Semiconductors are everywhere

Why are semiconductors so important?

Semiconductors are the foundation of modern technology. Billions of connected devices on the planet are rated and powered through microprocessors. Semiconductors are at the core of the most transformative real-world applications of computing technology, including all aspects of medicine, transportation and every industry. They are packed with billions of microscopic switches, called “transistors,” that make them work.

A computer chip’s journey

It takes thousands of steps to manufacture one semiconductor.

The semiconductor ecosystem

In an increasingly digital world, Intel technology is essential to nearly every industry on this planet.

Semiconductors are everywhere

A computer chip's journey

Smart Energy

The average American adult spends over 12 hours a day indoors, with an overwhelming majority of that time dependent on electrical power and/or energy conversion.

Computing

Electricity and computing are so tightly interwoven that it is impossible to separate them. They are etched together on every silicon chip.

Communication

Semiconductors are essential for the operation of all communication systems, from the birth of a cell phone call to the creation of the Internet to the seamless streaming of music and video.

Healthcare

Millions of connected medical devices, from pacemakers to hearing aids, are enabled by the long tradition of semiconductors.

Transportation

Every vehicle and every system from the help of vehicles to the electric grid to the autonomous vehicles of the future are powered by semiconductors.

Retail

Smart technology has now become a key part of the shopping experience, from checkout to delivery.

Smart Home Systems

With our Intel® 3D NAND and Intel® Optane™ memory, we are developing products to enable personal devices, home appliances and connected devices to run smoothly.

Mobile

There are more than 4 billion 4G cellular wireless phones in use today and more than 10 billion active Wi-Fi devices. At Intel, our expertise in semiconductors is creating binary data for all devices.

Smart Internet of Things

The Internet of Things (IoT) is the extension of the Internet beyond computers and other traditional information technology devices to connect almost any object having an on/off switch, sensor, or actuator.

Smart Infrastructure

Smart infrastructure refers to the use of information technology to improve the efficiency of public services like transportation and energy.

Smart Education

From economically deprived communities to the wealthier institutions, the backbone of education is the digital transformation enabled by semiconductors.

Smart Government

Semiconductors are the backbone of government services, from national security to e-government to economic development.

Why are semiconductors so important?

Semiconductors are critical to the evolution of modern technology. Billions of connected devices are the heart of our global digital economy. Semiconductors enable products with new and emerging technologies, from smart refrigerators to autonomous vehicles.

But what is a semiconductor?

The term “semiconductor” refers to a material that has electrical conductivity greater than an "insulator" but less than a "conductor." Silicon, the main ingredient of computer chips.

Silicon, the main ingredient of computer chips.

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