

**WEBINAR:**  
**IOT DEVELOPMENT: OPPORTUNITIES  
AND CHALLENGES**

**TIME: 04:45 - 05:15 PM**

**DATE: 17<sup>th</sup> JULY 2020**

**HOSTED BY**



**IndiaTechnologyWeek**  
**@Home 2020**



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# Outline

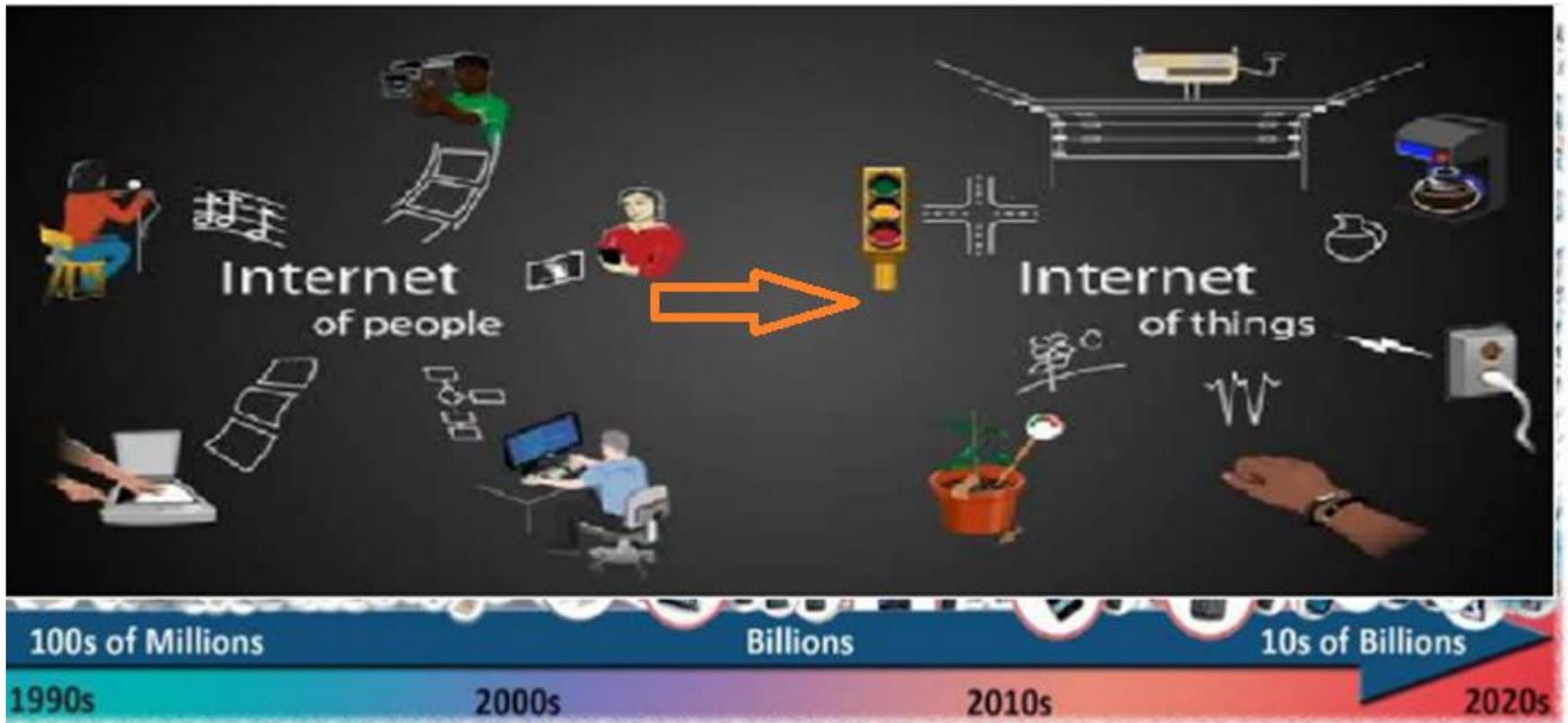
- ❑ Overview of IoT
- ❑ Opportunities
- ❑ Research Challenges
- ❑ Key digital trends shaping the future
- ❑ Q & A

# Overview of IoT

# INTRODUCTION



# INTRODUCTION





# The Smart World of IoT

- Enable everyday objects **internet connectivity**.
- These objects are embedded with **sensors, electronics, software, actuators and network connectivity** that give them the ability to exchange data.

# How Does This Impact You?

- The new rule for the future is going to be, "Anything that can be connected, will be connected."
- But why on earth would you want so many connected devices talking to each other?
  - Communication
  - Control and Automation
  - Cost Savings

# Opportunities

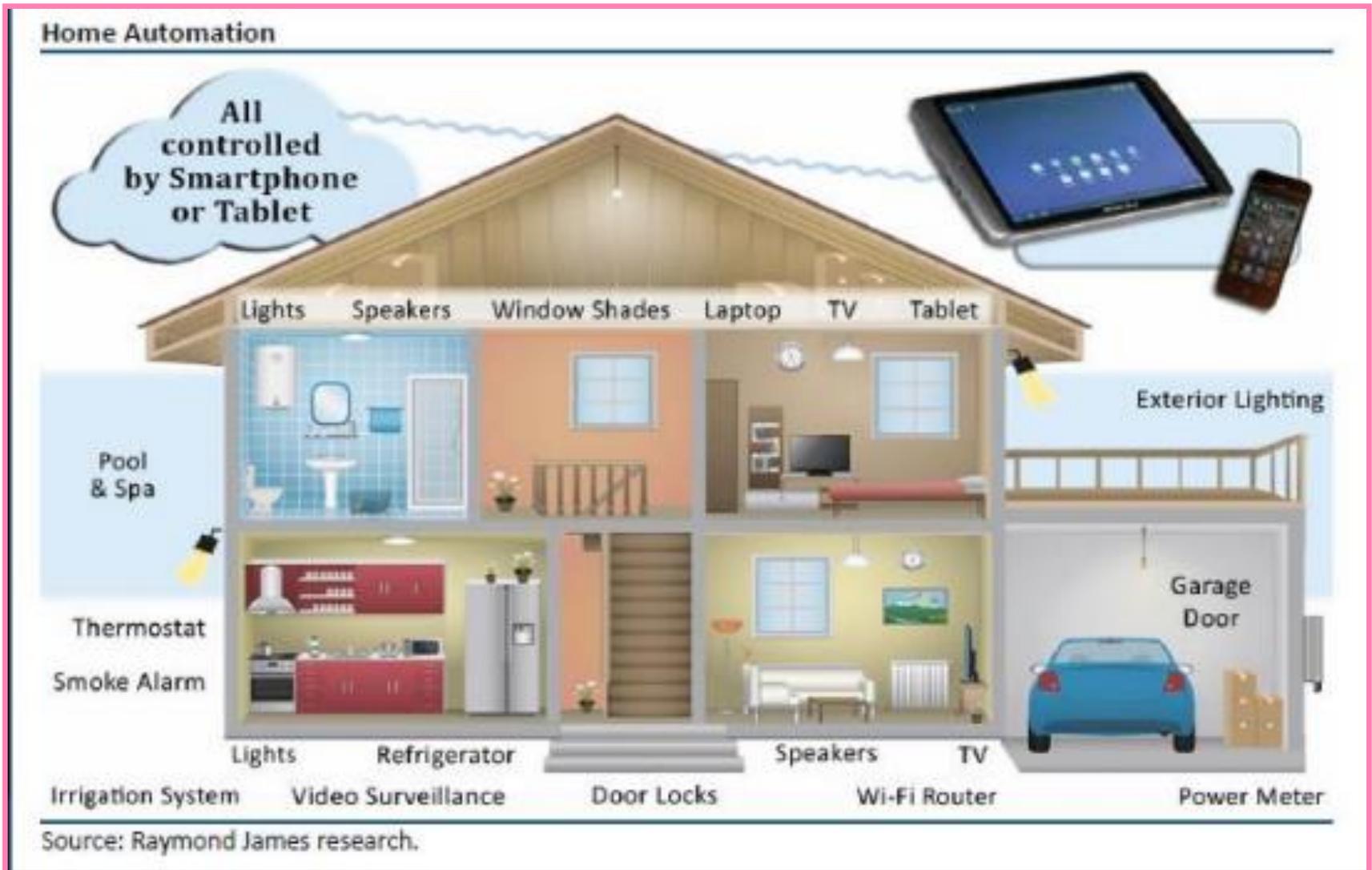
# Looming Opportunity: IoT

-  **Consumer**
  - Smart home control (lighting, security, comfort)
  - Optimized energy use
  - Maintenance
-  **Retail**
  - Product tracking
  - Inventory control
  - Focused marketing
-  **Medical**
  - Wearable devices
  - Implanted devices
  - Telehealth services
-  **Military**
  - Resource allocation
  - Threat analysis
  - Troop monitoring

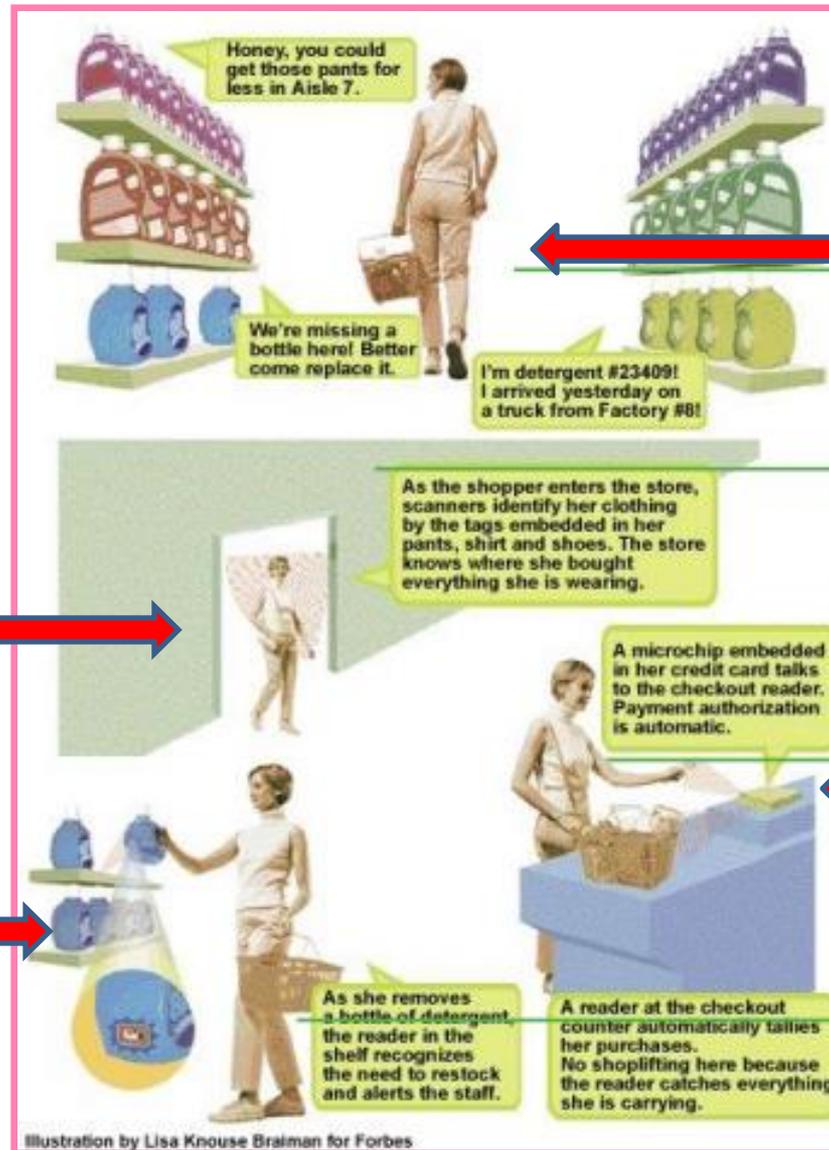


-  **Industrial**
  - Smart Meters
  - Wear-out sensing
  - Manufacturing control
  - Climate control
-  **Automotive**
  - Parking
  - Traffic flow
  - Anti-theft location
-  **Environmental**
  - Species tracking
  - Weather prediction
  - Resource management
-  **Agriculture**
  - Crop management
  - Soil analysis

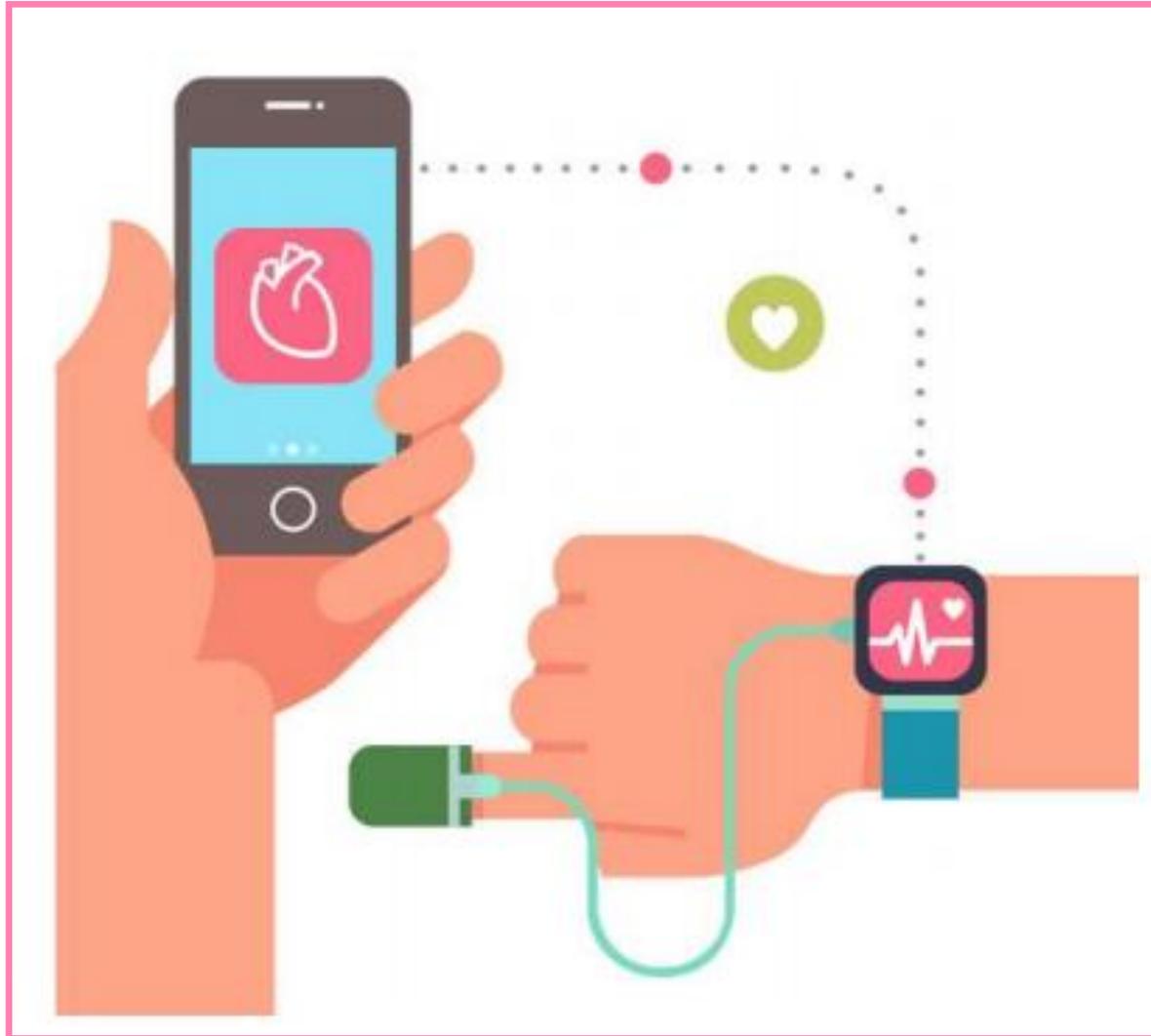
# Smart (Intelligent) home



# A Futuristic Application: Shopping



# Scenario: Health Care



# Transportation



# IoT Research Challenges

# Challenges

- IoT is complex.
- Connectivity is crucial.
- Highly power consuming.
- Technological Standardization in most areas are still remain fragmented.
- Managing and fostering rapid innovation is a challenge for governments.

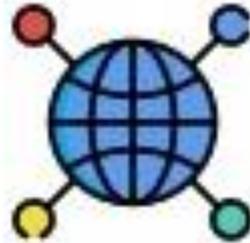
# Challenges

- Is it safe? Can the internet of things be secured?



# **Key digital trends shaping the future**

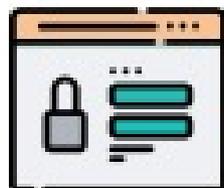
# 1. The power of connectivity and IoT's growth



1

The power of connectivity  
and IoT's growth

## 2. IoT security trends: raising security concerns on the table



2

Raising security  
concerns on the table

# 3. Blockchain technologies shaping the future of IoT



3

Blockchain technologies  
shaping the future of IoT

# 4. 5G networks across the industries

- 5G mobile technologies provides faster and far more **reliable connectivity**, which encourages industries to transform the manufacturing and business processes accordingly.
- Together, IoT and 5G are establishing an infrastructure for **smartphones and tablets, as well as wearables, medical devices, and vehicles.**

# 5. Empowered edge computing in IoT

- **Edge computing** is definitely one of the key industrial IoT trends in 2020.
- In 2020, this pair of technologies is moving to the forefront.

# Final Thoughts

**THANK YOU**