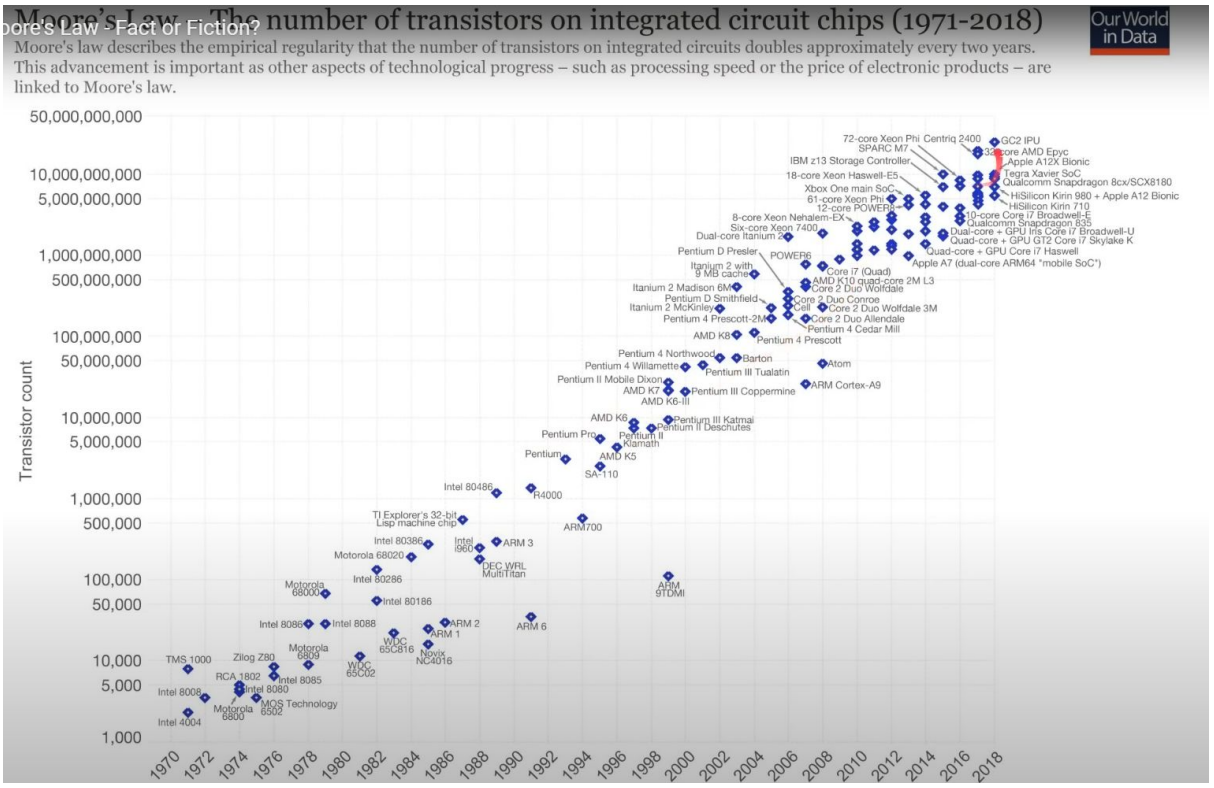
MOORE'S LAW

Is an observation and prediction that the numbers of transistors in an integrated circuit doubles about every two year.

Is a projection of a historical, not a physics law, based on experience.

(Note: Taken from https://www.youtube.com/watch?v=I4yPek19cn8)

This is the evolution:



Physical limitations

1. Technology is reaching the atom size. Nowadays.
2. Voltage switch should be reduced to bound power consumption, but has a minimum value to be kept.

Unexpected rubric rules

1. Temperature increases as power increases. Higher temperatures without proper cooling could lead to processor melting.
2. Power increases as transistor density increases.
3. Voltage scaling reduces (dynamic) power consumption.
4. Voltage scaling cannot prevent leakage power loss.
5. Voltage scaling is limited due to noise or threshold voltage