

- Why semiconductors?
 - This industry is people manipulating individual atoms to make the most produced thing humans have ever made
 - The internet and the cloud isn't just out there in the air
 - It's actually really physical
 - It's a bunch of crazy patterns carved onto silicon by shooting light and using chemicals that now live in data centers
 - Increased memory on iPhone is done by carving patterns onto silicon
- Visuals
 - [RelativeSizeofParticles-Infographic-1920px_v8.jpg \(1920×1080\) \(visualcapitalist.com\)](#)
 - Zika virus is about 50 nanometers, the size of features that are possible in bleeding edge 5nm processes
- Videos
 - Dive & zoom into a chip
 - [Zoom into a Microchip \(Narrated\) on Vimeo](#)
 - [Zoom Into a Microchip](#)
 - Intel 2009 - whole process from sand to ingots to chips
 - [From Sand to Silicon: the Making of a Chip | Intel - YouTube](#)
 - GF - silicon to chip process
 - [Sand to Silicon v2](#)
 - Creating the interconnects/wires
 - [GLOBALFOUNDRIES Sand to Silicon](#)
 - Intel 2020 - different processes, evolution of innovations
 - [From Sand to Silicon: The Making of a Microchip | Intel - YouTube](#)
 - Making the ingots
 - [From sand to silicon - YouTube](#)
 - Applied Materials 2020 - the scale of the work in nanosphere
 - [Applied Materials — We Work Here - YouTube](#)
 - PBS - Intro to Semiconductors and their properties
 - [What is a Semiconductor? | MIT's Science Out Loud | PBS LearningMedia](#)