Moores Law was an observation that the number of transistors on a chip doubles every 2 years. The implications of this were:
- switch faster so increases computing speed
- that cost of a microchip would drop

This has broken down in recent years due to physical limitations of
- small size changes transistor characteristics
- heat, need to dissipate double the heat
- energy, requires double the energy to run
- scaling down the voltage can reduce energy and heat
- however a lower voltage cannot prevent power leakage
- and lower voltage makes signals more sensitive to noise