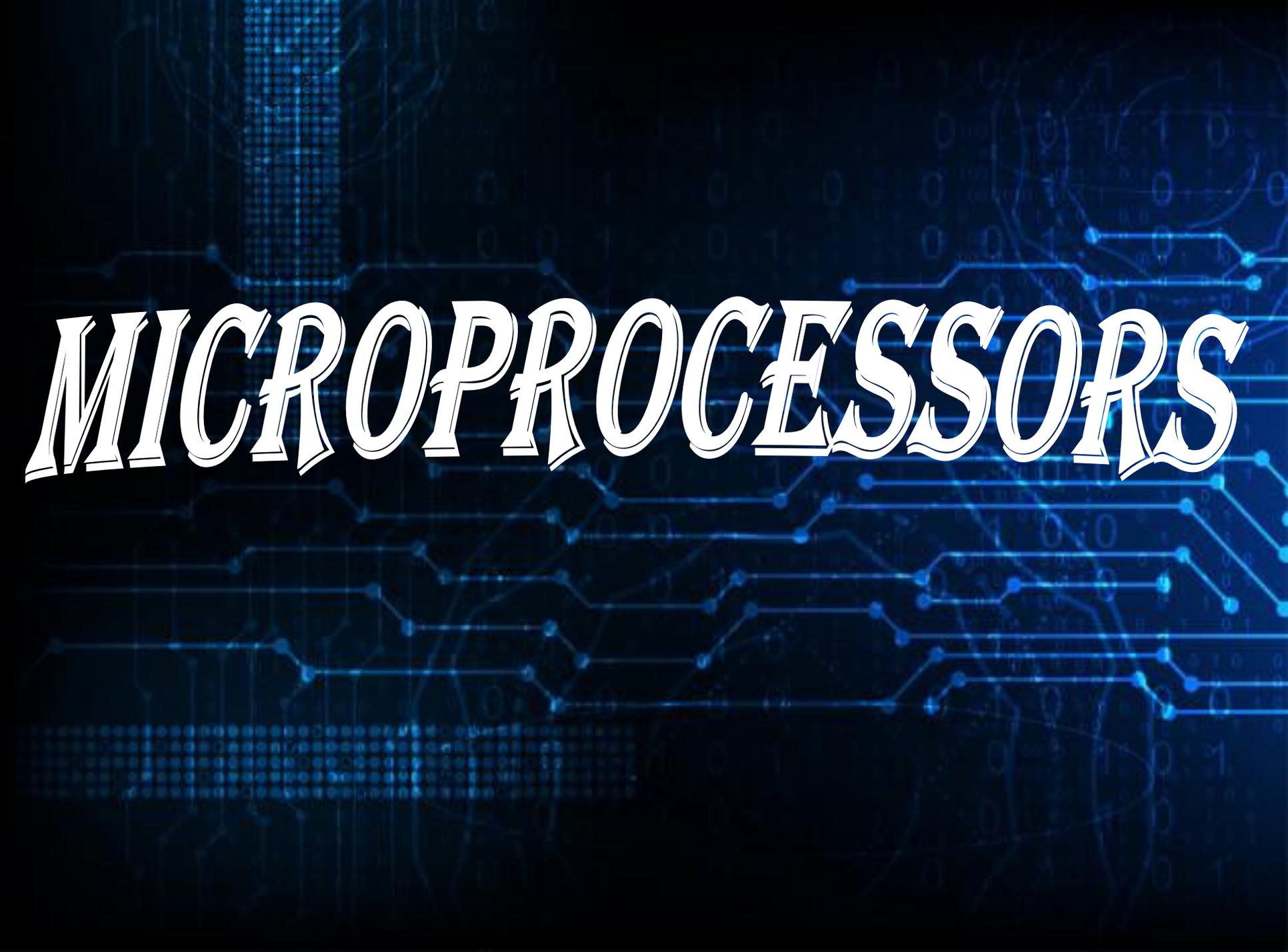
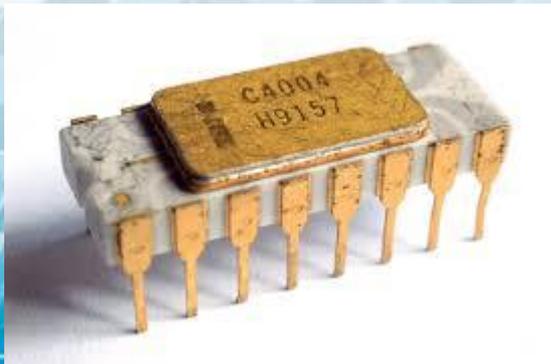


MICROPROCESSORS

The image features the word "MICROPROCESSORS" in a large, white, stylized, outlined font. The text is centered horizontally and has a slight upward curve. The background is a dark blue gradient with a complex network of glowing blue lines and nodes, resembling a circuit board or a data network. There are also some faint, larger-scale patterns of lines and nodes in the background, giving it a technical and digital feel.

What was the first microprocessor?

WE MAY NEVER FIND AN ANSWER, BUT WITH HISTORICAL RESEARCH WE WILL BE ABLE TO UNDERSTAND ITS EVOLUTION.



INTEL 4004

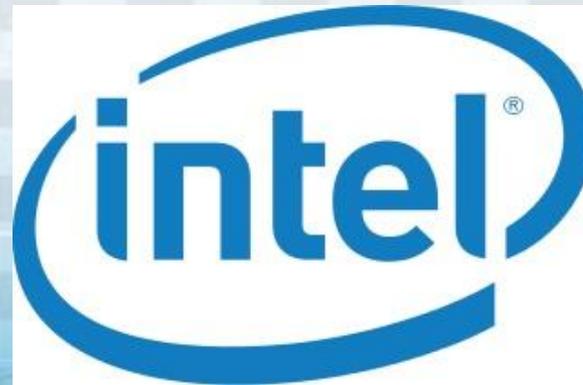
First generation

WE WERE DESIGNED WITH PMOS TECHNOLOGY (MOS TYPE P). ALTHOUGH THEY HAD THE ADVANTAGE OF LOW COST, THEY WERE NOT COMPATIBLE WITH THE CIRCUITS OF THAT ERA.

1971

**INTEL MARKETED THE FIRST
MICROPROCESSOR 4004**

- **VERY LIMITED ABILITY TO INDENT;**
- **SLOW.**



First generation (1971-1973)

**IN THIS PERIOD THE INTEL CREATED
THE FIRST 8 BIT MICROPROCESSOR:
“8080”**



Second generation (1973)

PRODUCTS WITH MORE ADVANCED NMOS TECHNOLOGIES

- **FASTER;**
- **HIGHER LEVEL OF INTEGRATION.**

BEST KNOWN: → Z80 (ZILOG)

→ 6800/6809 (MOTOROLA)



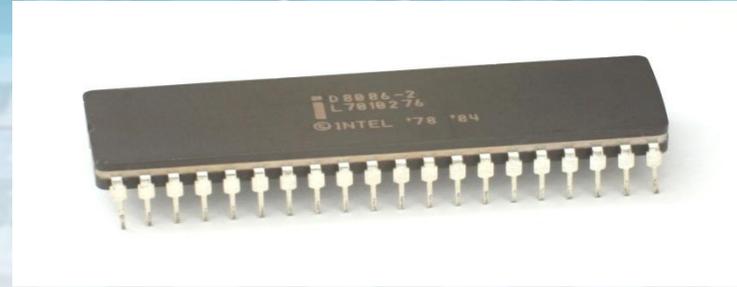
Third generation (1978)

**MICROPROCESSORS WERE INSERTED IN
PERSONAL COMPUTERS.**

**IN THE 1978 THE MICROPROCESSOR
POSSESSED 16 BIT.**

Market

➤ **1978** → **INTEL 8086**



➤ **1979** → **ZILOG Z8000**



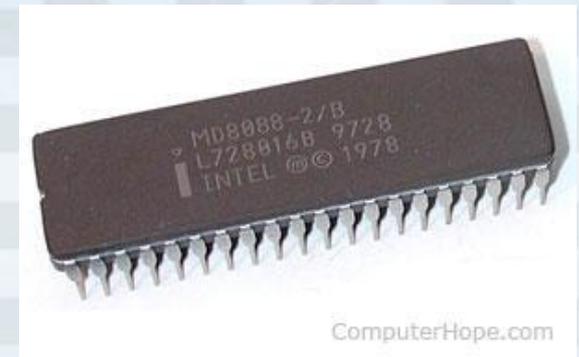
➤ **1980** → **MOTOROLA MC68000 (SOME 32 BIT PERFORMANCE)**



1978

THE INTEL PUT ON THE MARKET THE 8086 MICROPROCESSOR (16 BIT) THAT WAS SUCCESSFUL,

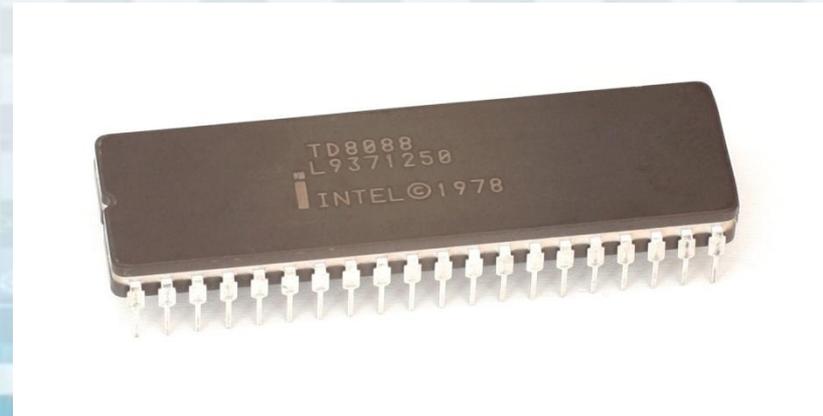
AFTER ONE YEAR



8088 WAS CREATED (INDOOR 16 BIT, EXTERNAL 8 BIT). IT WAS MORE SUITED TO MEMORIES AND I/O CIRCUITS.

Triumph 8088

IBM CHOSE THIS MICROPROCESSOR FOR ITS PCS. THIS CHOICE LED TO THE DEVELOPMENT OF SOFTWARE WITH APPLICATIONS IN MANY FIELDS.



1980

**IN 1980, MICROPROCESSORS WERE
INVENTED WITH 32 BIT DATA BUS
ARCHITECTURE.**

1985

**THERE WAS THE APPEARANCE OF
MOTOROLA MC68020 AND MC68030 AND
INTEL 80386 AND 80486 (FOURTH
GENERATION)**



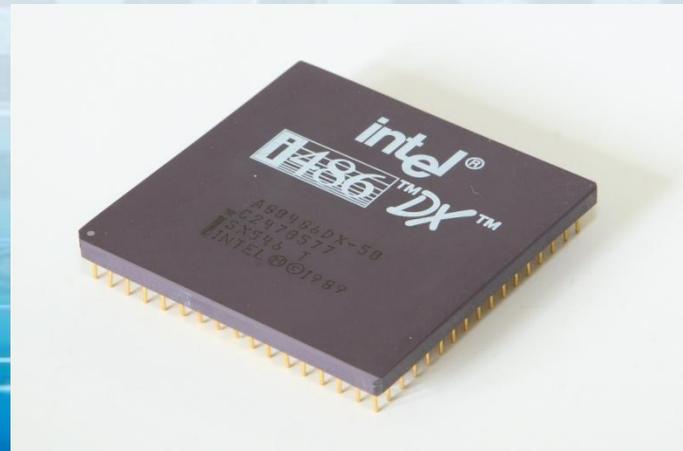
MC68020



MC68030

1989

**80486 ———→ SIDE BY SIDE WITH 80387,
SINCE IT INTEGRATES MANY OF THOSE
PARTS THAT WERE CONSIDERED
OBJECTIVE MODULES IN THE PREVIOUS
MICROPROCESSORS (ES:
MATHEMATICAL PROCESSOR, CACHE
MEMORY)**



1993

PENTIUM PROCESSOR

- **64 BIT,**
- **ABILITY TO EXECUTE MORE THAN ONE INSTRUCTION PER CLOCK,**
- **5 TIMES MORE POWERFUL THAN A 486 AT 25MHZ.**



1995

THE PREMIUM PROCESSOR HAS BEEN DESIGNED TO ENHANCE 32-BIT APPLICATIONS, EACH OF WHICH IS SUPPLIED ALONG WITH A SECOND CACHE MEMORY CHIP FOR SPEED ENHANCEMENT.

IT HAS 5 MILLION TRANSISTORS WITH A MINIMUM SPEED OF 150 MHZ.

Pentium 2 (1997)

- **0.35 MICRON TECHNOLOGY;**
- **HAS 7.5 MILLION TRANSISTORS;**
- **DESIGNED FOR EFFICIENT PROCESSING OF VIDEO, AUDIO AND GRAPHICS;**
- **HIGH SPEED (450 MHZ IN 1998);**
- **INTEL MMX TECHNOLOGY;**
- **SYSTEM BUS FROM 66MHZ TO 100 MHZ.**



Pentium 3 (1999)

- **POWERFUL 3D ENGINE FOR GRAPHIC AND MULTIMEDIA APPLICATIONS AT THE DEBUT FREQUENCY OF 500 MHZ;**
- **MAIN INNOVATION: SSE TECHNOLOGY (STREAMING SIMD EXTENSION);**
- **70 NEW INSTRUCTIONS FOR MORE ACCURATE AND MORE COMPLEX CALCULATIONS (UP TO 4 TIMES FASTER THAN PENTIUM 2).**



Pentium 4 (2000)

- **SEVENTH GENERATION PROCESSOR;**
- **PRODUCED BY INTEL;**
- **OVERHEATING PROBLEMS (MAXIMUM FREQUENCY REACHED MORE THAN 3.8 GHZ);**
- **PROTAGONIST OF A GREAT EVOLUTION IN COMPUTING POWER (THANKS TO NEW TECHNOLOGIES SUCH AS: FSB, AND FUNCTIONS SUCH AS: SSE2 AND HYPERTHREADING.**



Pentium D (2005)

- **FIRST DUAL CORE PROCESSOR;**
- **DEDICATED TO THE DESKTOP SECTOR;**
- **FIRST VERSION: BASED ON THE SMITHFIELD CORE**

REPLACED BY



- NEW EVOLUTION: PRESLER;**
- **FIRST PROCESSOR THAT SUPPORTS DCTP-IP (TECHNOLOGY NECESSARY FOR DIGITAL RIGHTS MANAGEMENT);**
 - **MAIN FEATURE: FIRST DUAL CORE PROCESSOR MARKETED BY INTEL.**

Core2Duo (2006)

- **TRADE NAME OF A SERIES OF EIGHTH-GENERATION X86 MICROPROCESSORS;**
- **FOR THE FIRST TIME BOTH THE PORTABLE SYSTEMS MARKET AND THE DESKTOP SYSTEMS WERE BASED ON A SINGLE MICROPROCESSOR.**



iSeries (2010)

- **BASED ON THE NEW NEHALEM TECHNOLOGY;**
- **ABANDONMENT OF THE CLASSIC NUMBERING (BASED ON THE CORE NUMBER OF THE MICROPROCESSOR)**

OPTING



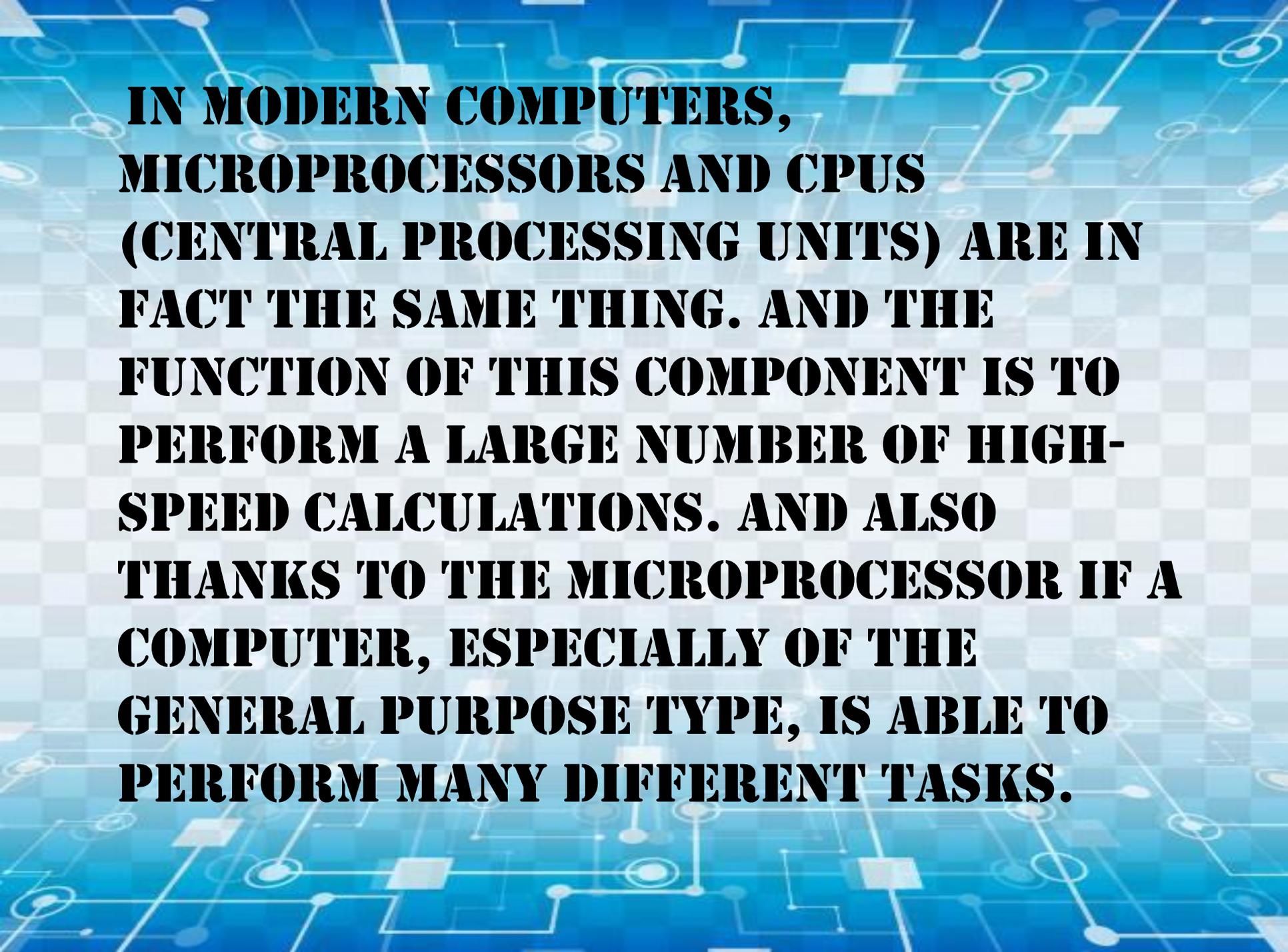
FOR A SIMPLIFIED NUMBERING BASED ON PERFORMANCE:

I3 (LESS POWERFUL AND FOR MOBILE SYSTEMS);

I5 (MEDIUM LEVEL);

I7 (MAXIMUM PROFILE).





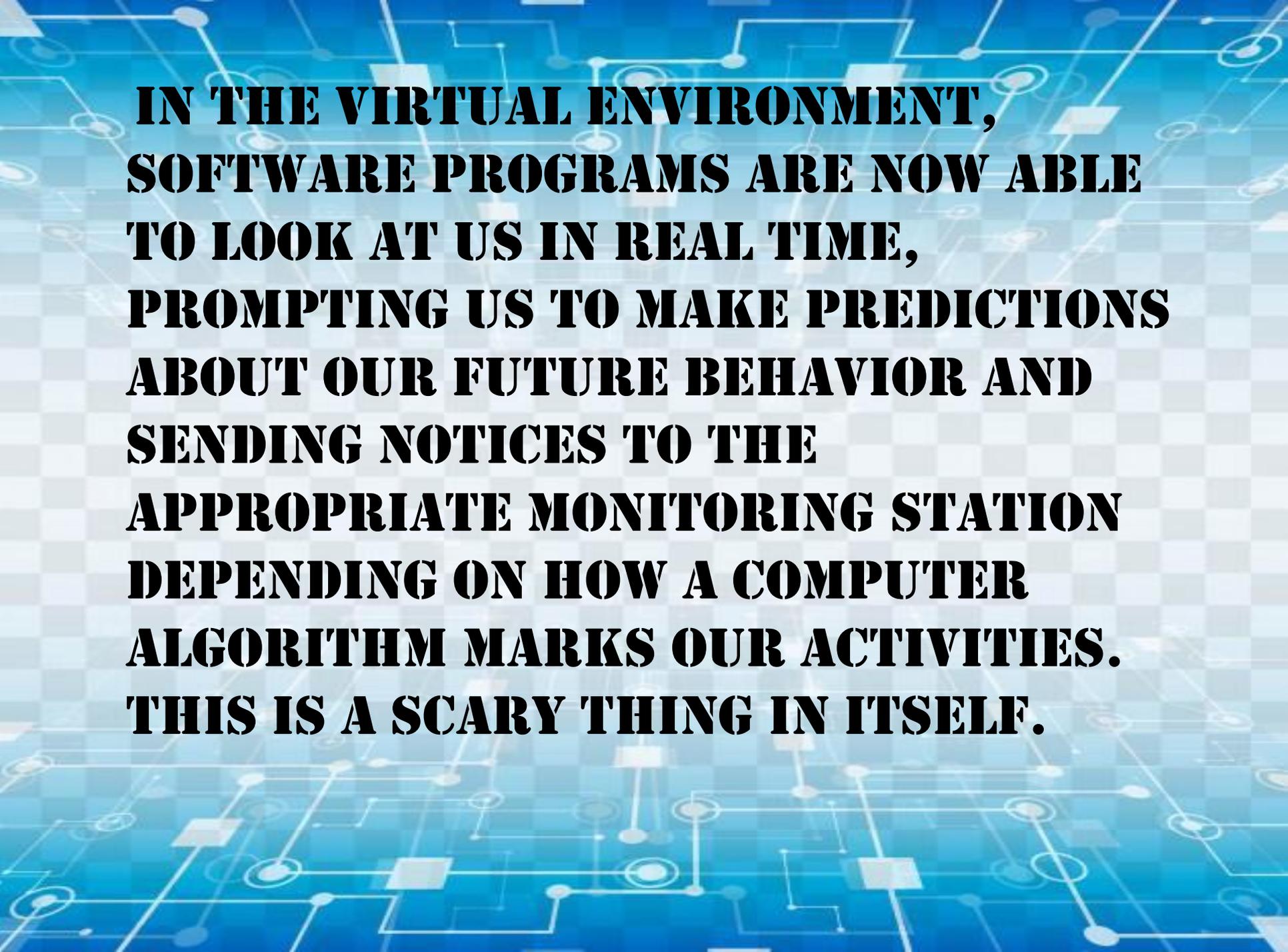
IN MODERN COMPUTERS, MICROPROCESSORS AND CPUS (CENTRAL PROCESSING UNITS) ARE IN FACT THE SAME THING. AND THE FUNCTION OF THIS COMPONENT IS TO PERFORM A LARGE NUMBER OF HIGH-SPEED CALCULATIONS. AND ALSO THANKS TO THE MICROPROCESSOR IF A COMPUTER, ESPECIALLY OF THE GENERAL PURPOSE TYPE, IS ABLE TO PERFORM MANY DIFFERENT TASKS.

ALSO CALLED MICROCHIP, THESE ARE ELECTRONIC COMPONENTS THAT HAVE THE FUNCTION OF PROCESSING AN OUTPUT STARTING FROM AN INPUT CONSISTING OF ELECTRONIC SIGNALS.

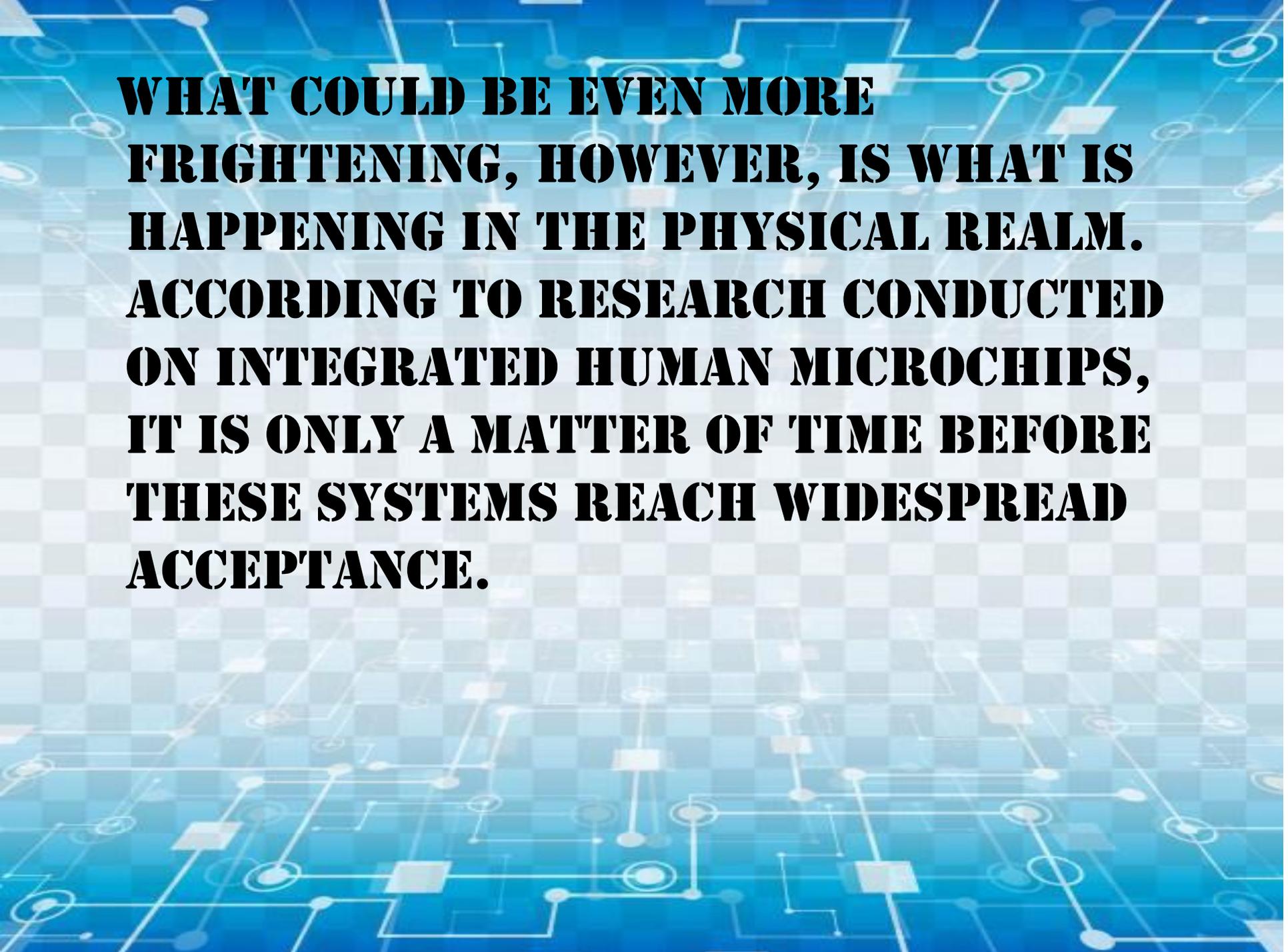




**Scientists: "A
human
subcutaneous
microchip will
be mandatory
for all"**

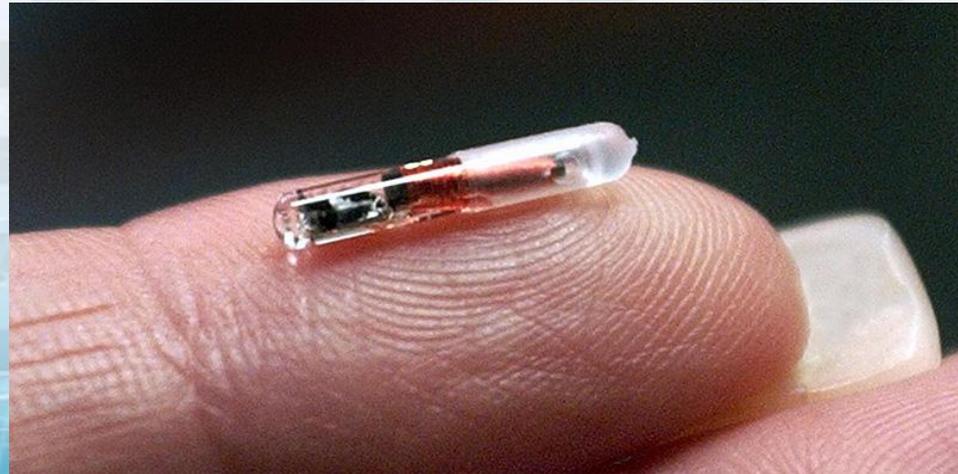


**IN THE VIRTUAL ENVIRONMENT,
SOFTWARE PROGRAMS ARE NOW ABLE
TO LOOK AT US IN REAL TIME,
PROMPTING US TO MAKE PREDICTIONS
ABOUT OUR FUTURE BEHAVIOR AND
SENDING NOTICES TO THE
APPROPRIATE MONITORING STATION
DEPENDING ON HOW A COMPUTER
ALGORITHM MARKS OUR ACTIVITIES.
THIS IS A SCARY THING IN ITSELF.**



WHAT COULD BE EVEN MORE FRIGHTENING, HOWEVER, IS WHAT IS HAPPENING IN THE PHYSICAL REALM. ACCORDING TO RESEARCH CONDUCTED ON INTEGRATED HUMAN MICROCHIPS, IT IS ONLY A MATTER OF TIME BEFORE THESE SYSTEMS REACH WIDESPREAD ACCEPTANCE.

**WHAT WILL YOU DO WHEN YOU CAN
NO LONGER BUY OR SELL WITHOUT
SHOWING BIOMETRIC
IDENTIFICATION VIA A
SUBCUTANEOUS MICROCHIP?**

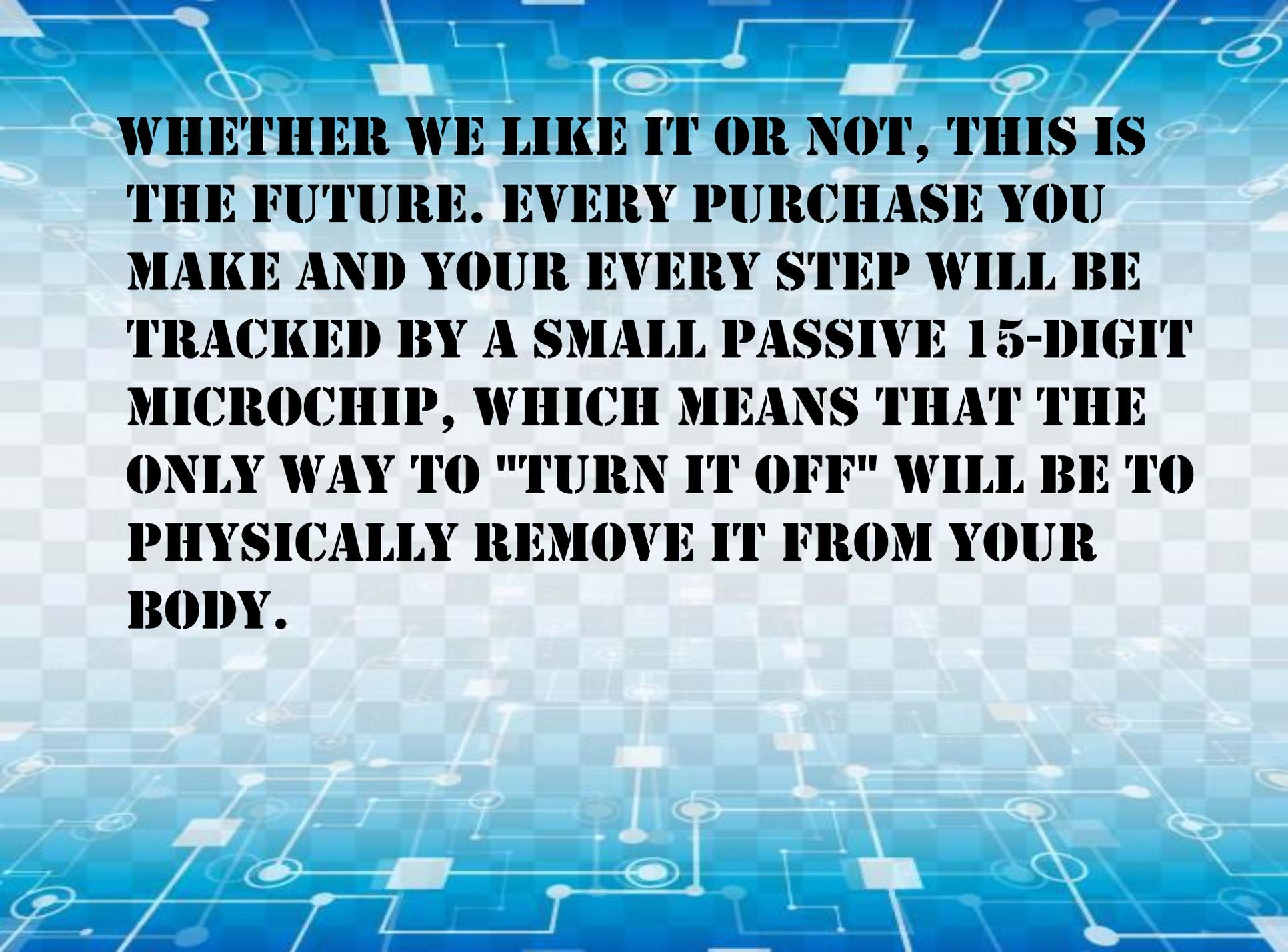


THIS TECHNOLOGY WILL CONTINUE TO SPREAD AND IT WILL BECOME INCREASINGLY DIFFICULT TO AVOID IT. AND IT'S EASY TO IMAGINE WHAT A TYRANNICAL GOVERNMENT WITH THIS KIND OF TECHNOLOGY COULD DO. IF HE WANTED TO, HE COULD USE IT TO LITERALLY TRACK EVERYONE'S MOVEMENTS AND BEHAVIOR.

AND ONE DAY, THIS KIND OF TECHNOLOGY WILL PROBABLY BE SO PERVASIVE THAT YOU WON'T BE ABLE TO OPEN A BANK ACCOUNT, GET A CREDIT CARD OR EVEN BUY SOMETHING WITHOUT FIRST SCANNING YOUR HAND OR YOUR FACE.

SUBSEQUENTLY, AS WE ARE ALREADY SEEING FROM THE FIRST USERS, RFID CHIPS WILL BE VOLUNTARILY IMPLANTED UNDER OUR SKIN FOR ANYTHING, FROM ACCESS TO HIGH SECURITY BUILDINGS TO FOOD PURCHASES.





WHETHER WE LIKE IT OR NOT, THIS IS THE FUTURE. EVERY PURCHASE YOU MAKE AND YOUR EVERY STEP WILL BE TRACKED BY A SMALL PASSIVE 15-DIGIT MICROCHIP, WHICH MEANS THAT THE ONLY WAY TO "TURN IT OFF" WILL BE TO PHYSICALLY REMOVE IT FROM YOUR BODY.



**Eleonora Albanese
&
Sara Ciocca**