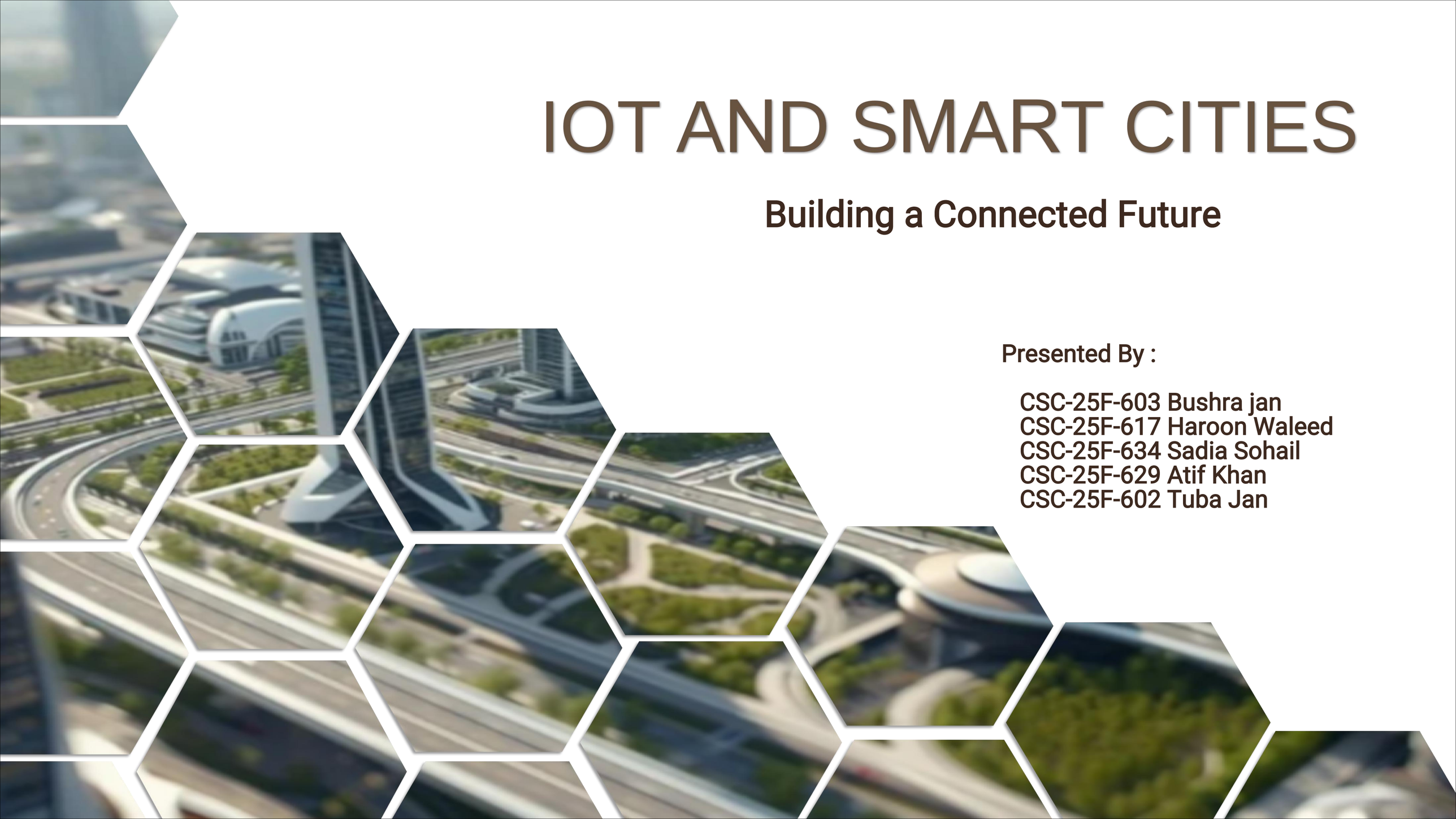

IOT AND SMART CITIES

Building a Connected Future

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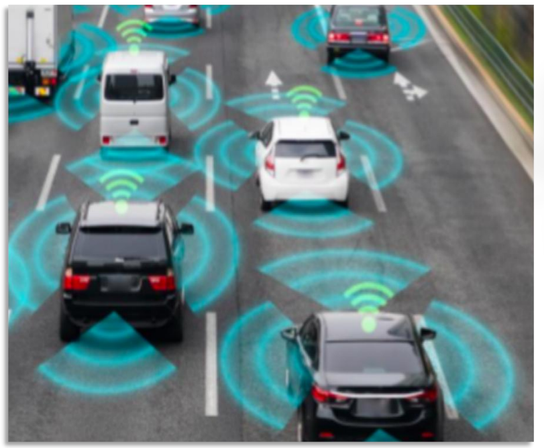
Internet of Things (IoT)

Internet of Things (IoT) means everyday objects connected to the internet. They can collect and share data automatically. This helps make tasks easier, faster, and smarter.



Barcelona uses smart street lights with IoT technology. The lights have sensors that detect people and traffic. They automatically become brighter or dimmer based on movement.

What Are Smart Cities?

Understanding the concept of smart urban areas

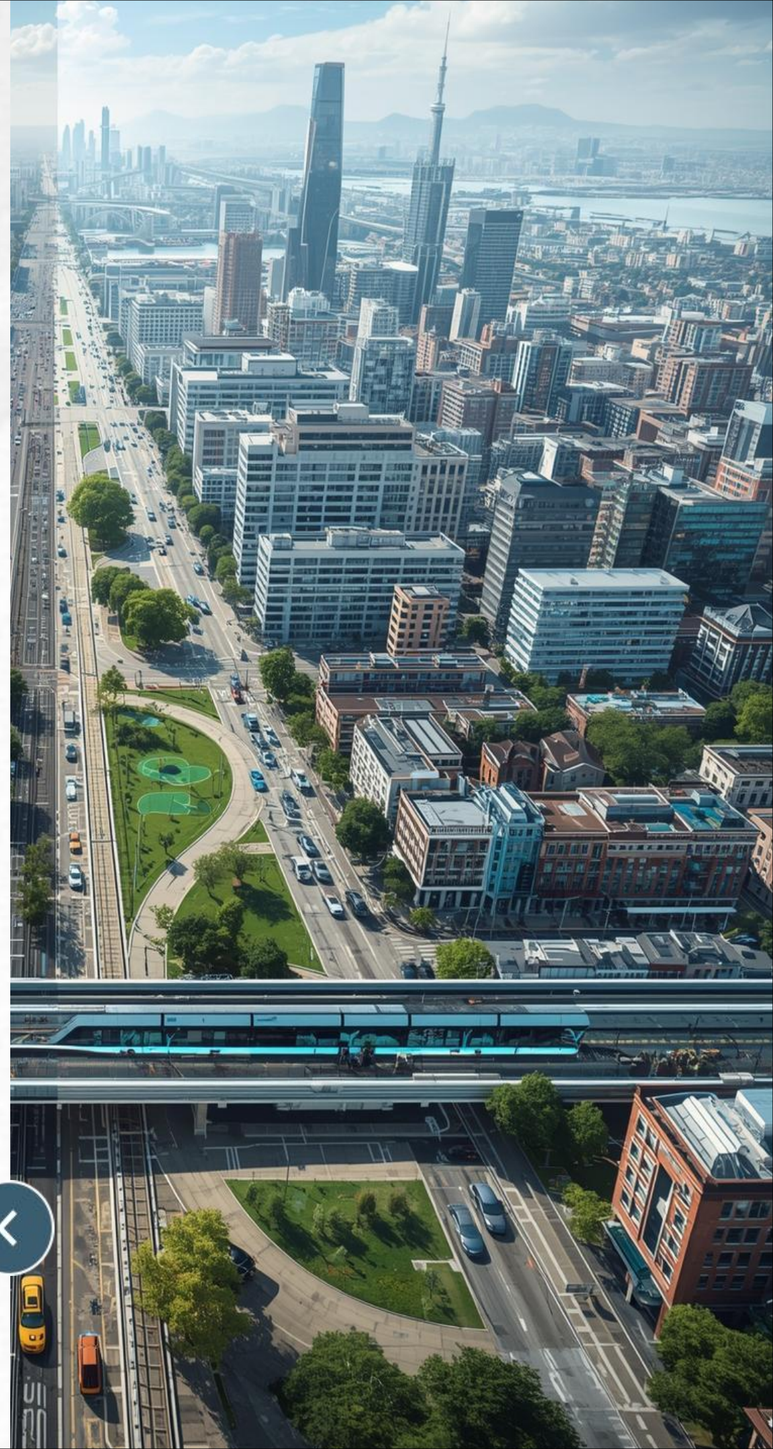
Smart cities use modern technology and real-time data to make life easier for people. They improve important services like transportation, energy, and public safety. With these smart systems, cities become more efficient, more sustainable, and more connected for everyone.

Smart vs Traditional Cities With IOT

Understanding the Differences

Traditional cities use manual work and slow systems, so daily tasks take more time. They do not have much technology, which makes management difficult. Smart cities use IoT, sensors, and real-time data to handle things automatically.

They manage traffic, energy, and safety in a better and faster way. Because of this, smart cities are more organized, quick, and helpful for people.



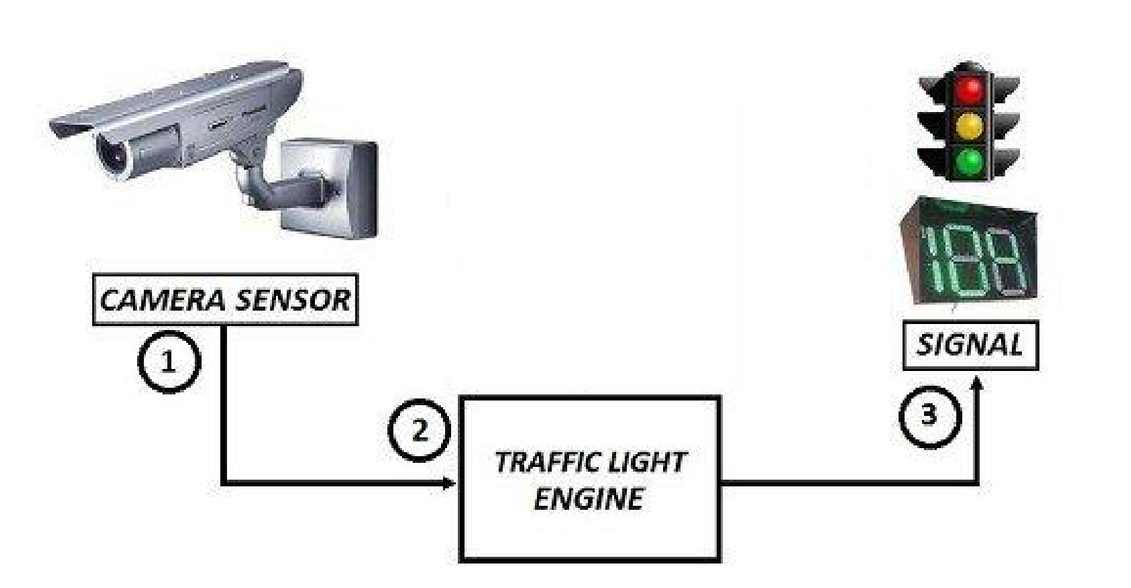
Making Our City Smart With IOT

Using IoT and digital services is very important for improving cities. They help make urban areas more efficient and better connected.

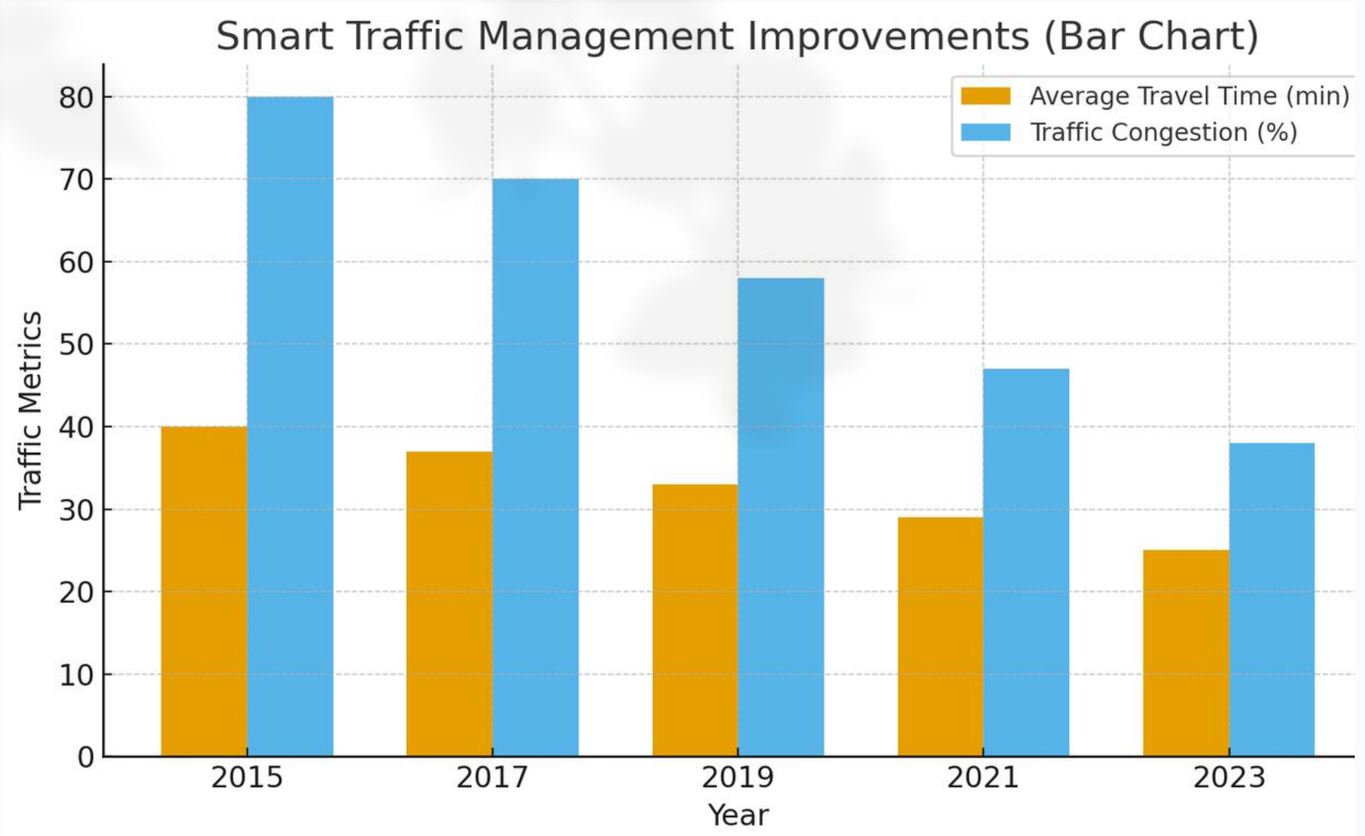
- Technology Use
- Traffic Management
- Smart Education
- Healthcare Solutions
- Safety & Security (Gas & Water Leak Detection)
- Role of Smart Agriculture
- Waste Management
- Infrastructure
- Citizen Convenience (Water Management , Air Pollution Control)
- Public Safety

Smart Traffic System with IOT

Smart traffic systems utilize real-time monitoring to optimize flow, reducing congestion and enhancing urban mobility.



Singapore uses smart IoT sensors, cameras, and AI traffic lights to control traffic. These systems help reduce traffic jams and let emergency vehicles move quickly. They also give live updates to drivers. Because of this, Singapore has less traffic compared to other big cities.



Use of IOT in Smart Agriculture

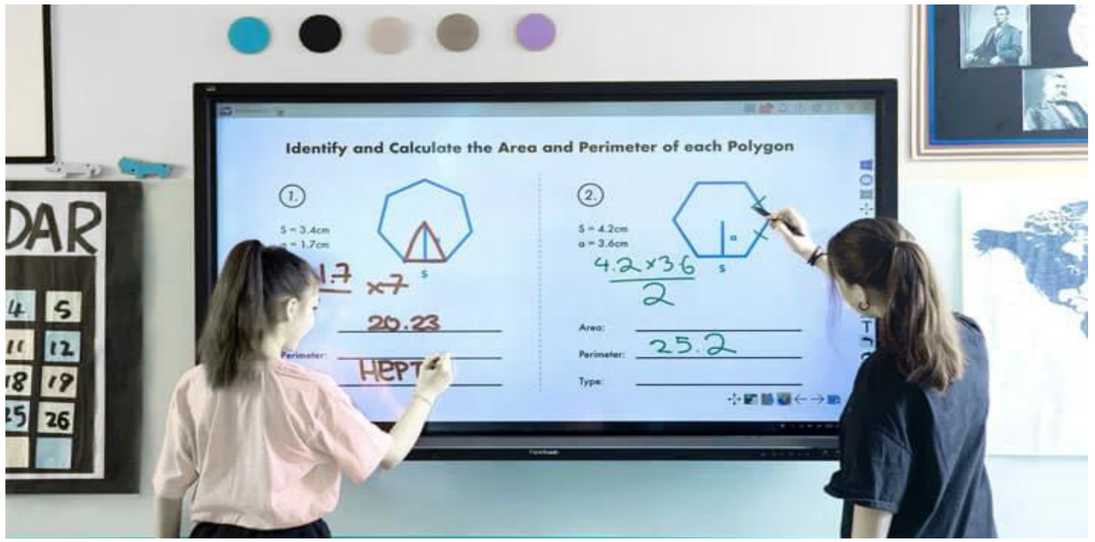
Smart farming uses IoT, sensors, and data to check crops, soil, and weather.

It helps farmers water plants properly, use fewer chemicals, and grow more food.

This way, farming becomes easier, better, and more environmentally friendly.

Use of IOT for Smart Education

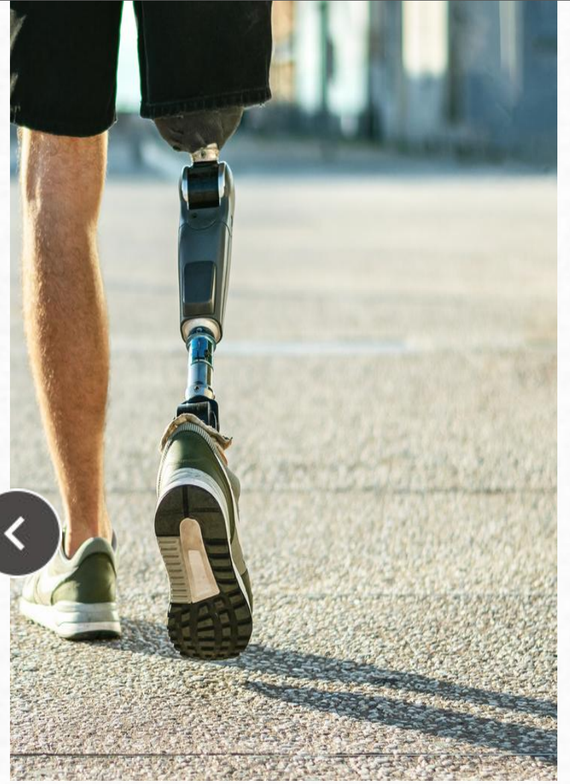
E-learning and smart tools are changing classrooms. They make learning more fun and easy to understand. They can also take attendance automatically, saving time and making schools more efficient.

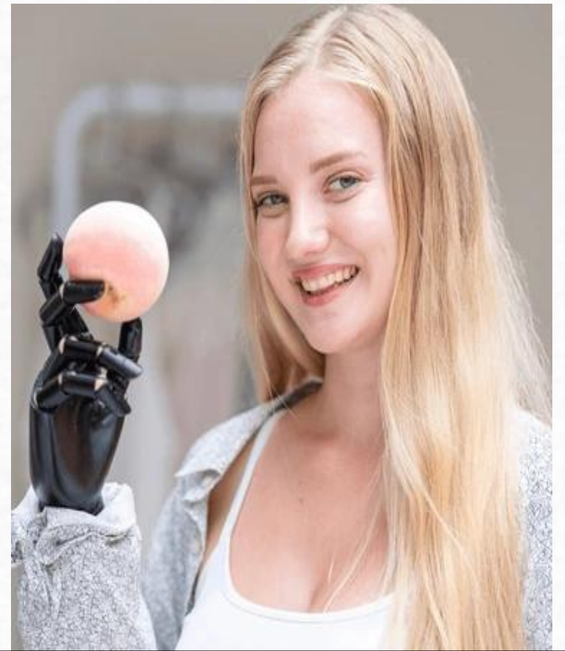


Healthcare solution With IOT

Smart healthcare uses IoT to take better care of patients. It helps doctors check patients remotely through telemedicine. It also makes hospital work faster and more organized. This way, patients get better treatment and hospitals run more smoothly.

Smart healthcare uses sensors and digital tools to monitor patients in real time. These technologies help doctors respond quickly and provide more accurate treatments.





Use of IOT for Smart Environment

Smart cities use new technologies to make city life better and cleaner. They help manage resources like water, energy, and waste in a smart way. This keeps the environment healthy and makes cities more sitable for everyone.

- Air Quality Monitoring with IOT
- Water Management with IOT
- Waste Management with IOT

IOT For Smart Environment

Air Purification With IOT

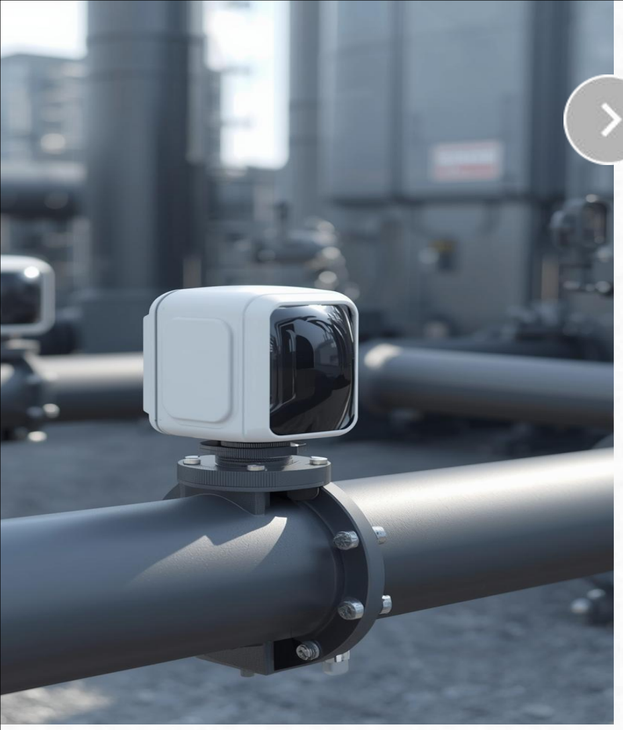
Using air quality sensors in cities helps track pollution in real time, allowing quick action to protect the environment and public health.

Use of IOT for Waste Management

Smart bins with IoT sensors track waste in real time, helping optimize collection, cut costs, and keep the environment clean.

Use of IOT for Water Management

IoT systems improve water management by enabling smart irrigation, monitoring, and efficient distribution.



IOT Applications in Gas and Water Leak Detection

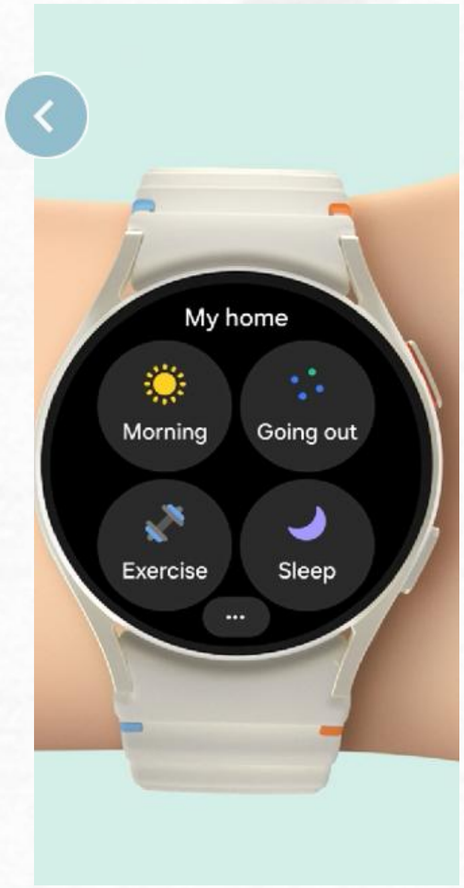
IoT devices can detect gas and water leaks quickly. Sensors monitor pipes and gas lines in real time. If a leak happens, the system sends instant alerts to prevent accidents and save resources. This helps keep homes and buildings safe and reduces waste.

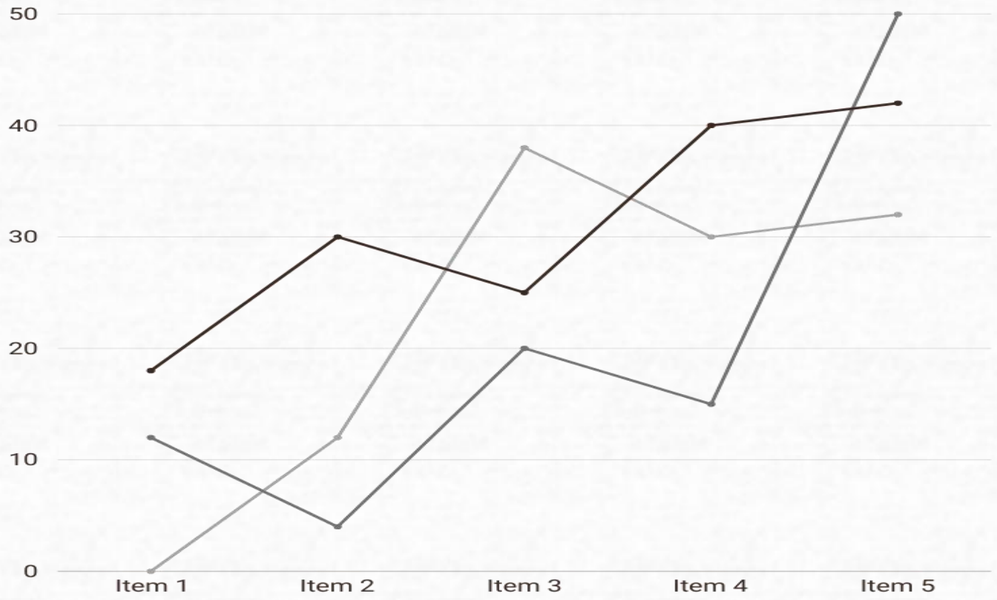
Use of IOT for Public Safety

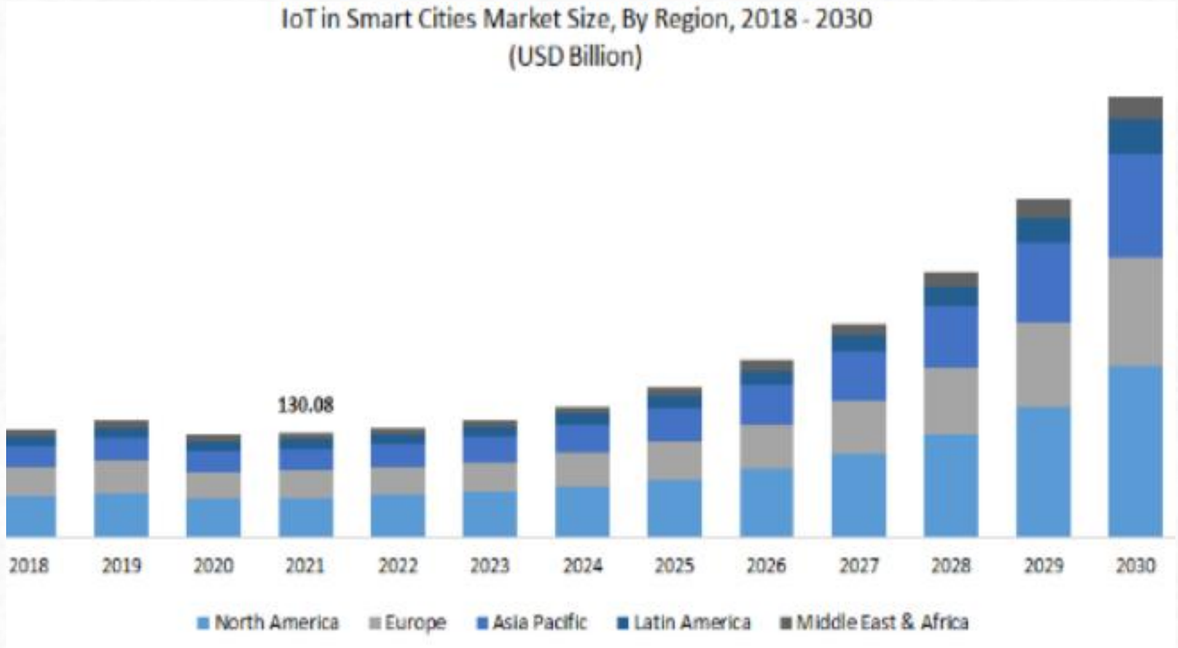
IoT makes cities safer by using sensors and cameras to detect accidents, crimes, or unusual activities.It sends instant alerts to authorities, helping prevent incidents and protect people quickly.

Use of IOT in Smart Buildings

Smart buildings and home use connected appliances and systems to save energy, enhance security, and manage resources efficiently.







Conclusion

IOT Benefits in Smart Cities

Enhancing Urban Living

IoT has made life easier by enabling smart homes and remote control of devices.
It improves healthcare, traffic, water, and energy management for faster and better services.
Overall, IoT saves time, effort, and makes daily life smarter and safer.

THANKS