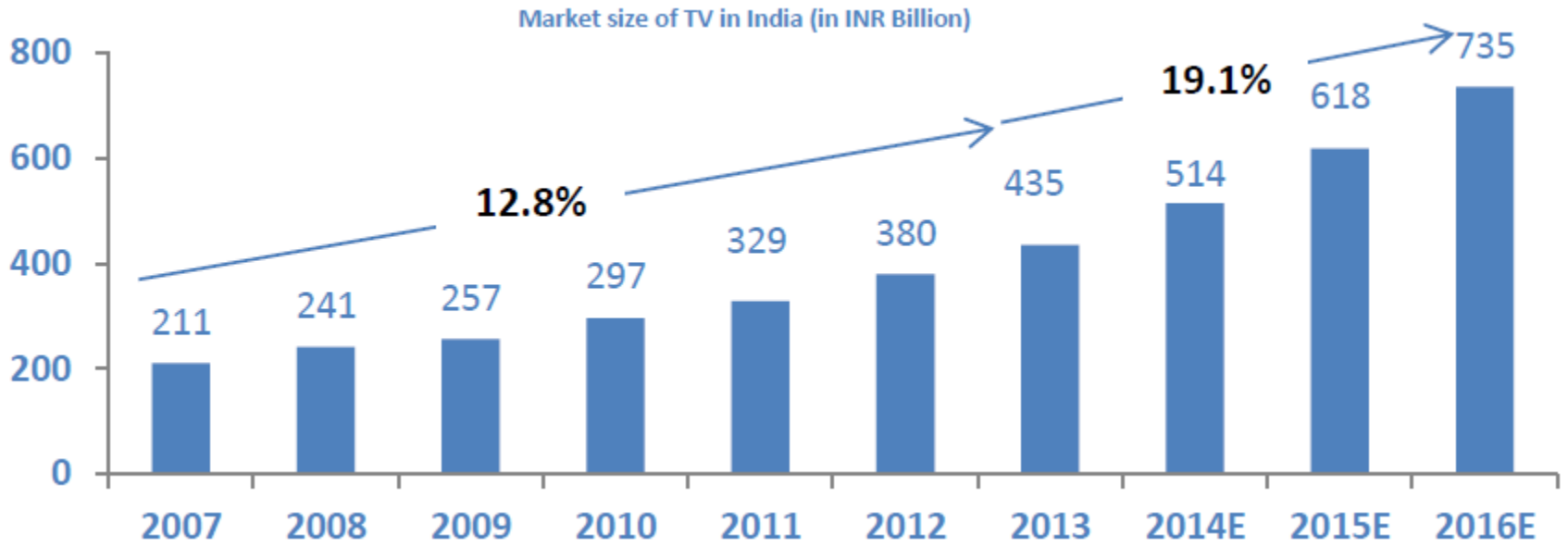
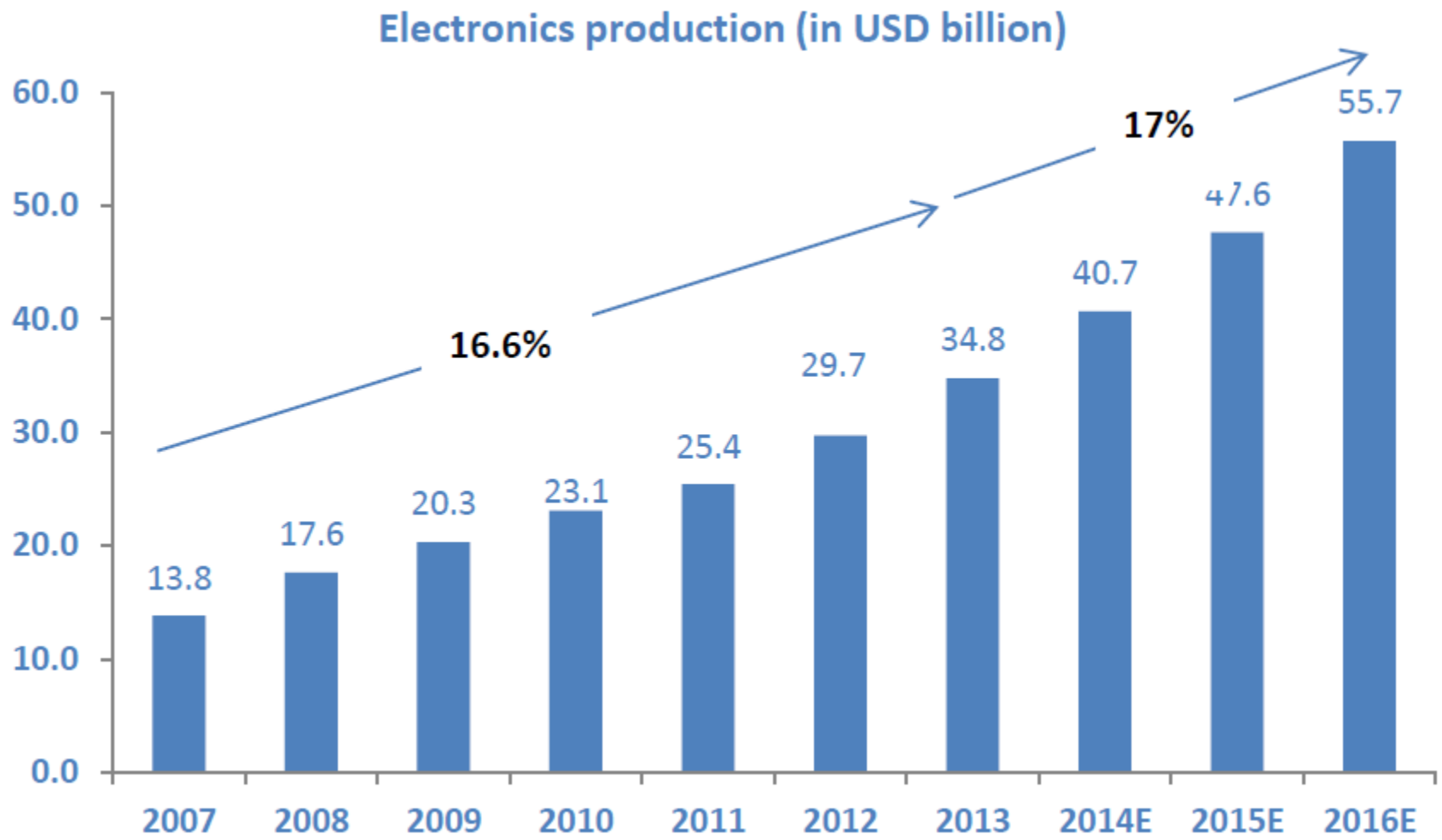


Fig. Market size of TV in India

MANUFACTURING OF CONSUMER ELECTRONICS IN INDIA



STRATEGIES ADOPTED

Innovation	• Companies increasingly spending on R&D and stepping up innovation • Customers frequently change to new-generation products due to low switching costs; thus, companies with newer technologies gain significant market share • With HD TVs entering the market, TVs working on CRT (Cathode Ray Tube) lost their market share
Diversification	• Most companies are now diversifying into other profitable segments; for example, Samsung is focussing heavily on mobile phone manufacturing, while earlier it focussed more on consumer electronics • Videocon is also foraying into other segments such as TV Network and mobile phone manufacturing
Marketing strategy	• Most electronics companies, especially consumer electronics, are shifting towards popular ad campaigns to boost their sales • Most companies in India are embracing aggressive social strategies (e.g., by going online) to target young audience and build brand loyalty among them
JVs & partnerships	• Most companies are forming strategic alliances and JVs for mutual benefits • LG and Sun Microsystems are jointly developing Java platforms to enable LG phones and TVs • LG and Siemens have collaborated to develop standard solutions for air conditioners
Outsourcing of technology	• Manufacturing technologies are exchanged with other countries for better knowledge of innovations • Being competitive on global platform is key to sustainability and growth for the sector

Challenges in Consumer Durable Industry

- Local industry dynamics
- Supply-related issues pertaining to distribution and infrastructure
- Demand issues due to competition from imported goods
- Lack of well-developed distribution networks
- Penetrating fastest growing rural areas
- Electricity availability

- Â Road infrastructure
- Systematic production
- Labor availability
- Increasing choice from both domestically produced and imported goods
- Superior technology
- Steady flow of capital
- Well-acknowledged brands
- Extensive distribution network
- Insight in local market conditions

Technology

25 to 30 years Back

10 years back

Now

What Next ?

We don’t Know …

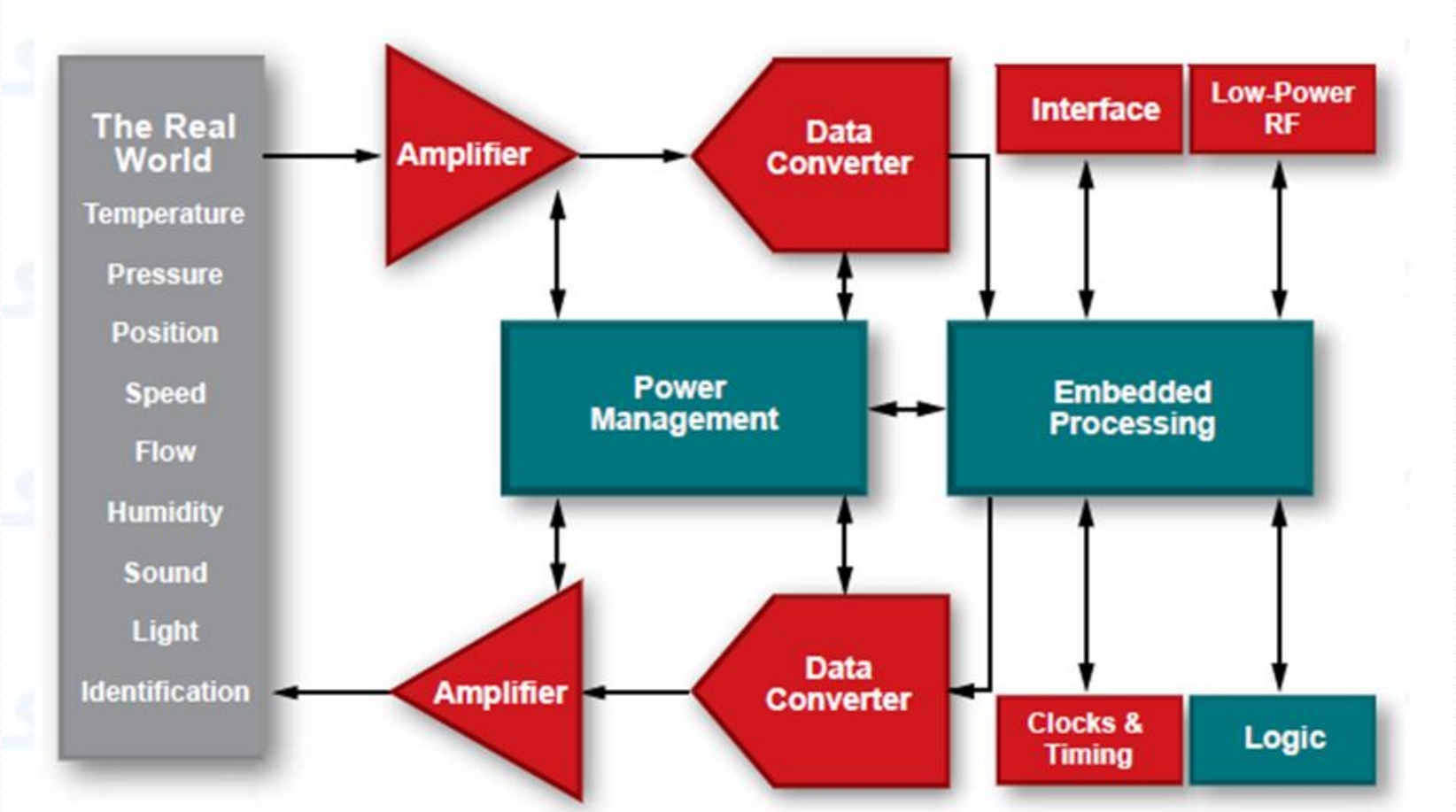
The new world in which we are going to live

What Next ?

- **Virtual reality**
- **Wearables**
- **Internet of Things**

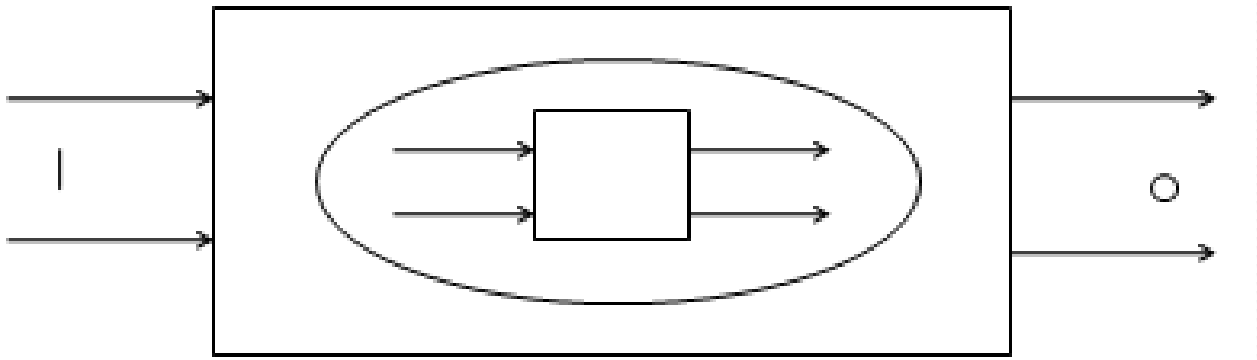
Embedded Systems and its role in IoT

Signal Chain



WHAT IS AN EMBEDDED SYSTEM

An Embedded System is a microprocessor / Microcontroller based system that is embedded as a subsystem, in a larger system (which ***may or may not be a computer system***).



EMBEDDED SYSTEM

- Digital Input
- Digital Out
- Analog In
- Analog Out
- Keyboard
- Display
- Communication Interface
- Controller Interface
- Timer/ Counter/ Interrupts
- Wireless Connectivity

- Can you able to design your Embedded system own?

Application – MSP 430

Medical and Industrial Metering

- Glucose and cholesterol meters, thermometer, EKG, heart rate monitor, pulsoximeters
- Voltage, current, temperature, pressure, pH meters

Sensoring

- Alarm system, smoke detector
- Home control and automation
- Wireless asset tracking
- Wireless sensors
- System supervisor

Utility Metering

- Energy
- Water
- Gas
- Automated Meter Reading (AMR)
- Advanced Metering Infrastructure
- Heat Cost Allocation

Portable Consumer

- Cell phone, digital camera, MP3
- Fitness monitors and sensors
- Toothbrush, shaver
- Remote control
- Wireless keyboard and mouse
- Battery charging

Application – ARM Processor

Automation

- **Monitors**
  - Ethernet bridges
  - Sensors
- **Machines**
  - Controllers
  - Sorters
  - Analyzers
  - Component motors

Transaction Control

- **Point-of-sale**
  - Printers
  - Data acquisition
- **AutoID**
  - Tag Scanner
  - Vehicle ID
  - Inventory RFID

Appliances

- **White goods**
  - Home appliance controllers
- **Small motor control**
  - Pumps
  - Compressors
  - Variable frequency drives

ARM Processor

Building Control

- **Lighting controls**
  - LED drivers
  - Panel motor controller
- **HVAC**
  - Pump inverter
  - Compressor motor
- **Building automation**
  - Audio

Medical

- **Connected Motor Control**
  - Dental Drilling Machine
  - Robotic DNA Extraction
- **Connected General Host**
  - Instrumentation cluster
- **Data Acquisition**

Portable Electronics

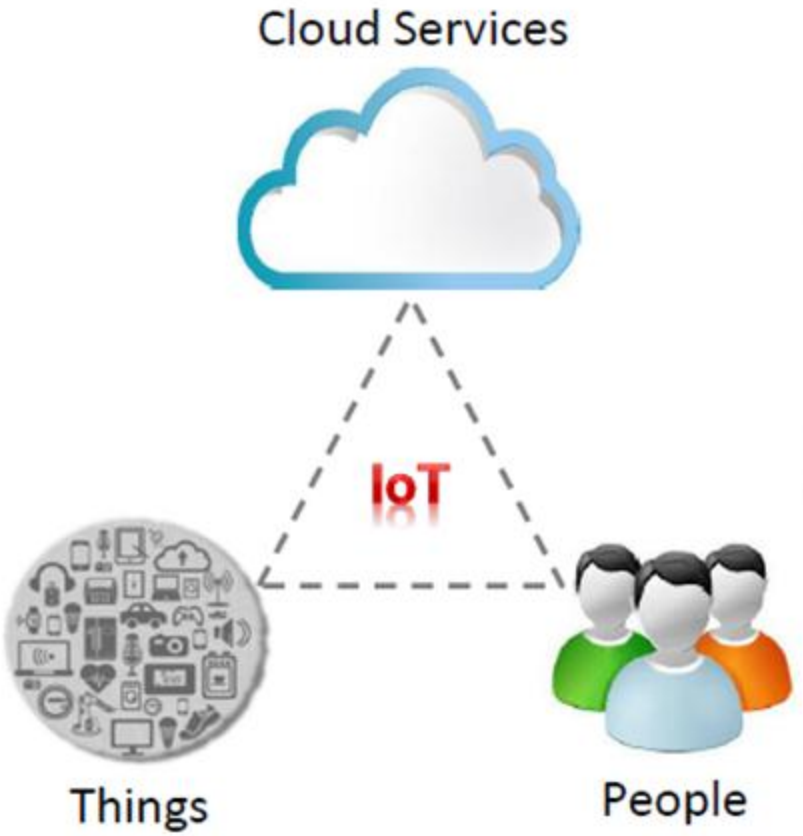
- **Display**
  - Small screen/ touch interface
- **Connectivity**
  - Portable media players
  - Electronics accessories

What is the IoT?

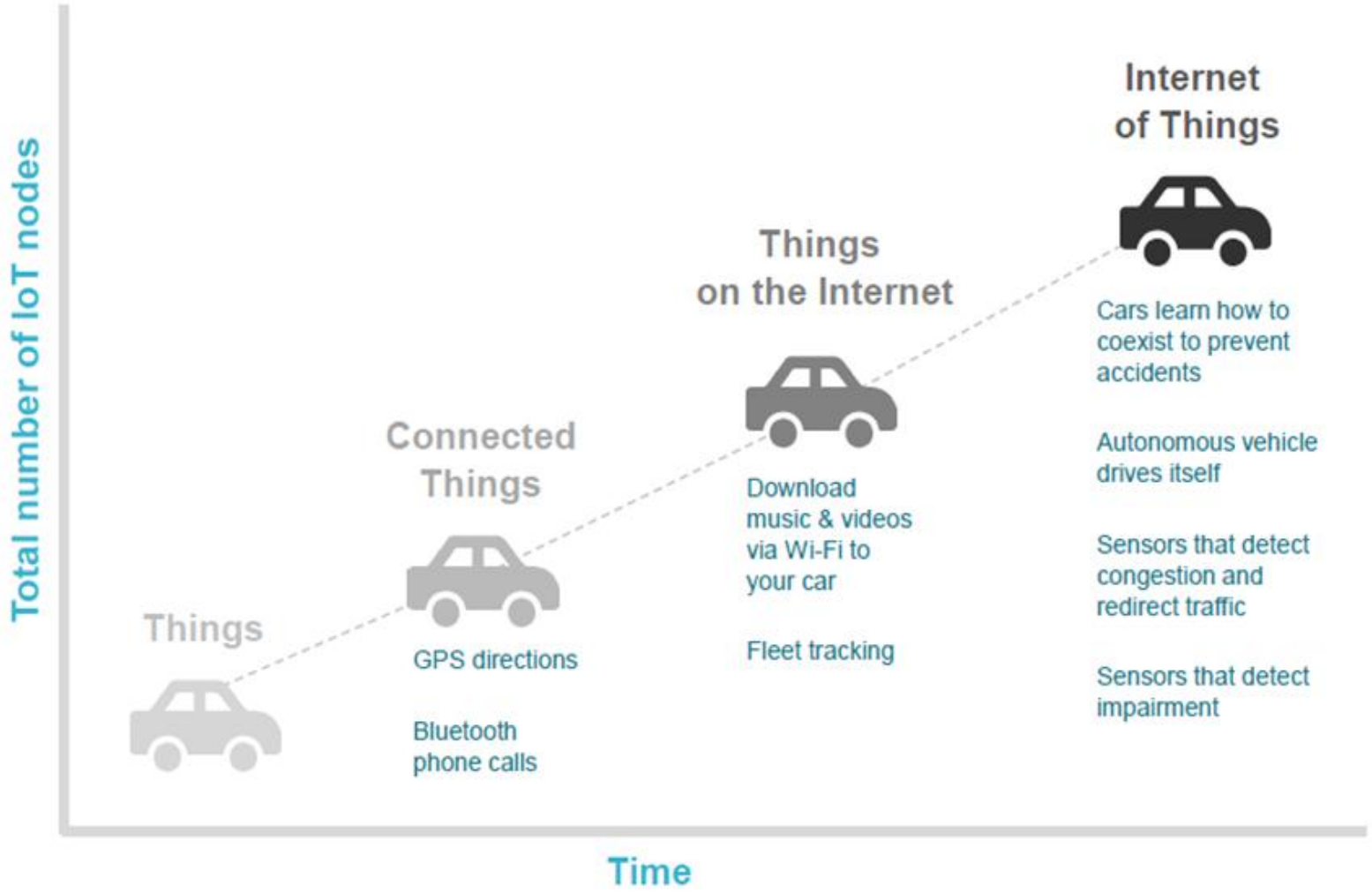
Things, people and cloud services getting connected via the Internet to enable new use cases and business models

How is IoT different than M2M?

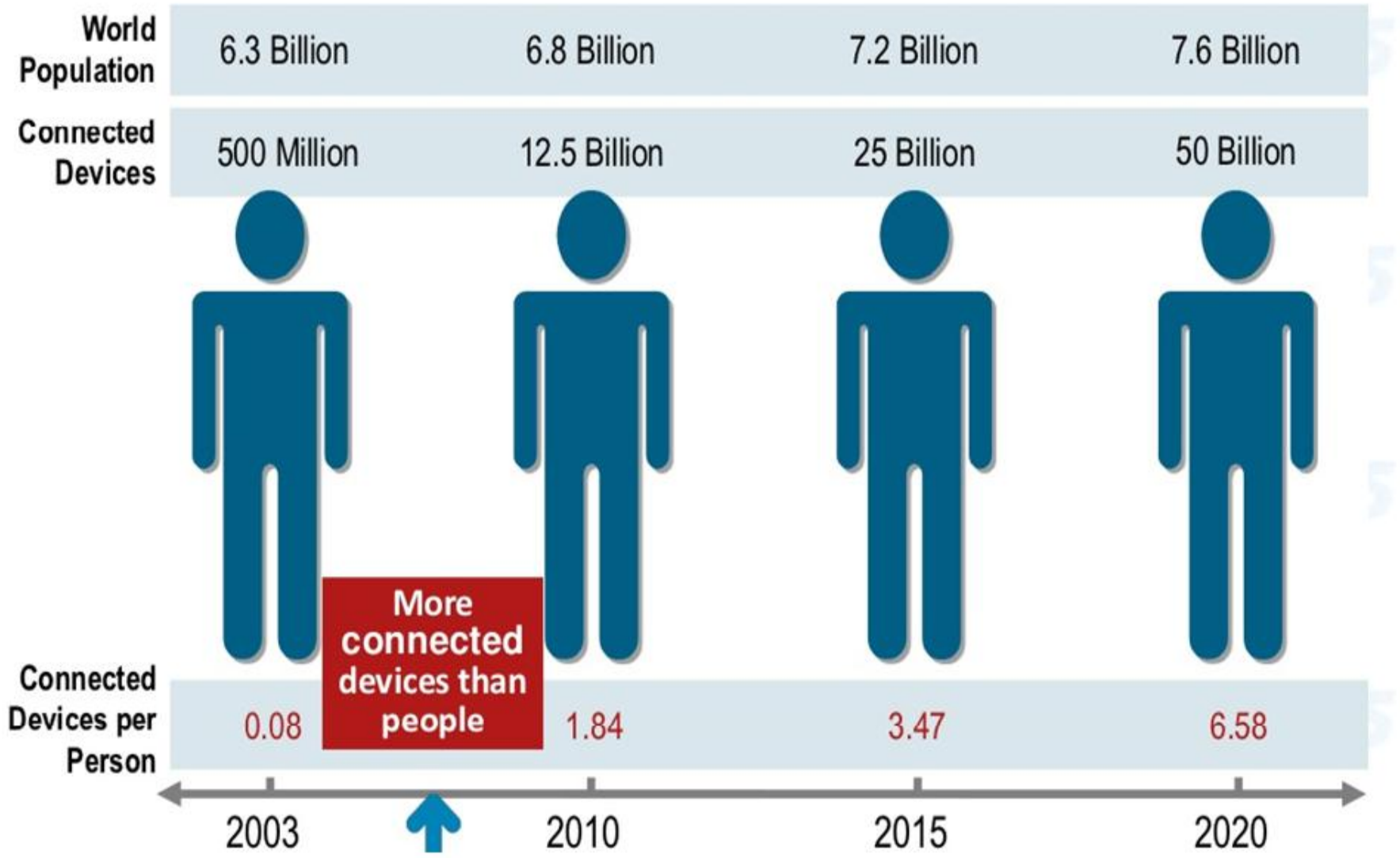
- M2M focused on connecting machines – mainly proprietary closed systems
- IoT is about harmonizing the way humans and machines connect using common public services



The Evolution of the IoT



Population – Connected devices



Industrial in the IoT

Wirelessly connected LED lighting & energy management

Flow & pressure sensors

Automotive in the IoT

Navigation, Bluetooth hands free & audio, Wi-Fi

Keyless entry, interior lighting, mirror control, sensors

Homes in the IoT

Security & safety system, sensors

Smart home energy gateway, thermostats, sensors

Fitness and Healthcare in the IoT

Informed workouts with activity & performance measurement

Safe independent living with fall detection, medication monitoring, etc.

IoT is an enabling technology – not a market

Wearables
- Entertainment
- Fitness
- Smart watch
- Location and tracking

Building & Home Automation
- Access control
- Light & temp control
- Energy optimization
- Predictive maintenance
- Connected appliances

Smart Cities
- Residential E-meters
- Smart street lights
- Pipeline leak detection
- Traffic control
- Surveillance cameras
- Centralized and integrated system control

Smart Manufacturing
- Flow optimization
- Real time inventory
- Asset tracking
- Employee safety
- Predictive maintenance
- Firmware updates

Health Care
- Remote monitoring
- Ambulance telemetry
- Drugs tracking
- Hospital asset tracking
- Access control
- Predictive maintenance

Automotive
- Infotainment
- Wire replacement
- Telemetry
- Predictive maintenance
- C2C and C2I

GOVERNMENT INITIATIVES

- National Policy on Electronics
- Foreign Trade Policy (2015-2020)
- Modifies Special Incentives Package Scheme (MSIPS)
- Zero Duty EPCG Scheme


STOP
IT IS TIME
TO BE SMART