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Critical Demand and Supply Trends in Semiconductors

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Abstract: Current semiconductor shortages are a significant source of economic pain for Original Equipment Manufacturers (OEM's), with the largest crunch being felt by the Automotive industry. Although the Covid pandemic was an important trigger for these shortages, structural strain in the semiconductor supply chain had been building prior to it. In response to the shortages, semiconductor buyers as well as national governments are re-evaluating their views on the strategic importance of semiconductor sourcing. At the same time, major manufacturers (foundries and integrated device manufacturers) are announcing record-breaking capital investment plans to build new capacity. This presentation will review several critical trends driving semiconductor demand and supply, and implications for the global semiconductor supply chain.

Or, the short version for students: Semiconductors are hot again! You're in the right field!

Bio: Dr. Rutger Vrijen is a Partner in McKinsey's global Semiconductor and Advanced Electronics practice. He serves semiconductor and other advanced-electronics clients on a range of topics, including growth strategy and transformation, cross-border M&A, pricing excellence for channel and direct sales, supply-chain performance diagnostics and transformation, as well as effective, efficient product development. Prior, Rutger was at NXP Semiconductors, where he was Senior VP and Head of Strategy for Business Unit Security & Connectivity (~\$4B annual revenues), and general Manager of the RFID Tagging business. In this role, he oversaw the integration of Freescale Semiconductor (\$40B merger). Early in his career Rutger was a Staff Engineer at Sun Microsystems, where he led prototype development projects on UltraSparc III processor performance and reliability. Rutger holds two patents and has published over 30 articles in globally leading scientific journals. He has a Ph.D. in Physics from the University of Amsterdam, performed post-doctoral research in Electrical Engineering at UCLA, and he has an MBA from Erasmus University Rotterdam.