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**Topic**: **the internet of things**

## Github Link: <https://github.com/ahmed195063/HTML-project-repository>

## Why Is IoT so Important?

Over the past few years, IoT has become one of the most important technologies of the 21st century. Now that we can connect everyday objects—kitchen appliances, cars, thermostats, baby monitors—to the internet via embedded devices, seamless communication is possible between people, processes, and things.

**What Technologies Have Made IoT Possible?**

While the idea of IoT has been in existence for a long time, a collection of recent advances in a number of different technologies has made it practical.

* **Access to low-cost, low-power sensor technology.** Affordable and reliable sensors are making IoT technology possible for more manufacturers.
* **Connectivity.** A host of network protocols for the internet has made it easy to connect sensors to the cloud and to other “things” for efficient data transfer.
* **Cloud computing platforms.** The increase in the availability of cloud platforms enables both businesses and consumers to access the infrastructure they need to scale up without actually having to manage it all.
* **Machine learning and analytics.** With advances in machine learning and analytics, along with access to varied and vast amounts of data stored in the cloud, businesses can gather insights faster and more easily. The emergence of these allied technologies continues to push the boundaries of IoT and the data produced by IoT also feeds these technologies.

**What Is Industrial IoT?**

Industrial IoT (IIoT) refers to the application of IoT technology in industrial settings, especially with respect to instrumentation and control of sensors and devices that engage cloud technologies. Recently, industries have used machine-to-machine communication (M2M) to achieve wireless automation and control. But with the emergence of cloud and allied technologies (such as analytics and machine learning), industries can achieve a new automation layer and with it create new revenue and business models. IIoT is sometimes called the fourth wave of the industrial revolution, or Industry 4.0. The following are some common uses for IIoT:

* Smart manufacturing
* Preventive and predictive maintenance
* Smart power grids
* Smart cities
* Connected and smart logistics
* Smart digital supply chains

## What Industries Can Benefit from IoT?

Organizations best suited for IoT are those that would benefit from using sensor devices in their business processes.

#### Manufacturing

Manufacturers can gain a competitive advantage by using production-line monitoring to enable proactive maintenance on equipment when sensors detect an impending failure. Sensors can actually measure when production output is compromised. With the help of sensor alerts, manufacturers can quickly check equipment for accuracy or remove it from production until it is repaired. This allows companies to reduce operating costs, get better uptime, and improve asset performance management.

#### Automotive

The automotive industry stands to realize significant advantages from the use of IoT applications. In addition to the benefits of applying IoT to production lines, sensors can detect impending equipment failure in vehicles already on the road and can alert the driver with details and recommendations.

Source Code:











