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The Intel Story

From the dawn of the semiconductor to the dawn of AI, Intel has created some of the most important technologies the world has ever known.

We've transformed complex ideas into world-changing products. Seized the competitive edge – first. Shed once-successful formulas at the invention of new ones. And overcome seemingly insurmountable technical challenges – again and again.

"Whatever has been done, can be outdone."

Those words, given to us by our co-founder Gordon Moore, define the Intel story. Time and again, we have pushed boundaries to invent a better way. When we've been tested, we have marshaled the ingenuity and strength needed to overcome obstacles and reach new heights.

Together, we have built one of the world's most essential businesses – and our best days are yet to come.

Intel 8080 microprocessor, **1974.**

300-milimeter Intel silicon spin qubit wafer, **2024.**

The Origin: Disrupt and Lead

When Gordon Moore and Robert Noyce started Intel in 1968, they believed technology could change the world.

A transformative breakthrough in transistor design called silicon gate **MOS (metal oxide semiconductor)** – which removed all the previous barriers of speed, density and reliability – had been demonstrated but not mass produced. No one could figure out how to manufacture the technology in high volume. No one, until Intel.

While the idea was perhaps simple, the execution was extremely complex.

Intel's first MOS product, the 1101, proved the viability of the silicon gate process and made electronics history. It was the first of many history-making ideas to come.

Intel now had a competitive lead of at least a half-decade and a series of new products opening uncharted markets, including memory, the microprocessor and the microcontroller.

Intel's technology development advanced so consistently it proved what became known as a "law" – Moore's Law – and the silicon MOSFET transistor (a version of MOS) would go on to become the most manufactured device in human history.

As the rest of the semiconductor industry raced to catch up, Intel could no longer rely only on manufacturing prowess. More complex microprocessors required advanced design and, later, more clever marketing. Breaking into new markets – against formidable competition – required whole-system development approaches and the establishment of open industry standards, like Wi-Fi.

Intel adapted, disrupted and led. Its leaders consistently identified growing markets, developed leading-edge products and then built in the best total cost of ownership for customers.

Original graph from "Cramming more components onto integrated circuits"[1]

[1] G. E. Moore, "Cramming more components onto integrated circuits, Reprinted from Electronics, volume 38, number 8, April 19, 1965, pp.114 ff.," in IEEE Solid-State Circuits Society Newsletter, vol. 11, no. 3, pp. 33-35, Sept. 2006, doi: 10.1109/N-SSC.2006.4785860.

Insatiable Desire for Processing Power

Today, semiconductors are the backbone of the modern economy and have multiplied humankind's ability to invent, connect, learn and imagine. From revolutionizing construction to understanding the cosmos.

Reminiscent of the original microprocessor, artificial intelligence is now disrupting every facet of our lives. Over the next decade, every company will be an AI company and the resulting demand for processing power will grow at an unprecedented rate.

But like the MOS transistor, execution of AI is extremely complex. It requires an advanced systems approach, the world's best CPUs, GPUs and NPUs, open standards and ecosystems, and leading-edge manufacturing.

Driven by these complex processing demands, advanced manufacturing is ever-more challenging, and semiconductor design and manufacturing are now almost entirely separate specialties.

As the only major player left in the world with both design and cutting-edge manufacturing, Intel is pioneering yet again.

The Greatest Transformation in Company History

Intel has always been an integrated device manufacturer **(IDM)**. That means we design and manufacture our own products. For the world, our customers and our business, however, that model must change. We call it IDM 2.0 — also known as having a fab business, **Intel Foundry**, and a fabless business, **Intel Products**, in one company.

On the product side of Intel, we are learning from our past, recapturing the agility and speed of a fabless chip designer, while retaining the magic of co-innovation with Intel manufacturing. Across client, data center, edge and cloud, we are building leading-edge platforms with hardware and software, and we are fostering a secure, open ecosystem to enable the future of AI.

Intel Foundry, on the manufacturing side, is the world's first systems foundry for the AI era, lowering the barrier to entry and offering an unmatched menu of silicon, packaging, software and services. Our foundry business is undergoing a dramatic expansion to provide the world's most resilient and sustainable semiconductor supply chain. And we are once again achieving the impossible, bringing online five new process nodes in four years.

As we build new strengths and offer customers new services, we're regaining advanced technology leadership: building the next generation of silicon technology and defining new ways of combining chips with advanced packaging – from transistors to interconnects and power delivery to glass substrates and 2D and 3D chiplet integration.

Our pursuit of Moore's Law will not rest.

Not Just What We Do, But How We Do It

We are driven by curiosity – not only to find out how things work but also how to make things work while prioritizing trust, security and sustainability. We're technologists — geeks at heart — who not only embrace change but collaborate every day to drive world-changing innovation.

Echoing the days of former CEO Andy Grove, we value technical depth, engineering excellence and results. We cultivate knowledge through open debate and strive to achieve maximum impact with a minimum footprint.

Every day, we roll up our sleeves and solve tough problems. We thrive on challenges, revel in complex puzzles, and always work toward the right solutions.

We champion sustainable and responsible AI and supply chain business practices. And we combat climate change with renewable energy, water conservation and reduced greenhouse-gas emissions.

It's a better world through the power of technology.

It Starts with Intel

What breakthroughs await? Whatever has been done, can be outdone — our future is limited only by the imaginations of our employees, our partners and our customers.

Moore and Noyce believed that Intel would create world-changing technology that would improve the life of every person on the planet. And we believe that still to be true. Technology will be our personalized partner, making us more creative and capable – and expanding, not exploiting, what makes us human.

As the next chapter is written, we are reminded every day that we are Intel. We were made for this.

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