Moore's law
Gordon Moore proposed that the number of transistors packed in an Integrated Circuit(IC) would double approximately every two years.

There are limitations contributing to the slowing rate of growth in processor power:
1. Electron tunnelling. It prevents the length of a gate – the part of a transistor that turns the flow of electrons on or off – from being smaller than 5 nm.
2. Heat extraction. The more transistors there are on a chip, the more heat it produces, and the greater the chance of a malfunction.
3. Leakage power. The smaller transistors become, the lower working voltage required. If the working voltage of circuits become too small, it becomes almost impossible to discern between a leaking off status and a leaking on status on certain transistors.
4. Noise. Too low power consumption can lead to interference(circuit noise) generated by the components. Thermal noise can induce "false bit-flips" that occur randomly – making them difficult to identify and control.