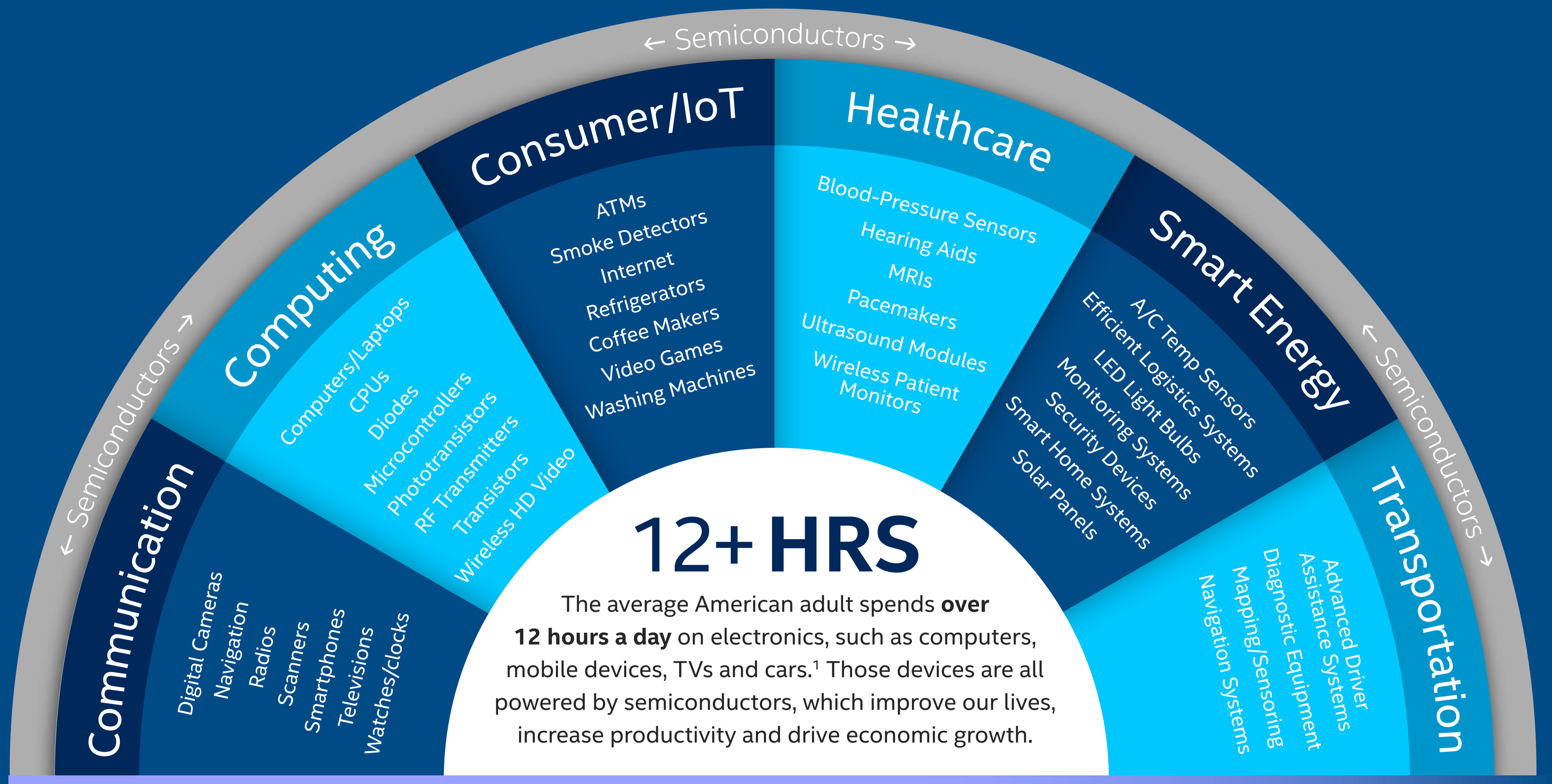
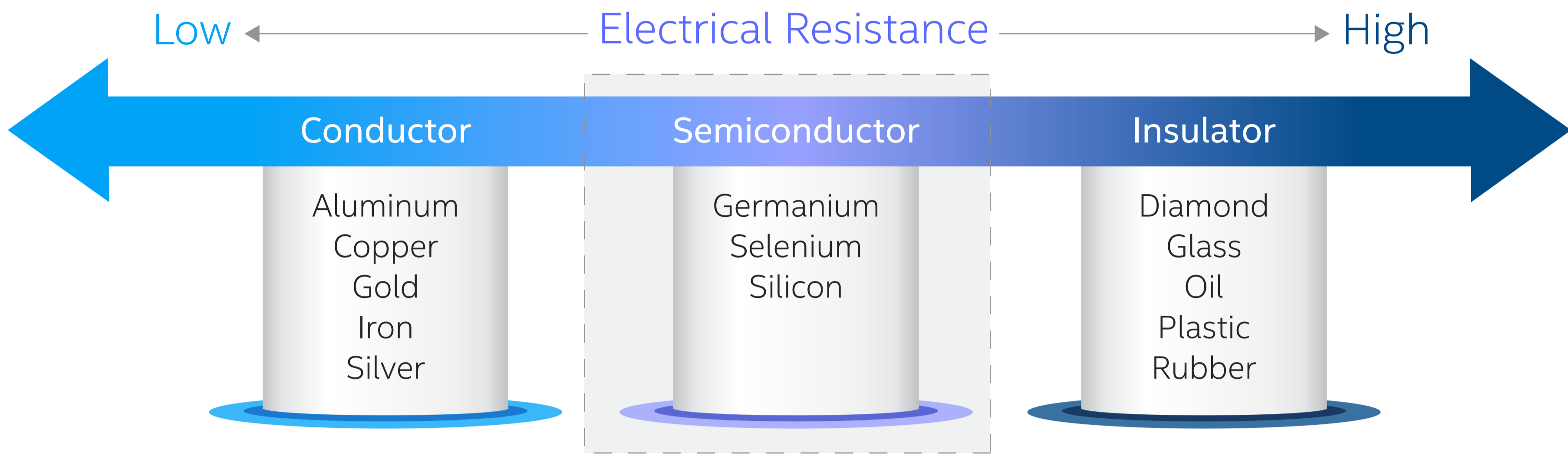


Semiconductors are everywhere



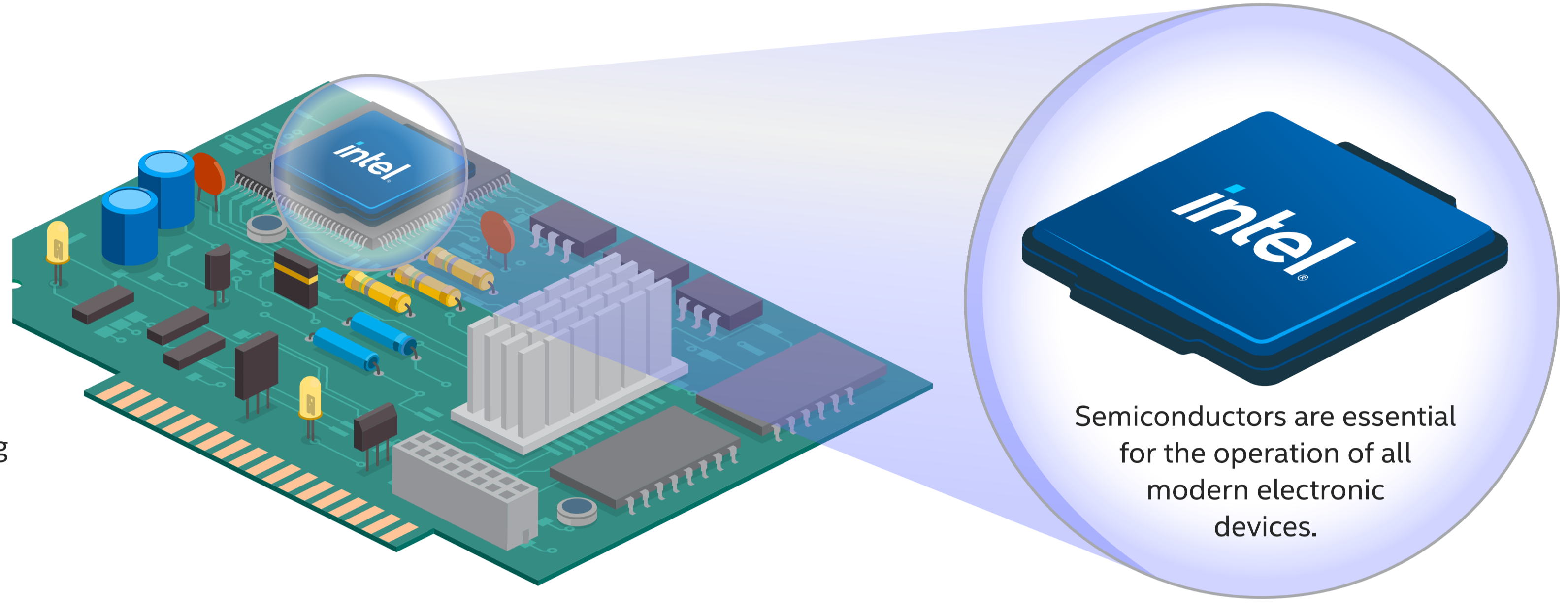
But what is a semiconductor?

The term "semiconductor" refers to a material that has electrical conductivity greater than an "insulator" but less than a "conductor." However, it more commonly refers to an integrated circuit (IC) or computer chip. The most common semiconductor material is silicon, the main ingredient of computer chips.



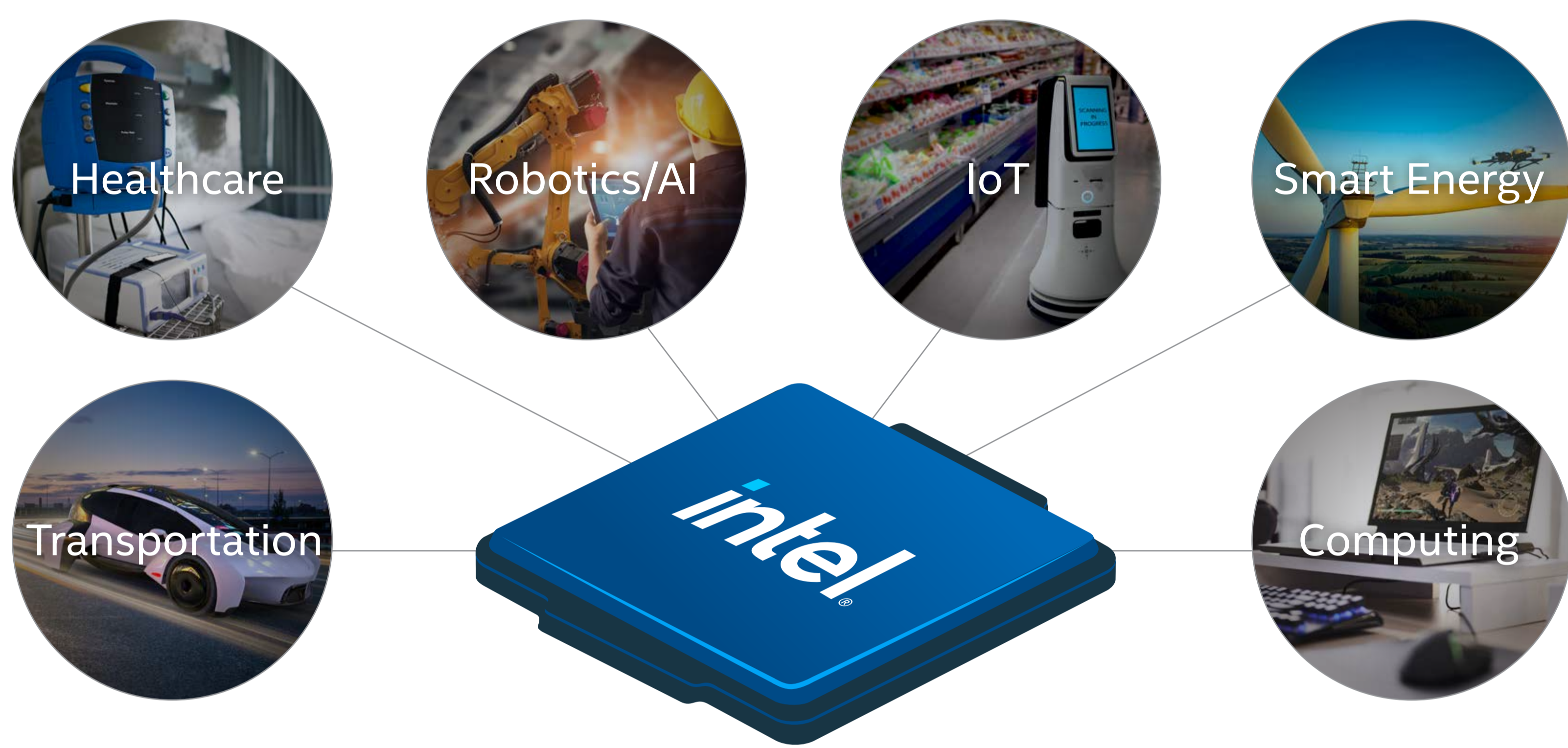
The Semiconductor

There are different types of semiconductors. This motherboard is showing at least eight of them. Functions of semiconductors can range from the amplification of signals, switching and/or energy conversion.



Why are semiconductors so important?

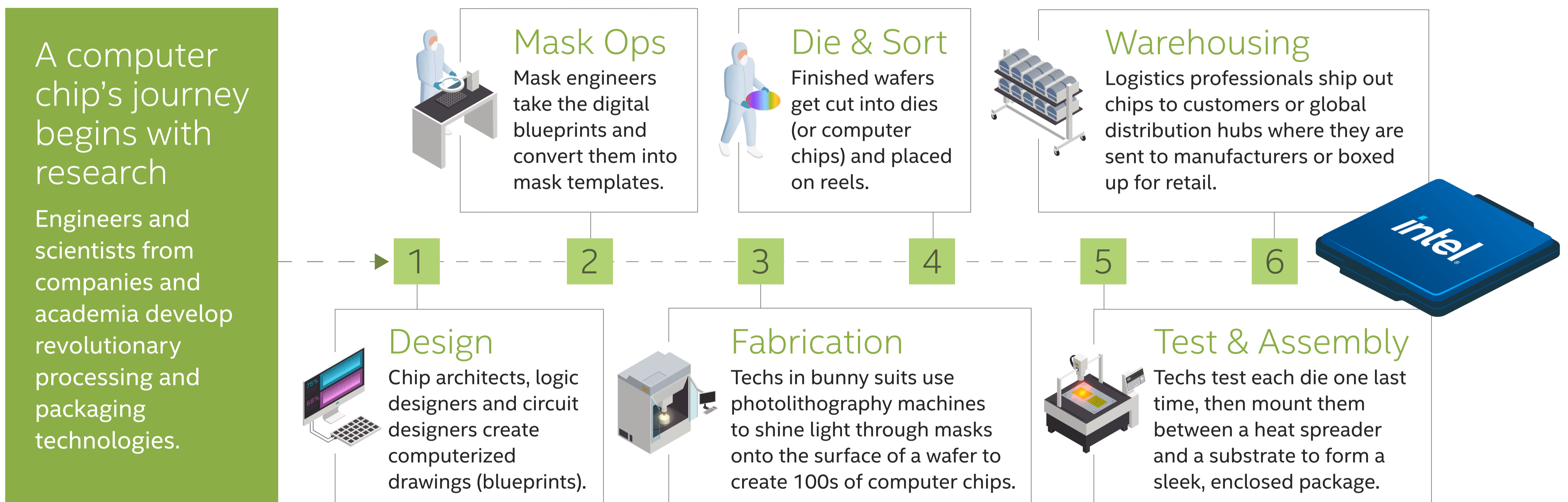
Semiconductors are the foundation of modern technology. Billions of connected devices on the planet would not function without them. Semiconductors are probably the most complex products manufactured in the world yet they're not much bigger than your fingernail. They are packed with billions of microscopic switches, called "transistors," that make them work.



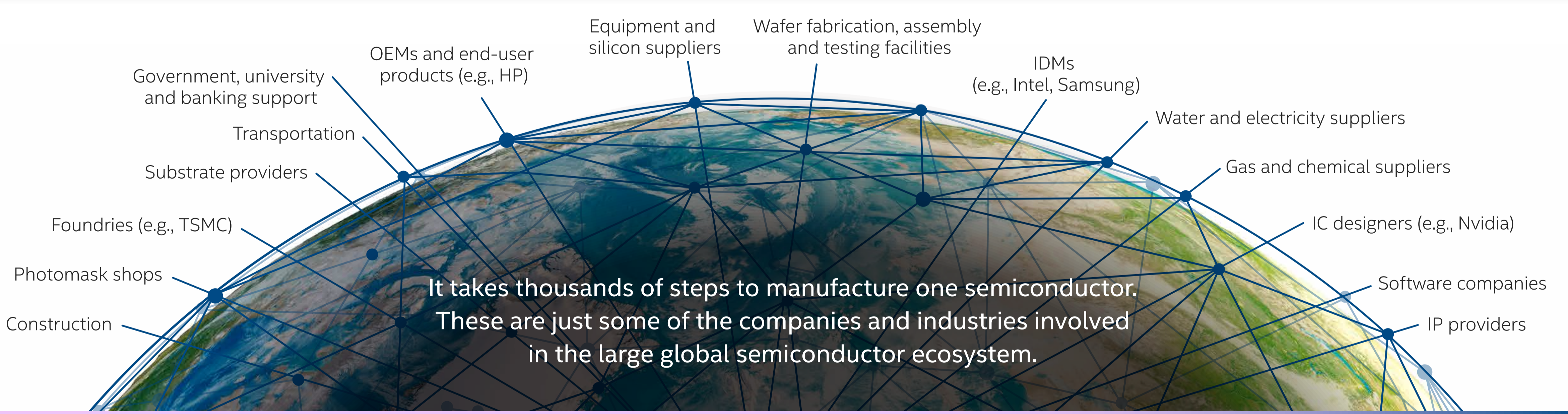
- ~ \$12B
Around the cost to build a new semiconductor factory or "fab"
- > 6 American football fields
Nearly the size of the world's largest semiconductor fab
- ~ 12K
Roughly the number of construction, high-tech and support jobs a semiconductor fab creates
- + \$400B
2019 revenue from the global semiconductor industry

A computer chip's journey

Intel is one of the last companies that both designs and builds chips as an integrated device manufacturer. Most other chipmakers – Nvidia, AMD or Qualcomm – design chips and then use a foundry, such as TSMC, Samsung or Global Foundries, to build them. Intel also serves as a foundry. Staying at the leading edge of technology is costly, and only a few companies – Intel, Samsung and TSMC – sustain heavy investment to keep pioneering.

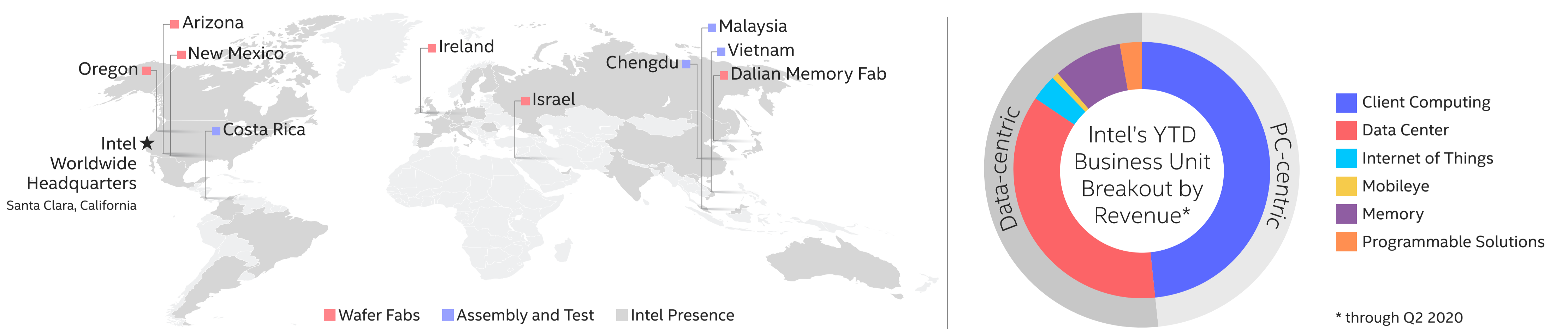


The semiconductor ecosystem



Intel and semiconductors

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



- 110,000+** Intel employees working in 46 countries around the globe
- \$72B** Total Intel revenue in 2019
- 10B** Transistors Intel produces every second
- 100M** Transistors packed into one mm² on an Intel 10 nm chip
- \$16B** Intel's 2019 investment in manufacturing plus \$13.4B in R&D

Intel is responding quickly to the broad range of opportunities data presents, leading to innovation in cloud, 5G, AI, autonomous driving and the intelligent edge. Focusing on six pillars, we have invested billions of dollars in product innovation to enable breakthroughs in capturing value from data:

<p>Process and Packaging</p> <p>We are creating a new wave of compute engines that mix and match different process technologies and then connect them with high-performance, low-power packaging technologies.</p>	<p>xPU Architectures</p> <p>We are designing processors that span four major computing architectures (scalar, vector, matrix and spatial), moving us toward an era of heterogeneous computing.</p>	<p>Memory</p> <p>With our Intel® 3D NAND and Intel® Optane™ technology, we are developing products to disrupt the memory and storage hierarchy.</p>
<p>Advanced Interconnect</p> <p>We are delivering leading technologies across all interconnect layers — spanning on-die, on-package, data-center and long-distance networks.</p>	<p>Security</p> <p>Together with customers and partners, Intel is building a more trusted foundation in this datacenter world.</p>	<p>Software</p> <p>Our software unleashes the potential of hardware across all workloads, domains, and architectures.</p>

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