

Title:

Extending Moore's Law for Another Decade Despite Disappearing Pitch Scaling

Abstract:

Instead of marching from one crisply defined technology node to the next with an uncertain timeline, the industry is transitioning towards annual technology updates that is driven by the schedule, but with an uncertain transistor density increase. Full node updates are expected every other year, with "half-node" updates in between. The pitch scaling is slowing down after 10nm node and is expected to practically stop scaling by 1nm node. Despite that, transistor density is expected to keep increasing at a similar pace at least through 1nm node, fueled by increasingly sophisticated Design-Technology Co-Optimization (DTCO) and advances in Electronic Design Automation (EDA).