



# INTERNET OF THINGS (IOT) APPLICATIONS

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# IoT in different sectors

Industrial and Manufacturing

Consumer

Retail, financial, and marketing

Healthcare

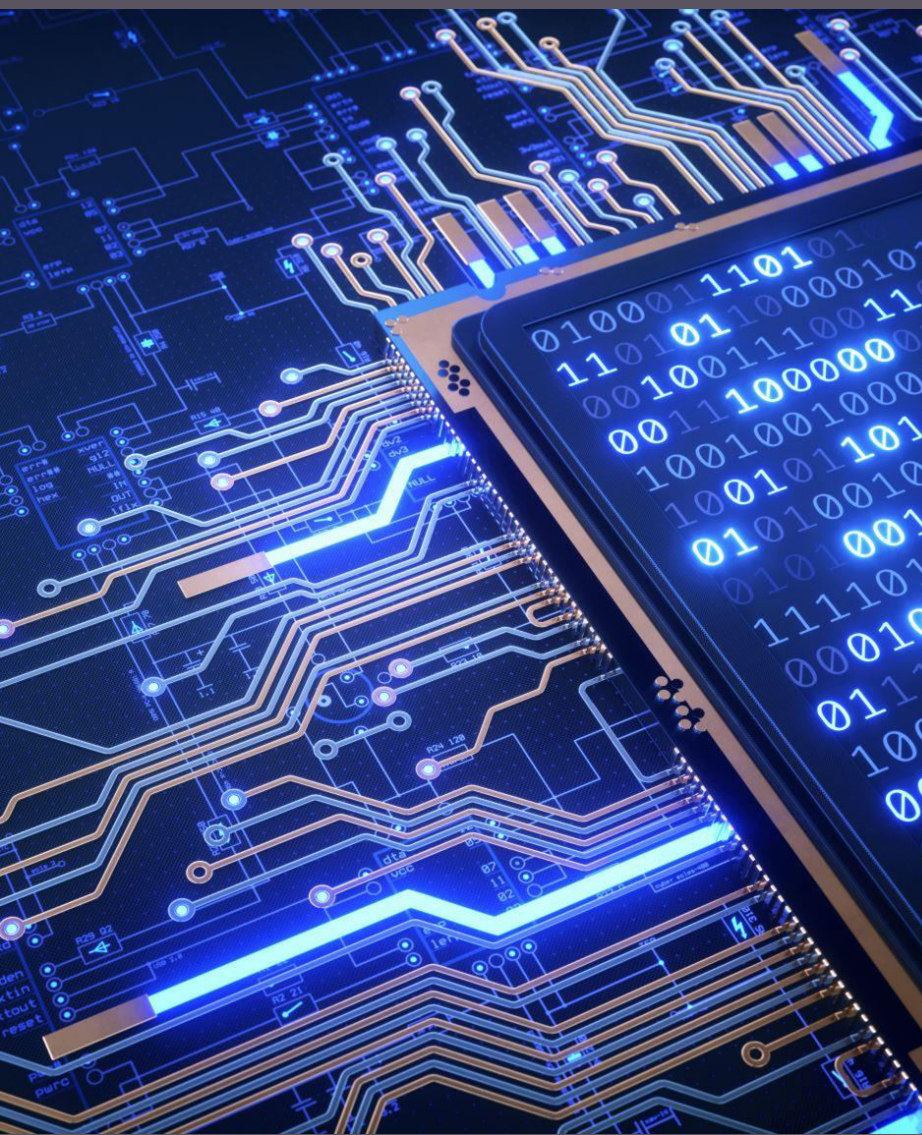
Transportation and logistics

Agricultural and environmental

Energy

Smart city

Government and military



## IoT Example: The Refrigerator

A refrigerator is just a thing, so it can be anything besides a computer.

If it's a computer, we're not calling that a thing, but anything besides a computer.

Now the next thing you do is you add to that some type of computational intelligence (Micro controller).

So that's intelligent refrigerator. But maybe you wouldn't call that Internet of Things, because it's not actually networked yet. Then, to top it off, you add Internet connectivity.

It's got some kind of computation inside and it's got a network connection which means it can use all sorts of other resources that are not local.



# IoT Example: What the IoT Refrigerator can do

You can have IoT fridge detect that you are low on butter and then just order that, and then the next morning, butter will appear on your doorstep.

You can search for low food prices.

Give you a good idea for food for you tomorrow for the meal.

IoT device should have a simple interface, have computational intelligence and be connected to the internet.





# IoT for Manufacturing

Microsoft highlights the following benefits for implementing IoT solutions in a manufacturing scenario

- ❑ Improved visibility across your manufacturing operations—make more informed decisions with a real-time picture of operational status.
- ❑ Improved utilization—maximize asset performance and uptime with the visibility required for central monitoring and management.
- ❑ Reduced waste—take faster action to reduce or prevent certain forms of waste.
- ❑ Improved quality—detect and prevent quality problems by finding and addressing equipment issues sooner.

# Consumer IoT use cases

- ❑ Smart home gadgetry: Smart irrigation, smart garage doors, smart locks, smart lights, smart thermostats, and smart security.
- ❑ Wearables: Health and movement trackers, smart clothing/wearables.
- ❑ Pets: Pet location systems, smart dog doors.





# IoT enabled Smart City

Enhanced citizen safety

Optimized public services

Economic growth

Improved traffic flow

Improved environment



# IoT enabled Retail



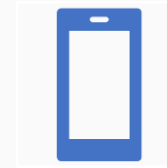
Predictive Equipment  
Maintenance



Smart Transportation



Data-aware  
Warehouses



Connected Consumer



Smart Store



# Healthcare IoT use cases

- ☐ In-home patient care
- ☐ Hospital equipment and supply asset tracking
- ☐ Pharmaceutical tracking and security
- ☐ Remote field medicine
- ☐ Drug research
- ☐ Patient fall indicators

# Transportation and logistics IoT use cases

- ❑ Fleet tracking and location awareness.
- ❑ Asset and package tracking within fleets.
- ❑ Preventative maintenance of vehicles on the road.





## Agricultural and environmental IoT use cases

- ☐ Smart irrigation and fertilization techniques to improve yield.
- ☐ Smart lighting in nesting or poultry farming to improve yield.
- ☐ Livestock health and asset tracking.
- ☐ Drones-based land surveys.
- ☐ Robotic farming.
- ☐ Volcanic and fault line monitoring for predictive disasters.

# Energy IoT use cases

- ❑ Oil rig analysis of thousands of sensors and data points for efficiency gains.
- ❑ Remote solar panel monitoring and maintenance.
- ❑ Smart electric meters in a citywide deployment to monitor energy usage and demand.



# Government and Military IoT use cases

- ❑ Terror threat analysis through IoT device.
- ❑ Sensor bombs deployed on the battlefield to form sensor networks to monitor threats.
- ❑ Government asset tracking systems.
- ❑ Real-time military personal tracking and location services.
- ❑ Synthetic sensors to monitor hostile environments.
- ❑ Water level monitoring to measure dam and flood containment.

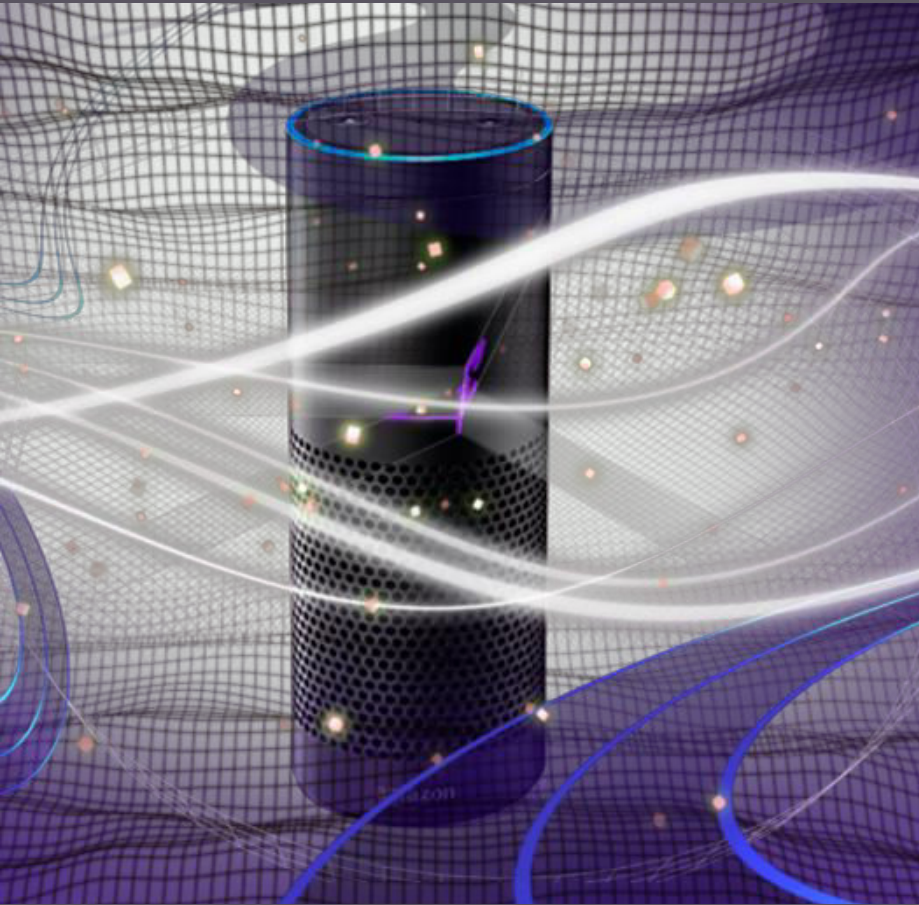
# Voice control

Home automation

Automobiles

Health Care

Entertainment



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THANK YOU