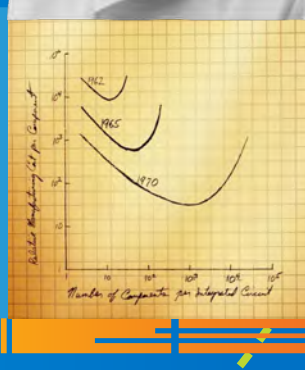
40yrs of Intel® microprocessor innovation

Following **Moore's Law** the whole way

Intel co-founder Gordon Moore once made a famous prediction that transistor count for computer chips would **double every two years.**



Using Moore's Law as a guiding principle, Intel has provided ever-increasing functionality, performance and energy efficiency to its products.

The world's first microprocessor
—the Intel® 4004—was "born" in **1971**, 10 years before the first PC came along.

Just think: What if the world had followed this golden rule the last 40 years?

HOW FAST?

The current Intel® Core™ processor has
43,000,000%
more transistors than the 4004 processor.

If a village with a 1971 population of **100** had grown as quickly, it would now be by far the largest city in the world.

War and Peace? Wait a second.

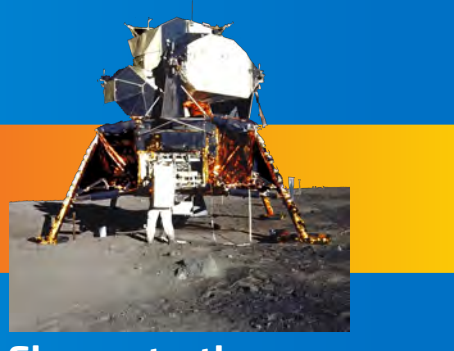
The 4004 processor executed 92,000 instructions per second, while today's **Intel® Core™ i7 processor** can run 92 billion. If your typing had accelerated at that rate, you'd be able to **type Tolstoy's classic in just over 1 second.**

0101010101010101...

You would need 25,000 years to turn a light switch on and off **1.5 trillion** times, but today's processors can do that in **less than a second.**

A PENNY SAVED...

When released in 1981, the first well-equipped IBM PC cost about **$11,250** in inflation-adjusted 2011 dollars. Today, much more powerful PCs are available in the **$500** range (or even less).



Fly me to the moon

If space travel had come down in price as much as transistors have since 1971, the **Apollo 11 mission,** which cost around $355 million in 1969, would cost about as much as **a latte.**

$$$

Porsche for a buck

For 1971's 4004 processor, $1 bought around 37 transistors. For today's Intel® Core™ i7 processor, $1 buys close to 2 million transistors. If cars had followed that trend, you could take that same **$1 and buy a brand-new Porsche.**

Imagine getting a **$25,000** energy bill

Today you can power roughly 10,000 transistors for what it cost to power 1 transistor in 1971. Good thing, too, because at those rates, powering a laptop today would cost over **$25,000 per month.**

I'M SHRINKING

Our kind of PIN number

Bell Labs' original transistor in 1947 was large enough to be assembled by hand. By contrast, today's transistor can sit comfortably on the head of a pin—along with **100 million other transistors.**

23ft x 10ft
Processor

If today's 2nd generation Intel® Core™ processor had been manufactured using 1971-era technology, it would be the **size of a conference room.**

As you can see, a lot has happened here at Intel in the last 40 years. To find out more, visit us at www.intel.com or join the conversation by following **#40thCPU**.

Data sources: Intel, cpu-world.com, wikipedia.org, inflationdata.com, lenovo.com, edmunds.com, readi.info, ast.org, New York Times.