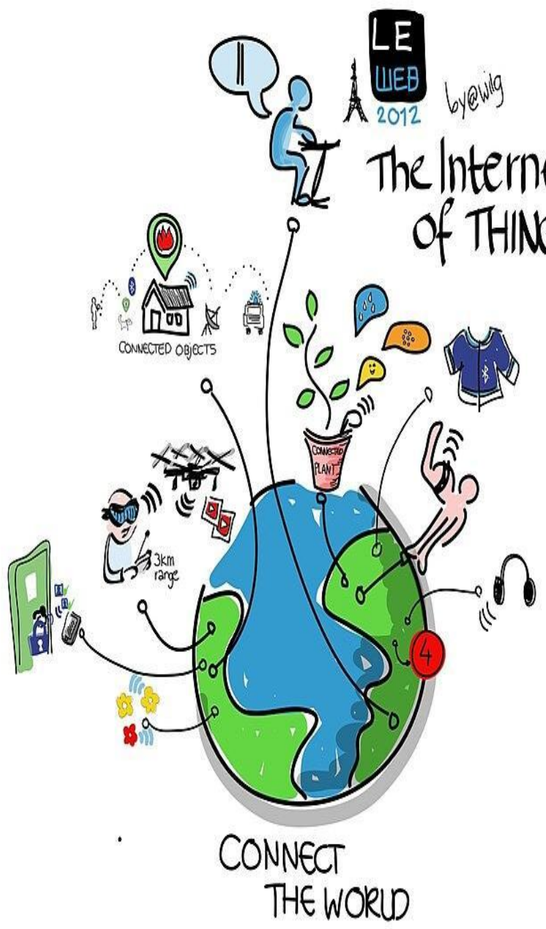
# INTERNET OF THINGS ECOSYSTEM

PRESENTATION BY : UMAR

# WHAT IS THE INTERNET OF THINGS [ioT]?

*THE INTERNET OF THINGS [ioT] IS A SYSTEM OF INTERRELATED PHYSICAL DEVICES ,OBJECTS OR MACHINES THAT ARE EMBEDDED WITH TECHNOLOGIES SUCH AS SENSORS ,SOFTWARE,ACTUATORS AND NETWORK CONNECTIVITY.THESE COMPONENTS ENABLE THE DEVICES TO COLLECT,EXCHANGE AND ACT ON DATA WITHOUT RECQUIRING DIRECT HUMAN INPUT.*

# *THE HISTORY OF ioT*




| early milestones | Key Layers of the Internet | milestones |
|---|---|---|
| email@-1971 Ray Tomlinson | CONTENT | 1987-HyperCard Bill Atkinson |
| Archie-1990 Emtage & Deutsch | SEARCH ENGINE* | 1998-Google Brin & Page |
| DOS Houdini-1986 Neil Larson | BROWSERS | 1993-Mosaic Marc Andreessen |
| (Vannevar Bush, Ted Nelson, Douglas Engelbart) | WORLD WIDE WEB | 1990-http:// Tim Berners-Lee |
| ARPANET-1969 J.C.R. Licklider | INTERNET | 1975-TCP/IP Cerf & Kahn |
| SAGE-1956 George Valley | NETWORKS | 1973-Ethernet Robert Metcalfe |
| Z3-1941 Konrad Zuse | COMPUTERS | 1976-Apple Jobs & Wozniak |

THE CONCEPT OF THE INTERNET OF THINGS HAS EVOLVED OVER DECADES WITH ITS ROOTS GOING BACK LONG BEFORE THE TERM ITSELF WAS COINED.THE HISTORY OF ioT IS MARKED BY TECHNOLOGICAL ADVANCEMENTS IN COMPUTING,NETWORKING AND WIRELESS COMMUNICATION,ALL OF WHICH LAID ONE FOUNDATION FOR A WORLD OF CONNECTED DEVICEs.

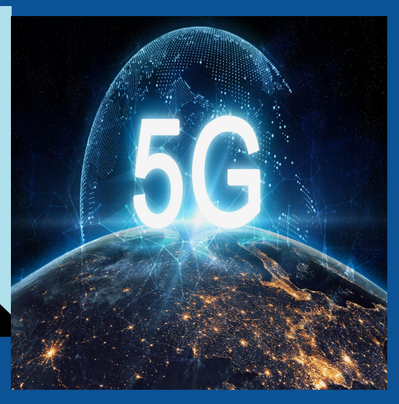
IN THE 1990s WITH THE RISE OF INTERNET,RESEARCHERS AND ENGINEERS BEGAN TO EXPLORE HOW EVERYDAY OBJECTS COULD BE CONNECTED ONLINE.ONE OF THE FIRST KNOWN EXAMPLES OF ioT LIKE DEVICE WAS A COCA-COLA VENDING MACHINE AT CARNEGIE MELLON UNIVERSITY IN EARLY 1980s.IT COULD REPORT ON INVENTORYND WHETHER DRINKS WERE COLD VIA A NETWORK


IN 1999,KEVIN ASHTON ,A BRITISH TECHNOLOGIST WORKING AT PROCTER & GAMBLE,COINED THE TERM ‘INTERNET OF THINGS’.HE USED IT TO DESCRIBE A SYSTEM  WHERE THE INTERNET IS CONNECTED TO THE PHYSICAL WORLD VIA SENSORS.ASHTON BELIEVED THAT EMBEDDING TINY COMPUTERS IN PHYSICAL DEVICES COULD BRIDGE THE GAP BETWEEN THE DIGITAL AND PHYSICAL WORLDS,ESPECIALLY USING RADIO-FREQUENCY IDENTIFICATION[RFID]TECHNOLOGY

# *TECHNOLOGIES THAT ENABLE THE [IoT]*


SENSORS AND ACTUATORS- GATHER DATA [e.g TEMPERATURE,MOTION]AND PERFORM ACTIONS.

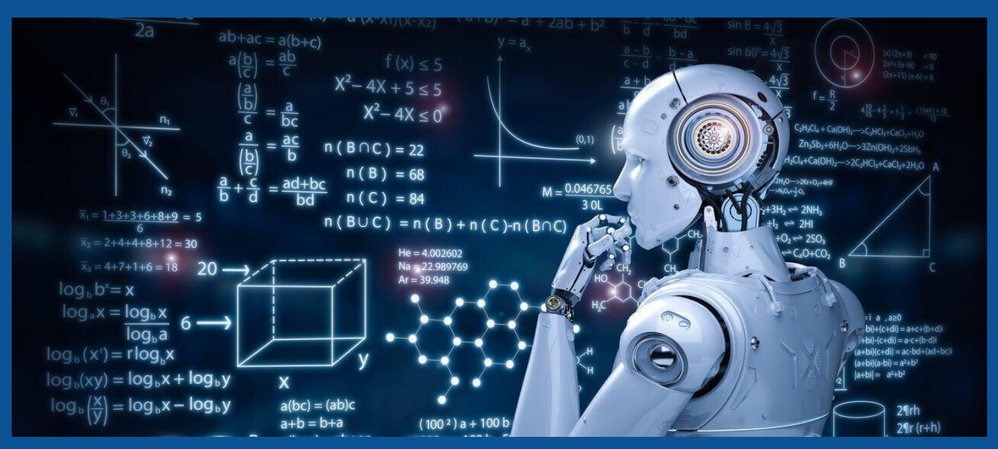

CONNECTIVITY- NETWORKS LIKE WIFI BLUETOOTH,ZIGBEE,4G/5G LET DEVICES CONNECT




EMBEDDED SYSTEMS-MICROCONTROLLERS OR PROCESSORS THAT CONTROL DEVICE AND PROCESS BASIC DATA


CLOUD COMPUTING-STORES AND ANALYZES iOT DATA REMOTELY,ALLOWING ACCESS FROM ANYWHERE.

AI AND MACHINE LEARNING-HELPS DEVICES MAKE IMPORTANT DECISIONS BASED ON DATA PROCESSES



# WHAT IS THE IMPACT OF iOT?

***IN BUSINESS'S*** *-IoT IMPROVES EFFICIENCY REDUCES COST ENABLES REAL TIME MONITORING AND CREATES NEW BUSINESS MODELS[LIKE PREDICTIVE MAINTENANCE IN INDUSTRIES OR SMART INVENTORY SYSTEMS IN RETAIL].*

***IN DAILY LIFE-*** *IT BRINGS CONVENIENCE THROUGH SMART HOMES [e.g THERMOSTATS,SECURITY SYSTEMS] WEARABLE TECH [LIKE FITNESS TRACKERS] AND CONNECTED VEHICLES*

***IN AGRICULTURE*** *-IoT HELPS OPTIMIZE IRRIGATION,MONITOR CROPS ,AND IMPROVE FOOD PRODUCTION THROUGH PRECISION FARMING*

***IN CITIES****-IT POWERS SMART CITY PROJECTS LIKE INTELLIGENT TRAFFIC SYSTEMS,ENERGY MANAGEMENT AND ENVIRONMENTMENTAL MONITORING*

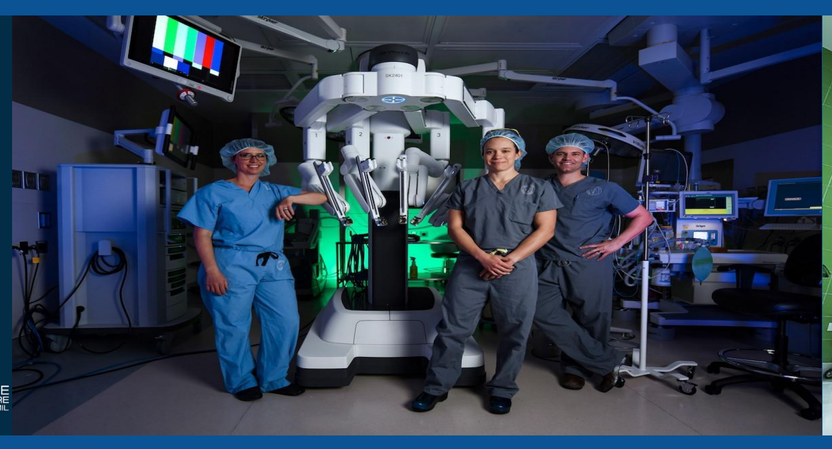
***IN HEALTHCARE****-ioT ENABLES REMOTE PATIENT MONITORING,SMART MEDICAL DEVICES ,AND FASTER EMERGENCY RESPONSE*

# THE FUTURE IMPACT OF IOT

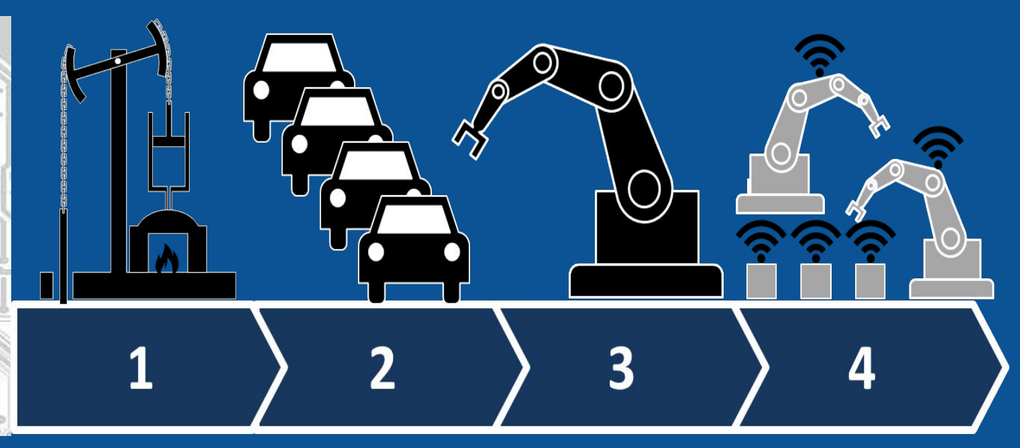
***IN THE FUTURE [internet of things] IS EXPECTED TO BECOME EVEN MORE WIDESPREAD AND POWERFUL,DEEPLY EMBEDDING ITSELF INTO INDUSTRIES AND DAILY LIFE***

***SMARTER CITIES-THEIR WILL USE ioT FOR SMARTER TRANSPORTATION,ENERGY SYSTEMS,AND PUBLIC SERVICES,MAKING URBAN LIFE MORE EFFICIENT AND SUSTAINABLE***

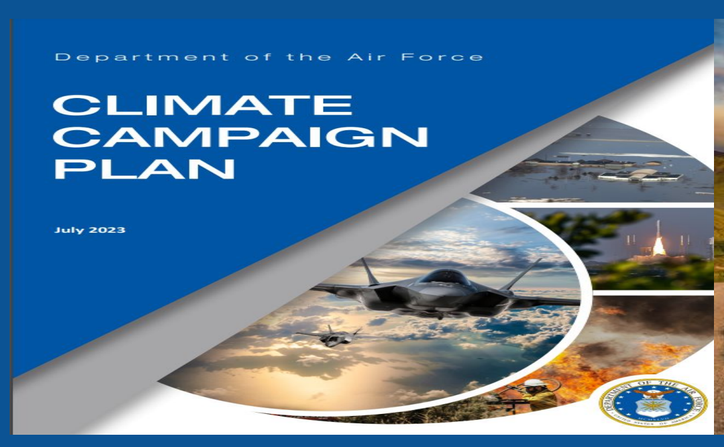
***HEALTHCARE EVOLUTION-REMOTE HEALTHCARE,AI DRIVEN DIAGNOSTICES AND WEARABLE HEALTH MONITORS WILL BECOME ADVANCED,IMPROVING PATIENT OUTCOMES.***

***INDUSTRIAL TRANSFORMATION -FACTORIES AND SUPPLIE CHAINS WILL BECOME HIGHLY AUTOMATED AND SELF OPTIMIZING THROUGH iOT AND A.I INTERGRATION [INDUSTRY 4.0***


***ENVIRONMENTAL BENEFITS -iOT WILL HELP MONITOR AND PROTECT NATURAL RESOURCES,AIDING EFFORTS TO FIGHT CLIMATE CHANGE***




# REFERENCE


I-SCOOP.COM

SCIENCE DIRECT.COM

CHAT GPT[2025]-RESPONSE GENERATED VIA OPEN AI'S CHAT GPT

IMAGINOVATION.NET

IOTFORALL.COM