Data Center Solutions Overview

Anki Nalamalpu

VP & SENIOR GM –
DATA CENTER AND AI

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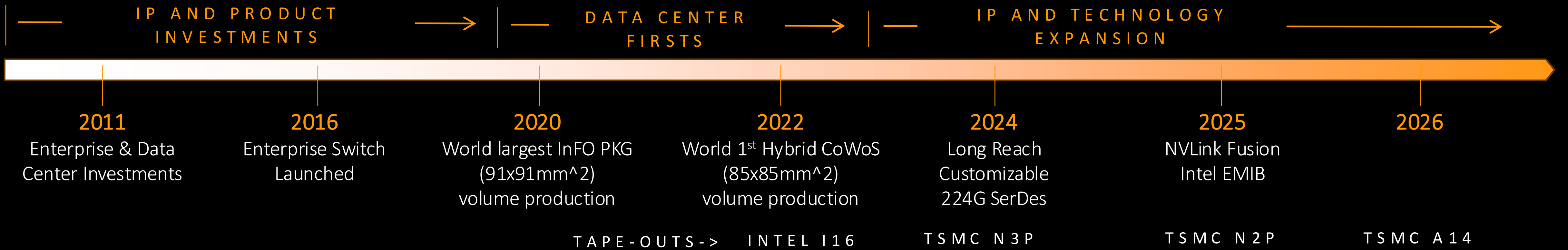
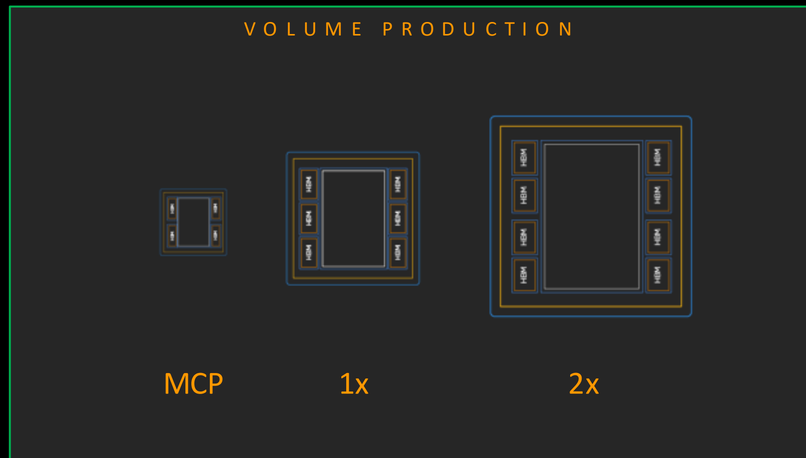
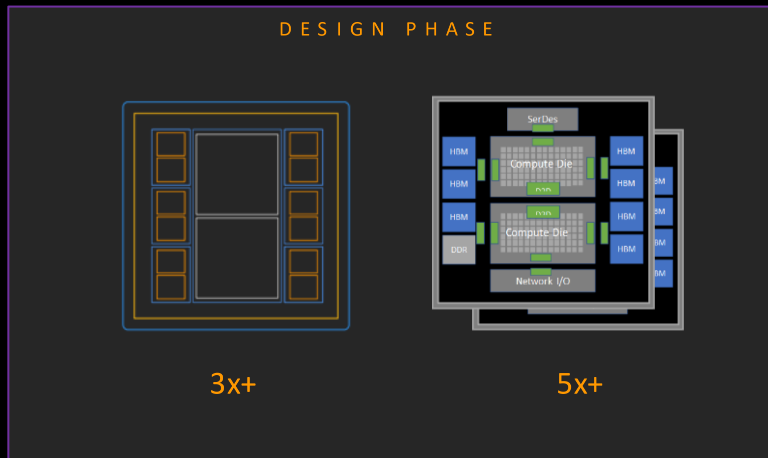
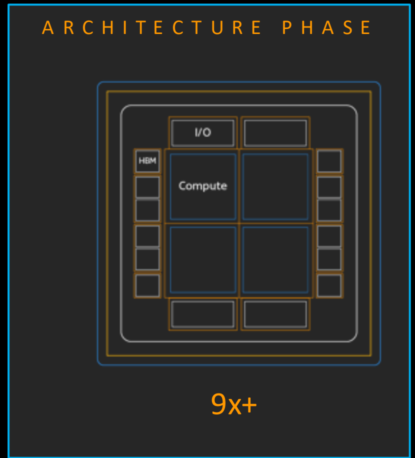
Heritage of Innovation









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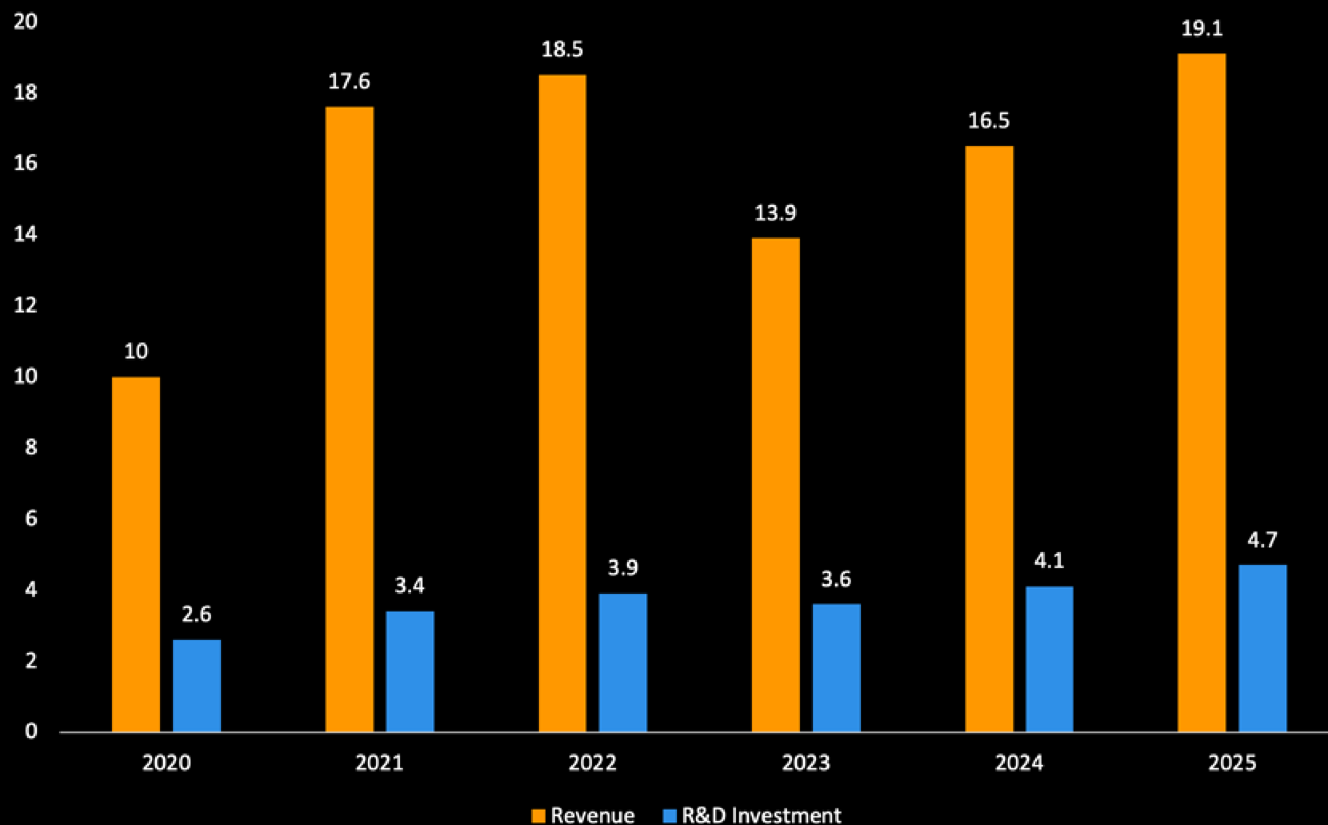
MediaTek Group Financials
(USD $B)

CONSISTENTLY INVESTING

~25%

OF REVENUE ON R&D



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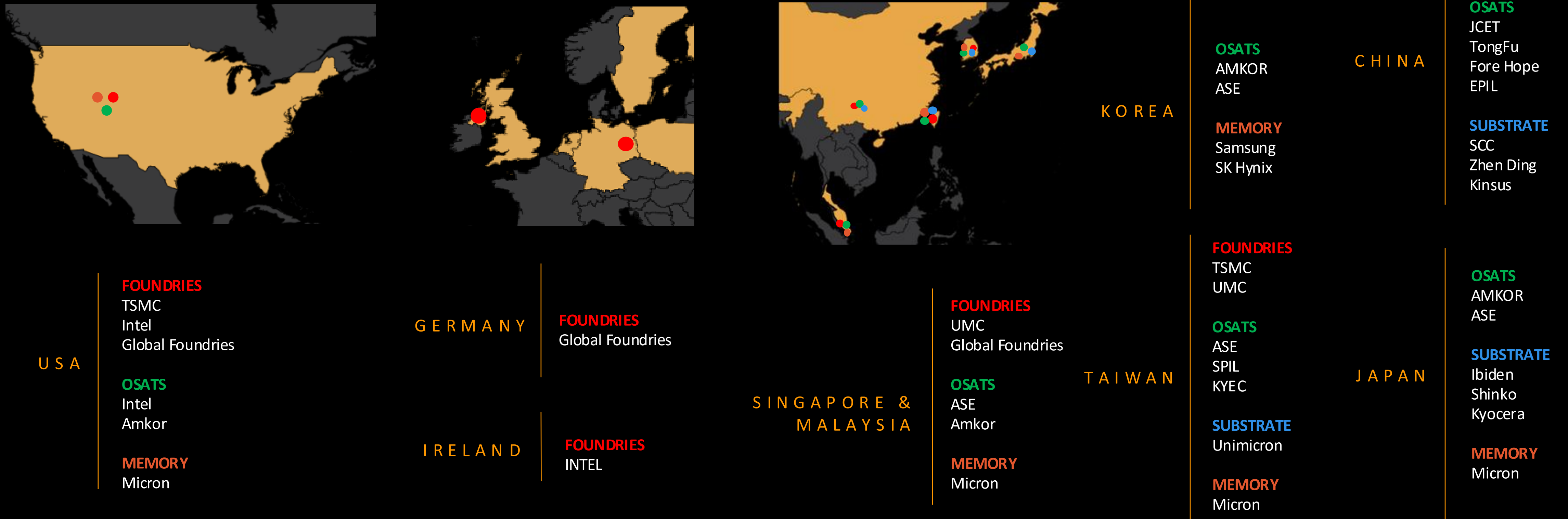
Data Center Supply Chain Partnerships

Global Scale | Resiliency | Predictability | Leading-edge Technology

11 Foundries in 8 countries | 13 OSATS in 5 countries | 14 Substrate vendors in 4 countries | 3 Memory vendors in 5 countries



Map is not to scale. Areas shown are for guidance only– they are not precise locations

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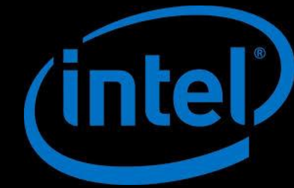
Strategic Partnerships with Industry Leaders

PRODUCT CO-DEVELOPMENT

Automotive | IoT | AI Supercomputer | Data Center IP (NV Link)

EARLY TECHNOLOGY ENABLEMENT



Advanced Nodes | DTCO | CPO | SOW

- Early DTCO/STCO and 3DBlock partner
- Our collaboration has yielded worldclass D0 and capacity allocations

- Taped out IFS16 in 2024 and MP in 2025

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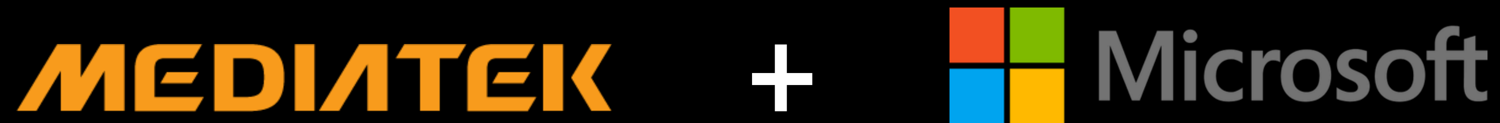
Ongoing Research & Development



Next-gen Active Optical Cable (AOC) powered by MicroLED light sources and the MOSAIC architecture.

MediaTek and Microsoft proof-of-concept showcases:

- Dramatic power savings
- Copper-level reliability
- Extended reach for AI clusters
- Greater scalability

We're committed to further miniaturization and mass-production readiness for gigawatt-scale AI data centers.

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The Rack

Building blocks of data centers

The new unit of compute consumption

Greater value through hardware/software vertical integration for Cloud AI and enterprise customer

Power, thermals and reliability dictate the performance

Effective monetization requires optimization of rack across different usages

Perf/TCO and Perf/Watt are critical metrics to achieve best-in-class data center efficiency

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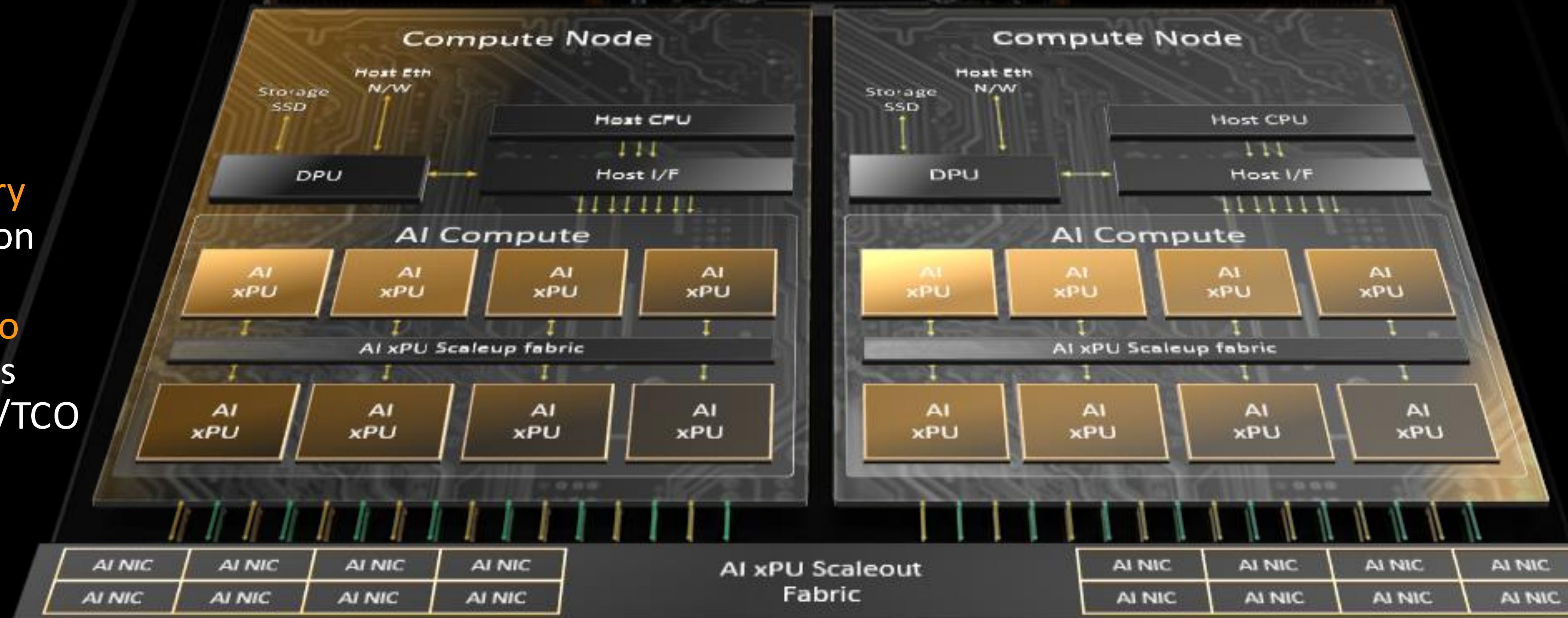
MediaTek Solutions to Scale Cloud Compute

Co-optimization across three pillars: Compute, Scale-up, and Scale-out Interconnect

Supports industry standard (UALink, UEC) and proprietary interconnect (NVLink) solution

Heterogeneous integration to enable new system use-cases with improved performance/TCO



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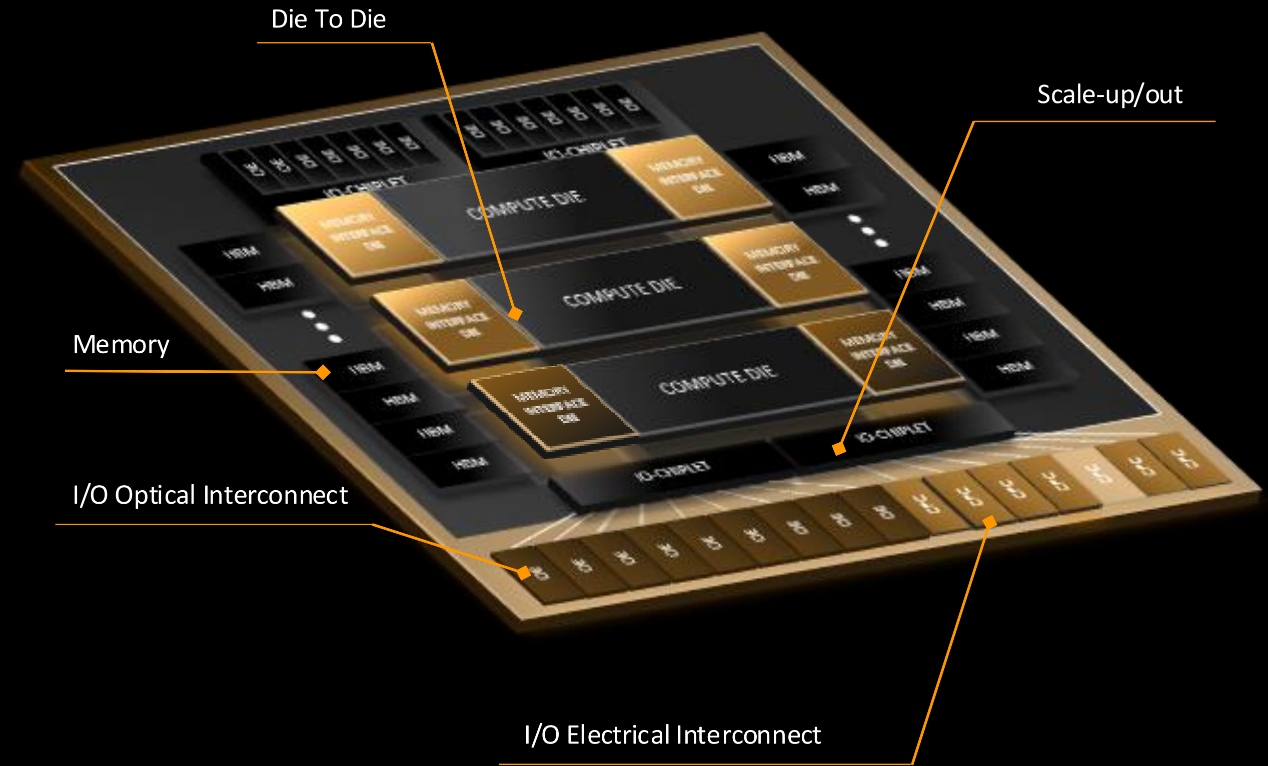
xPU

BETTER Perf/Watt and Perf/TCO with **LARGER** and more **COMPLEX** integrations

MediaTek is investing in technologies and IPs to enable end to end 10x+reticle designs solutions



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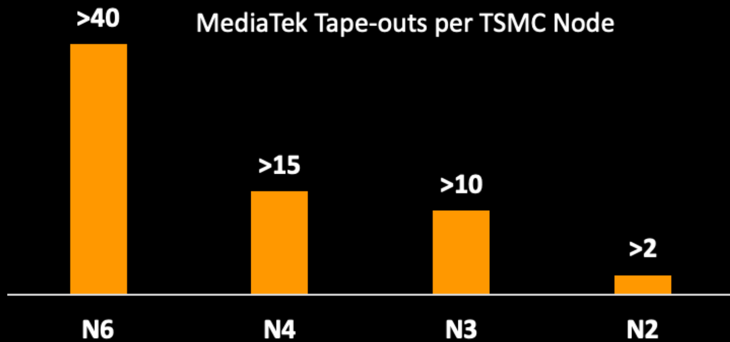
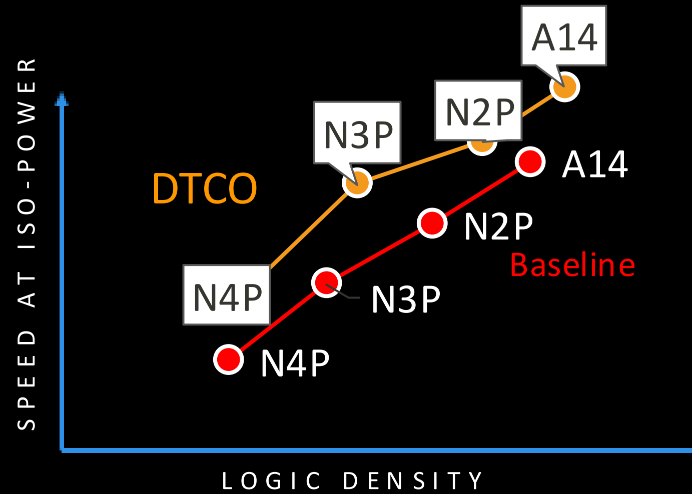
MediaTek Capabilities for Improving Compute Perf/W

EARLY NODE ADOPTION



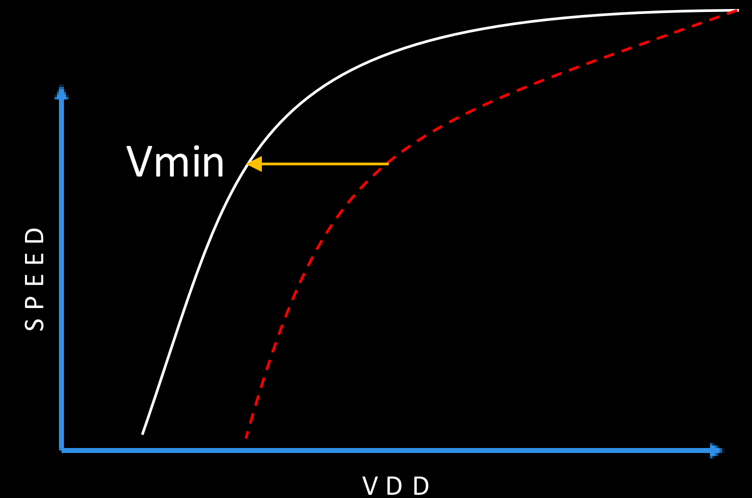
1st wave of 2nm tech adoption in 2025
A14 Test Chips in mid-2026

DTCO



Process entitlement with additional Design Technology Co-optimization (DTCO)

LOW VOLTAGE DESIGNS



Low Voltage designs for better Performance/Watt

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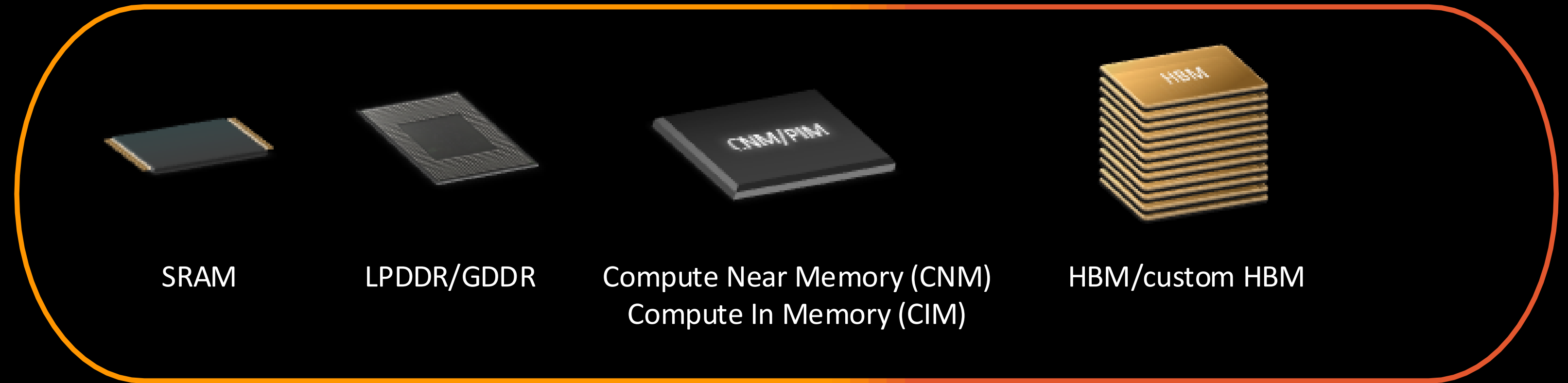
Memory: A Critical Enabler For xPU

Training and inference specific memory innovations are critical for step jumps in performance



MediaTek memory solutions for xPU Perf/W and Perf/TCO

- Extending world's best performing LPDDR solutions with DC capabilities
- Leading edge best in class custom SRAM solutions
- Highest performance standard HBM
- Custom HBM development

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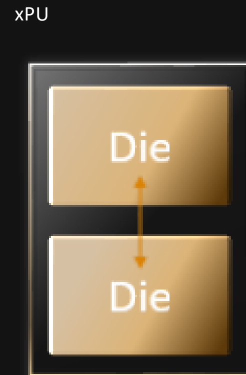
MediaTek Interconnect Technologies and IP

Interconnect solutions that span from die to rack for best in class perf, power and reach

ON PACKAGE

Die-to-die interconnect

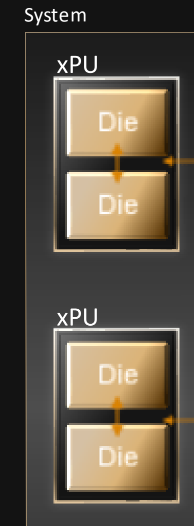


TECHNOLOGY

- UCIe
- Mlink

ON BOARD

Chip-to-chip interconnect

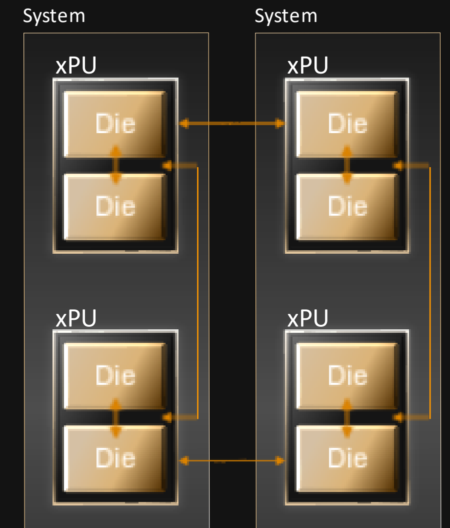


TECHNOLOGY

- High-Speed SerDes (PCIe)
- uLED

OFF BOARD

Board-to-board interconnect



TECHNOLOGY

- High-Speed SerDes (Ethernet)
- NPC/CPC Connectors
- Co-Package Optics

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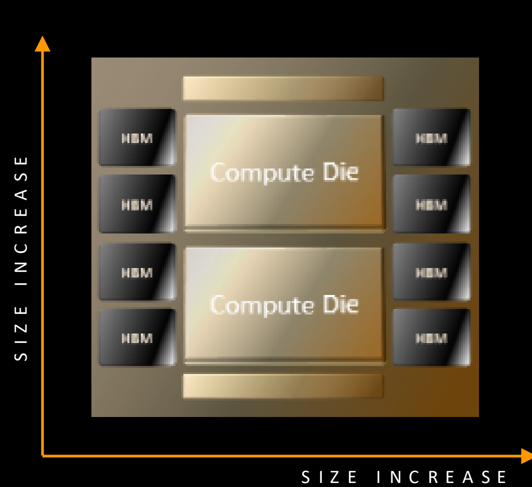
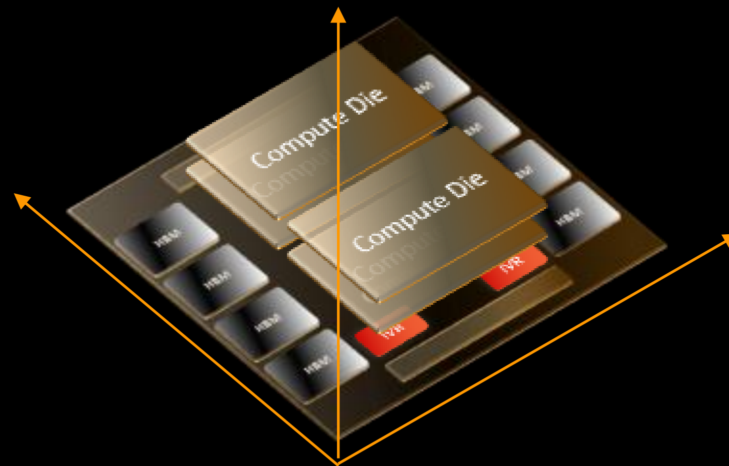
Advanced Packaging Technology Innovations

Critical for achieving larger integration





2.5D
< 10,000 sq. mm Si

3.5D
10,000-20,000 sq. mm Si

- MediaTek's investments drive advanced packaging solutions to enable large complex heterogeneous integration.
- Advanced power delivery technologies (IVR, IPD) deliver higher power density and efficiency.
- System technology co-optimization (STCO) capabilities across Power Delivery, Thermals, Performance, and Packaging.

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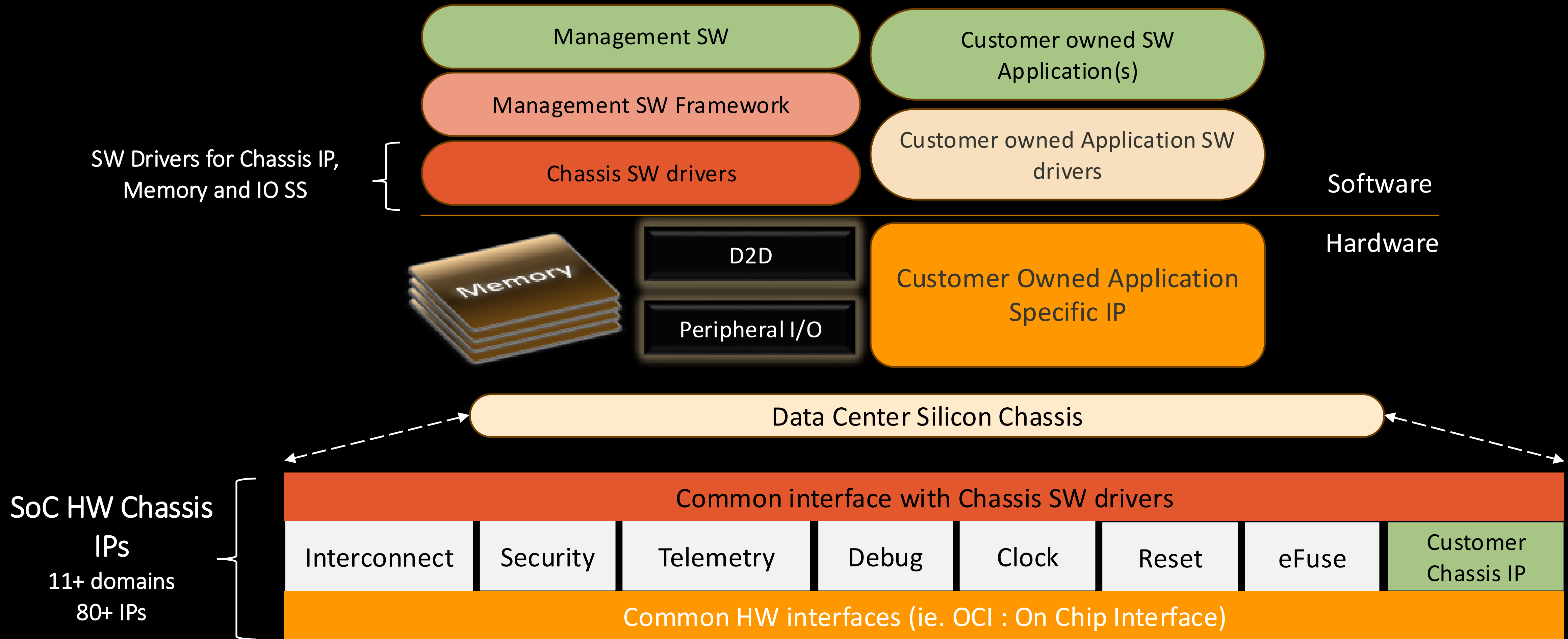
Datacenter SoC HW Chassis – XPU Shell



First Time Si Success and TTM Enabler

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Data Center Technology Highlights

Leadership portfolio supported through our flexible business model

PROCESS & PACKAGING

- Advanced access to N2 and A14
- Proven DTCO leadership
- Roadmap to >9x reticle and >2KW
- 2.5D/3D/3.5D, InFO, CoWoS, EMIB

ARCHITECTURE

- Scalable systems architecture and STCO
- DC SoC chassis/shell for faster TTM
- Custom compute IP for inference workloads

IP PORTFOLIO

- Silicon-proven Ethernet, PCIe, memory subsystems
- Comprehensive 2.5D and 3.5D D2D solutions
- SerDes IP: 112/224/448G
- Interconnect solutions (Die to Rack)
- Standard and custom memory solutions
- Integrated Power Delivery (IVR, IPD)

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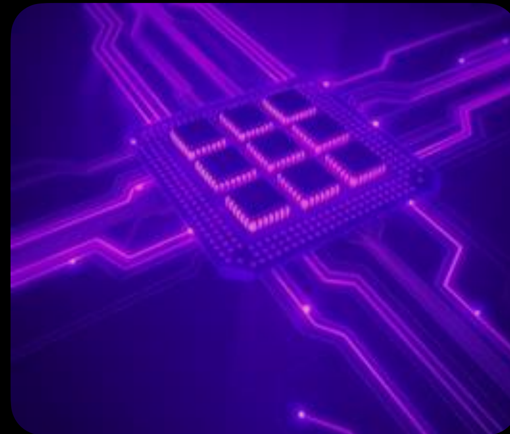
The Value of MediaTek

Global Scale

Technology Optimization

Relentless Execution



TECHNOLOGY LEADERSHIP

Process, Packaging,
Power, Connectivity

STRONG IP PORTFOLIO

SerDes, Optical,

High Speed I/O,
Die to Die Interconnect, Memory

COLLABORATIVE ECOSYSTEM

Partnerships & Global Supply Chain

TSMC, NVIDIA, Intel,
SK Hynix, Micron, Samsung

STRATEGIC ENGAGEMENT MODEL

Fast Time to Market

Flexibility Across the
Technology Lifecycle

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