

FUTURE OF IOT

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ABSTRACT:-

In any case, technology has been trending toward automation for quite some time. Isn't it true that one of the most basic principles of technology is to make our lives simpler by requiring us to do fewer things explicitly? It may be making us all lazier every day, or it could be providing us significantly more time to pursue anything we choose. Whatever the outcome, there is little doubt that automation is the way of the future, and the area where it is most evident is in our homes.

1. INTRODUCTION:-

IoT has grown so important in our everyday lives that it will have a significant influence in the near future. For example, solutions for traffic flows, car maintenance reminders, and energy conservation may all be offered instantaneously. Sensors will assess upcoming maintenance concerns and will even prioritise maintenance team schedules for repair equipment. Data analysis technologies will make it easier for metropolitan and cosmopolitan cities to handle traffic, trash, pollution control, law enforcement, and other important operations efficiently.

Taking it a step further, linked devices may assist people individually, such as receiving an alert from the refrigerator reminding you to buy for veggies when the vegetable tray is empty, or your home security system allowing you to open the door for a visitor using connected devices (IoT). The volume of data collected would be huge, given the massive increase in the number of devices on a daily basis. This is where Big Data and IoT come together.

Big Data is in charge of managing the massive amounts of data generated by its technology. Big data and the Internet of Things (IoT) are two important topics in commercial, industrial, and other applications. The term "Internet of Things" was coined about a decade ago to describe the world of connected equipment and devices that collect, store, and handle huge amounts of big data. Big data also refers to the examination of this generated data in order to achieve valuable outcomes. The collecting and analysis of data connected to consumer actions in order to discover why and what customers buy has been the driving force behind the IoT and big data.

It wasn't long ago that we imagined futuristic homes with lights that turned on on their own, coffee brewed just the way you like it as you were about to wake up, and showers that knew the weather outside and adjusted the water temperature accordingly. And now we've arrived at a moment where the technology to accomplish all of this has been available for some time and has finally become inexpensive. As a result, it should come as no surprise that we are seeing some incredible things in the realm of automation.

2. HOME AUTOMATION SYSTEM:-

It doesn't take a genius to figure out what home automation is: it's basically the use of smartphones and other readily available computing devices to automate and control household products and equipment, such as electrical appliances, lights, and doors, using hardware that can be controlled remotely. Most home automation starts small—people begin by controlling simple binary devices that may be turned on or off. When these gadgets are connected to the internet, however, they become genuinely smart and enter the internet of things domain. In reality, most automation systems

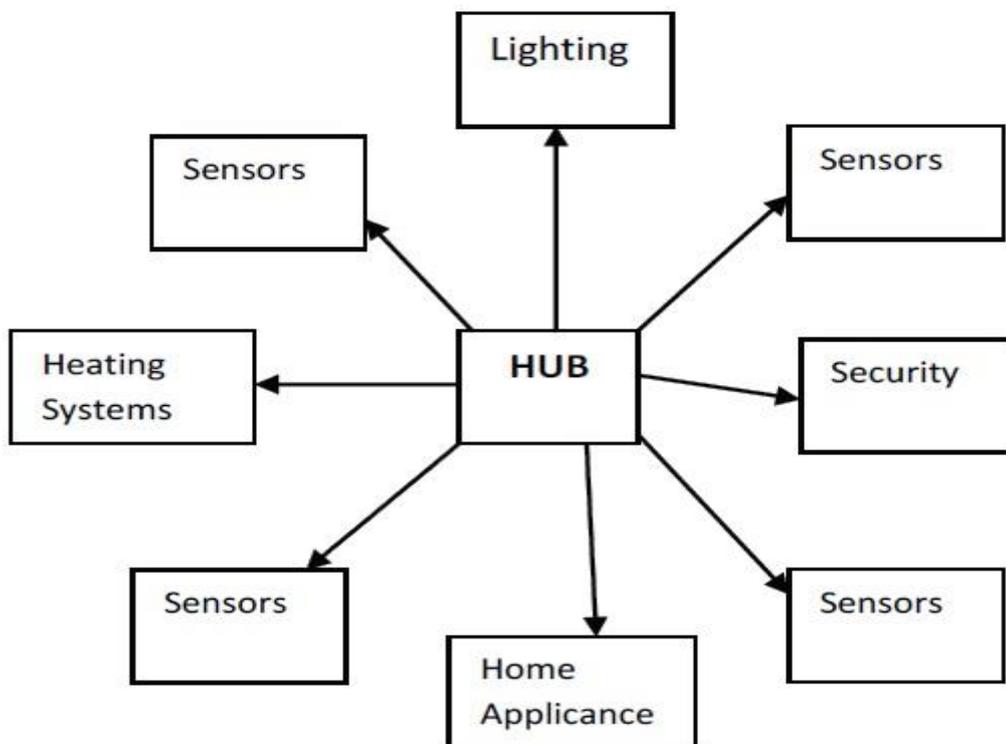
nowadays use their internet-enabled capabilities to track and analyse device usage patterns, primarily lighting and heating systems, in order to lower monthly electricity costs and overall energy consumption.

The best area to start investing in a home automation system is your own annoyances. For many individuals, the most obvious concern is their electricity cost, so most people purchase a few smart lights as their first home automation device. Smart switches will also help people who are constantly worried about leaving the geyser on. From there, you may gradually build up a complete lighting system that can be managed remotely and responds to human presence, or an automated home theatre that includes a smart TV and smart ambient lighting.

Today's smart home automation systems often consist of a central hub that may be set to operate a variety of smart devices, sensors, and switches, all of which interact with the hub via specific communication protocols. The hub is then given instructions via an app or the internet. The distribution of monitoring and computing functions between the hub and the remote app is the main takeaway. A hub, for example, would operate as the core link between various smart devices, such as a bulb and a door contact sensor, in a smart lighting system.

The smart gadgets and hub would connect using standard communication protocols, and the lighting system would be controlled via an app. If you're still not sure what the Hub does, think of it as a Wi-Fi router. Both are devices that route signals from several sources to one another in a simple manner. Few models combine the hub and router, eliminating the need for two separate devices.

When they are separate, the hub, which must be connected to the internet to function, is connected to the router; thus, a smart hub provides a centralised method of controlling all your smart devices, as it can connect all of your devices to the cloud and consolidate all apps into the hub manufacturer's app.



3. IOT IN FUTURE:-

Connected automobiles will be able to send and receive communications 10 times faster thanks to 5G. The global connected automobile industry is predicted to increase from 5.1 million units in 2015 to 37.7 million units by 2022, according to a recent analysis. The use of telematics devices and technological advancements that focus on the driver

and passenger experience, as well as safety and cyber security, are ushering in a new era of growth for linked automobiles around the world. India is likely to be a significant market for these vehicles. Currently, less than 2% of all automobiles sold in the country are equipped with some type of connectivity. However, our experience with cellphones has demonstrated that mass acceptance of technology may occur quickly if we are at ease with the price tag.

1. Safe driving

Insurance firms can use linked automobiles to provide drivers incentives to drive safely in exchange for lower premiums. This will make our roads safer and make driving more enjoyable. This data can also be used by drivers to assess and enhance their driving abilities. In a country where we continually grumble about traffic jams, your automobile will soon wake you up early to warn you that if you don't get to work early, you'll have to deal with even more traffic. With data from each vehicle stacking up, big data will provide more predictability to traffic management.

2. Predictive maintenance

Drivers and fleet managers will now have access to important vehicle diagnostics data, allowing errors to be identified before they become a serious issue. This will result in fewer vehicle failures, easier driving, and better mileage. Vehicles that are well-maintained emit fewer pollutants.

3. THE DATA OPPORTUNITY

A single linked vehicle, according to a recent study, has the potential to produce more money than ten regular non connected automobiles. OEM market share will be determined in the future not by the number of units sold, but by the amount of data revenue generated per car. Data monetization in the context of the Internet of Things is still in its early stages, and we will see a lot of activity in this area in the near future.

4. CONCLUSION:-

A connected automobile can search its database for information such as your favourite phone number or the best route to take to pick up your child from her piano lesson every Friday. Connectivity concerns will be a thing of the past with the arrival of 5G. 5G will make it possible for connected cars to send and receive communications more quickly (up to 10 times a second). 5G will also improve situational awareness and provide advance warning in the event of a roadblock or other hazard appearing on the road you're driving on, allowing you more time to respond.

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