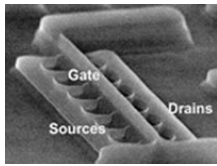


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By: Anca Rusu, Technology Editor



[Intel's Tri-Gate Transistors to Enable 32nm, 22nm Processors](#)

Higher energy efficiency

Intel yesterday announced that it has developed a new technology - the tri-gate transistor - which will be suitable for volume manufacturing of future processors, produced using 32nm or 22nm process technologies, according to X-bit Labs. It seems that tri-gate transistors will represent the future of Intel's transistors performances, as it essentially needs lower power consumption than the predecessors' - the planar transistors. According to X-bit Labs, the tri-gate transistors offer a 45% increase in drive current (switching speed) or 50 times reduction in off-current, and 35% reduction in transistor switching power than the currently 65nm transistors. "Intel has successfully integrated three key elements - tri-gate transistor geometry, high-k gate dielectrics, and strained silicon technology - to once again produce record transistor capabilities. These results give us high confidence that we can continue Moore's Law scaling well into the next decade," said Mike Mayberry, Intel vice president and director of component research. Intel's representatives also said that the manufacturer, one of the leaders in production of high volumes of smaller chip geometries, has created a way to use these tri-gate transistors in combination with other key semiconductor technologies "to enable a new era of energy-efficient performance". Intel officials added that the tri-gate technology could become the core of the future microprocessors after the 45nm process technology. *Photo Credit: Intel*