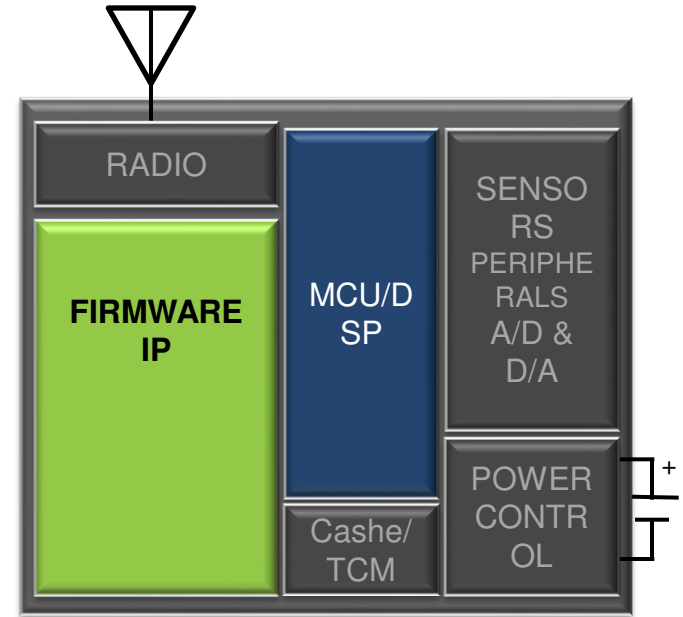
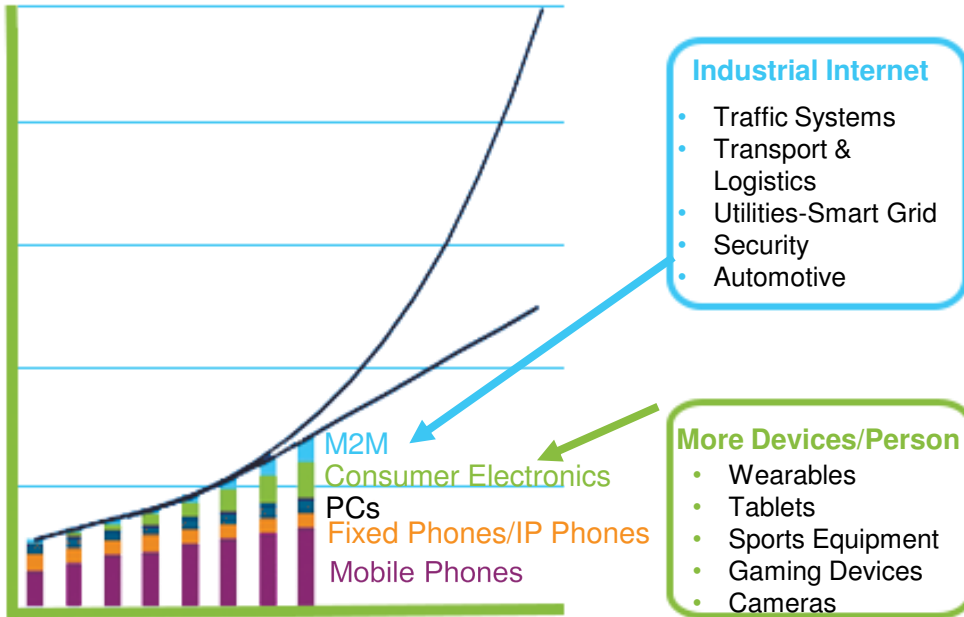


# Flash-less eNVM for Code and Security for IoT

Linh Hong



# 50 Billion Devices in 2020



- **Differentiation is created in software**
- **Common hardware platform, multiple Applications**
- **Memory requirements:**
  - Low power with Instant-On
  - Small Silicon Footprint
  - Programmable, non-volatile code storage
  - Highly Secure to Protect S/W IP and Prevent Hacking

# Flash-less eNVM for Root of Trust



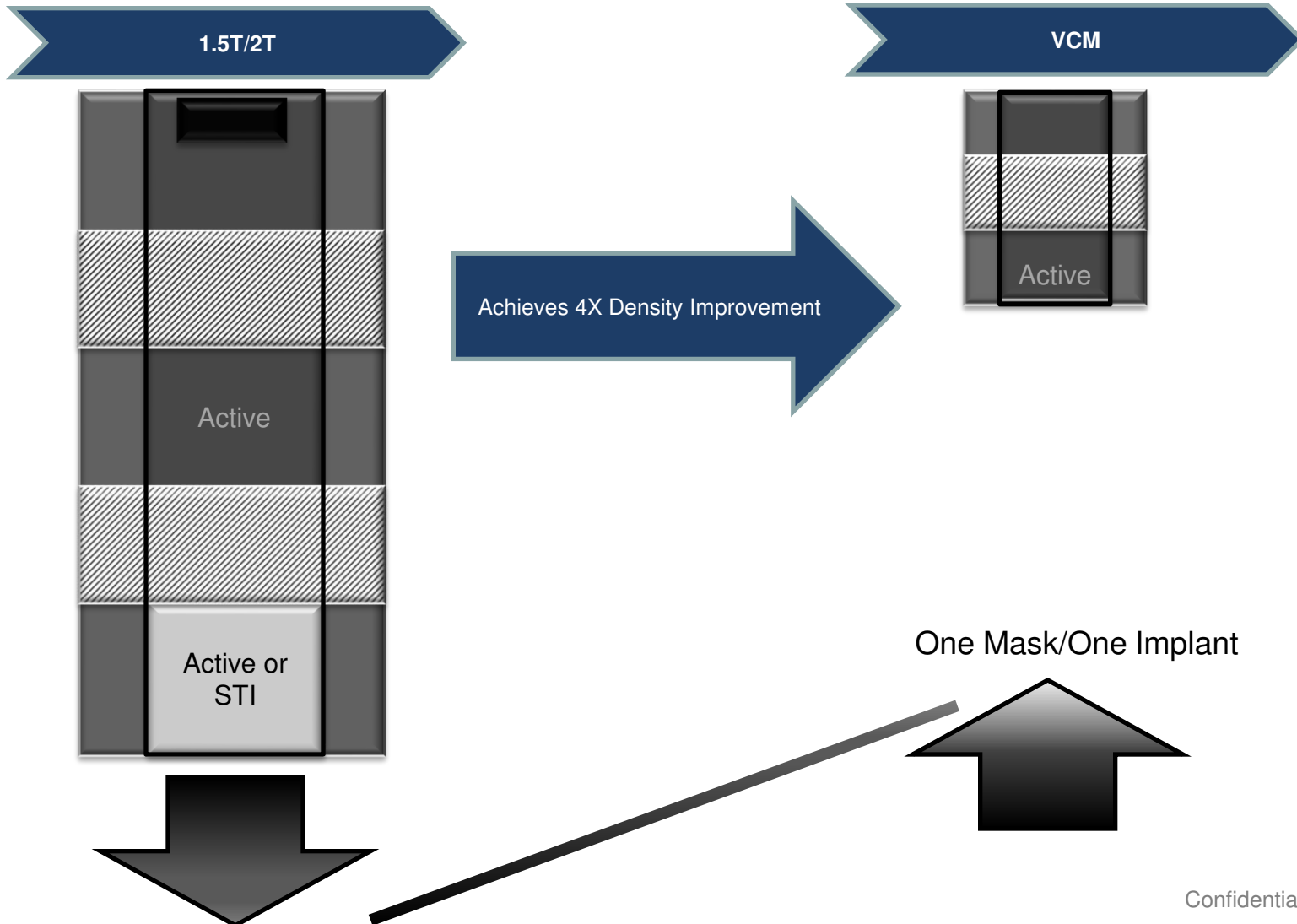
## OTP Technology

Secure elements protect against passive attacks, invasive attacks, and semi-invasive attacks

## OTP Market Adoption

- STB market
- SSD Controller
- Gaming
- Secure Transactions

# Smaller Footprint, Lower Power Flash-less Bitcell for Code



Std. CMOS + DRC Clean DFM