

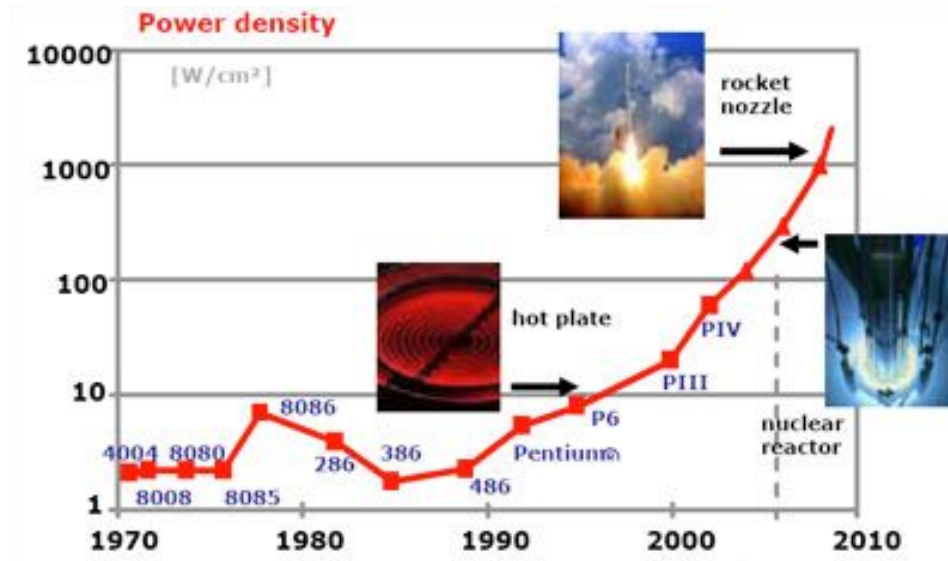
Four New Ways to Chill Computer Chips

Larichev Anton

IU4-53

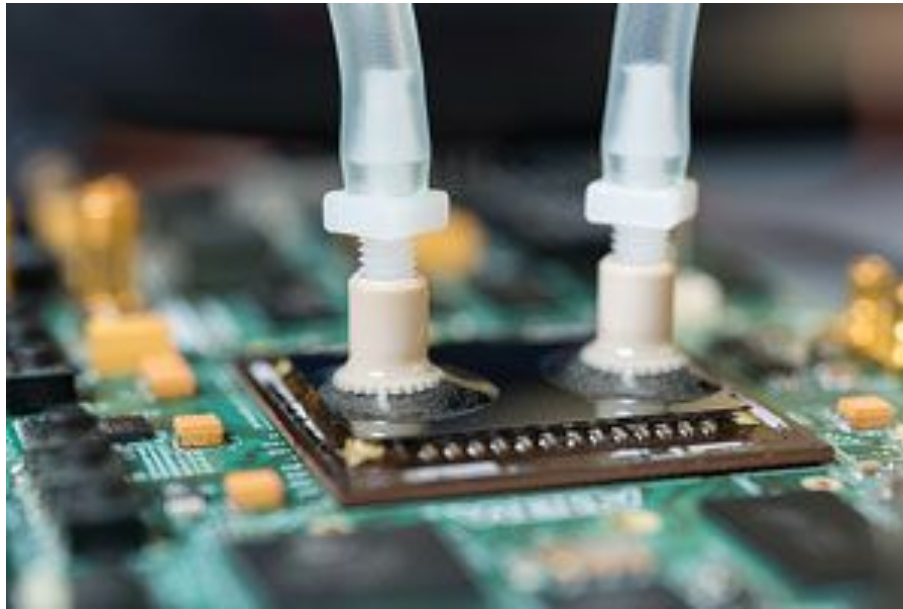
Plan

- Substance of the Problem
- New methods
 - Tiny Water Pipes
 - The Fridge
 - The Fan of Fans
 - Carbon Nanotubes
- Conclusion



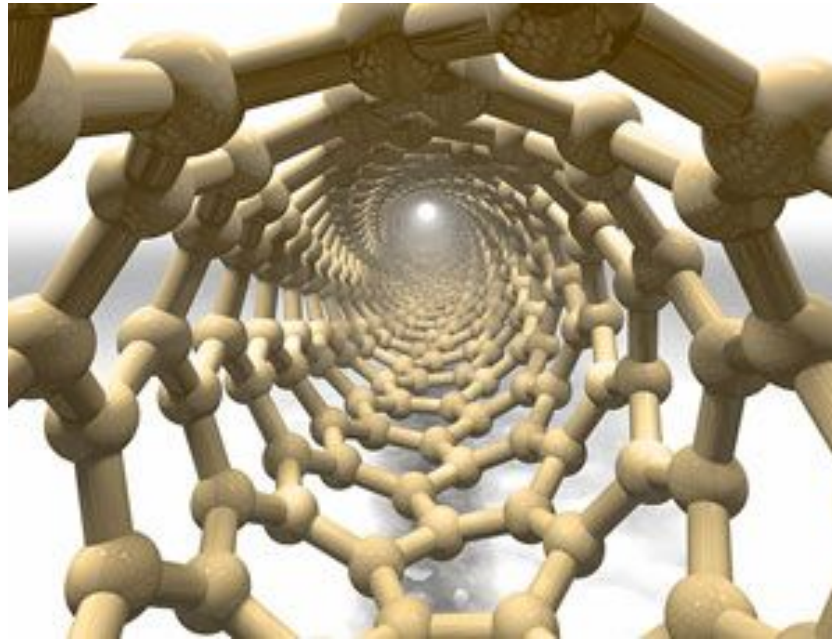
The growing power density (measured in W/cm²) of Intel's microchip processor families. (Source: Intel)

Tiny Water Pipes

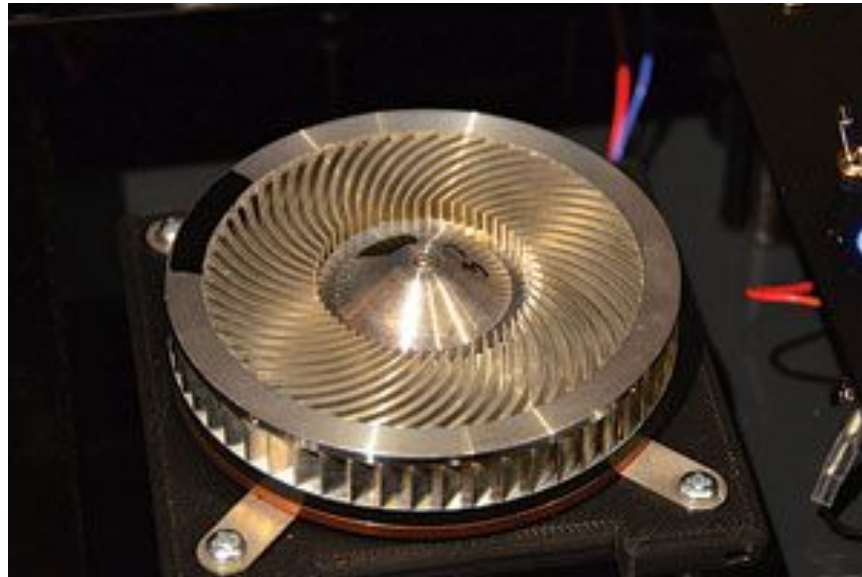


Water flows through microchannels on a chip.

Carbon Nanotubes

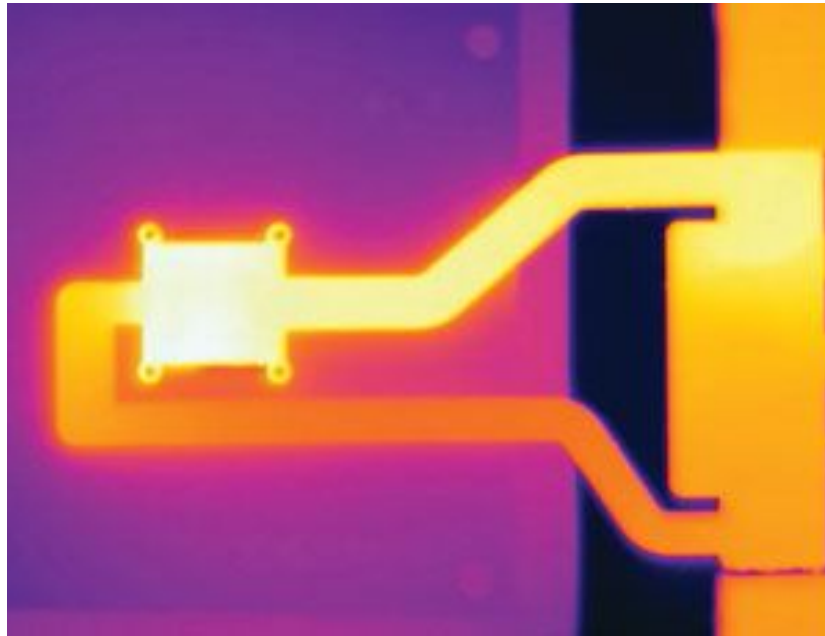


The Fan of Fans



CoolChip has combined the heat sink and fan for added efficiency.

The Fridge



Fujitsu's superslim refrigerator is designed to suck heat out of a smartphone.

Conclusion