Building the AI Factory: Overcoming the Infrastructure Challenges of AI at Scale

Tony Wen

Vice President, Engineering Management, Wiwynn

OCP PLATINUM Member

Unleash the Power of Digitalization

Ignite the Innovation of Sustainability

Wiwynn in Numbers

2.6x
Revenue (USD) Growth
2024-2025, 2025: 30.6B

1.2x
Patent Growth
2025 vs 2026

1.9x
Rack Shipment Growth
2024-2025

1.6x
Whitepaper Growth
2025 vs 2026, 2026: 19

49%
Revenue CAGR
2021-2025

Global Manufacturing Footprint



Brno, Czech



Taipei, Taiwan HQ



Socorro, TX, USA

Brno, Czech

Taipei, Taiwan

Tainan

Socorro, TX, USA

Juarez, Mexico

Johor, Malaysia



Johor Malaysia

Tainan, Taiwan

Luzhu, Taiwan





Juarez, Mexico

Design Center

Motherboard

Rack Integration

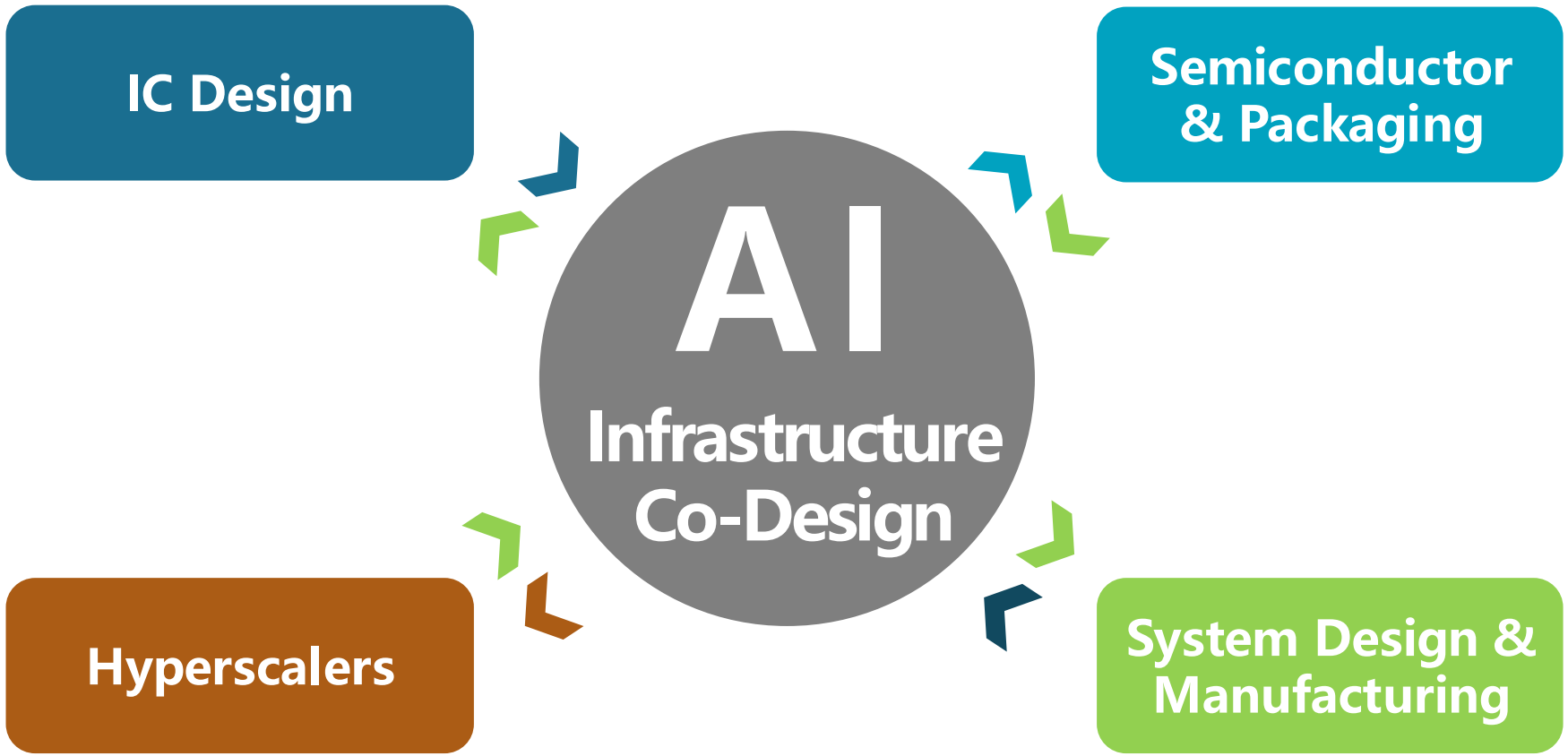
Datacenter

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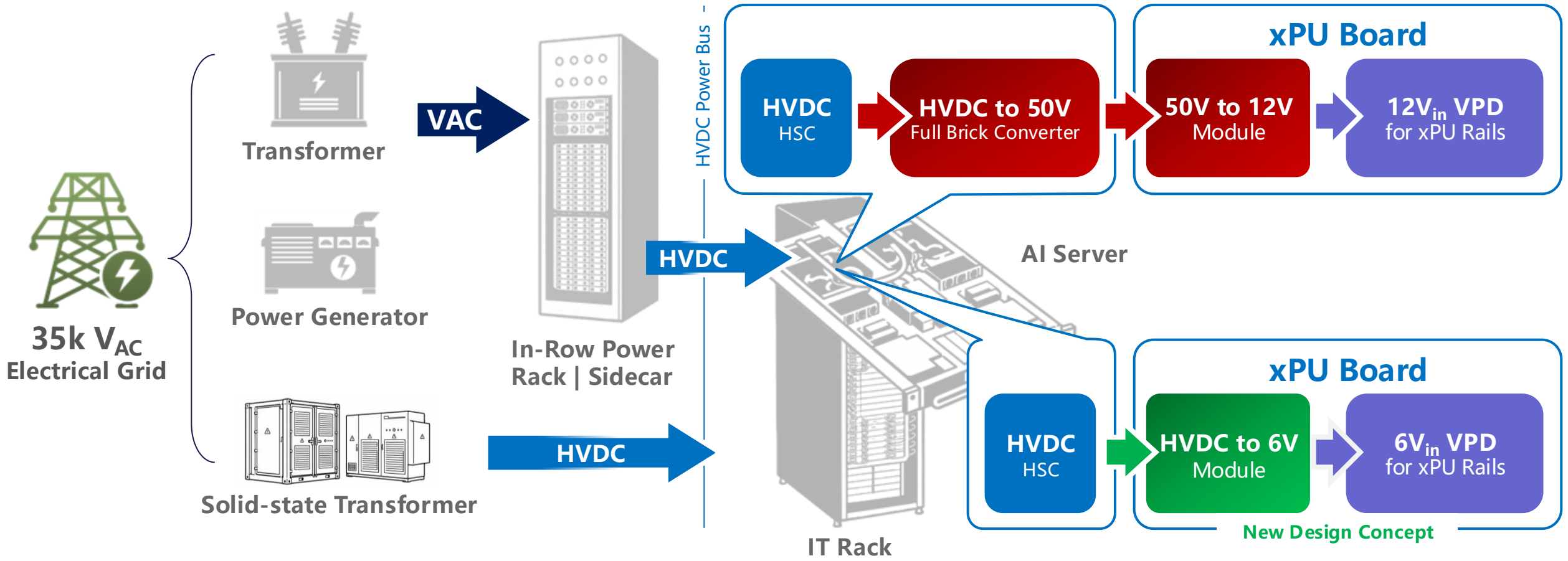
It’s how we lead the supply chain of the AI age



Shaping the Future of AI Infrastructure Through Industry Co-Design



HVDC Transforming Grid-to-Chip Power Delivery

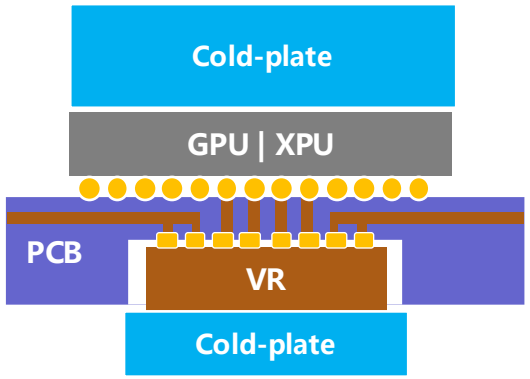


Customized designs to enable higher power density and efficiency by minimizing the low-voltage, high-current path to the xPU.

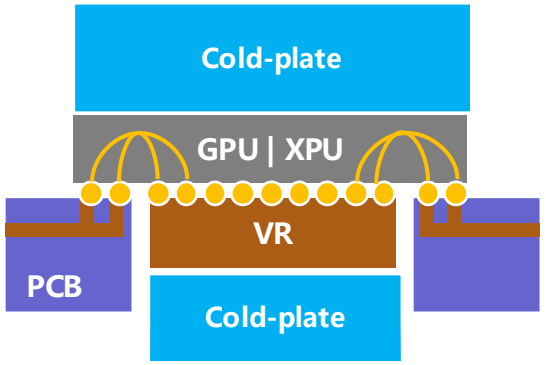
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Innovative Board Design: Next-Gen VPD to Integrate Power & Cooling

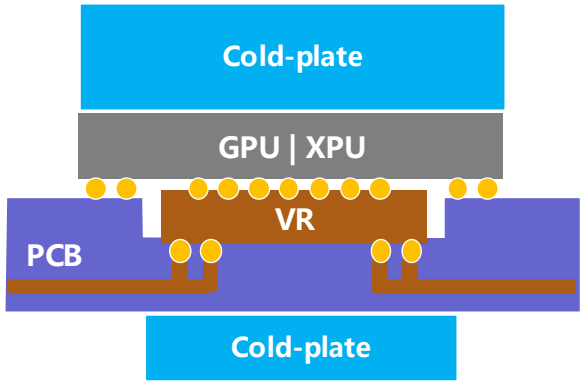
VPD with Bottom side Cavity PCB



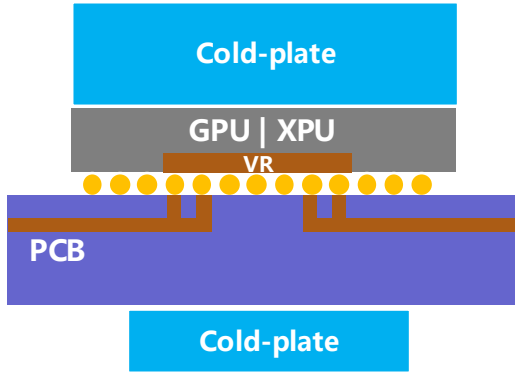
VPD with Cut-out PCB



VPD with Top side Cavity



PIVR/IVR

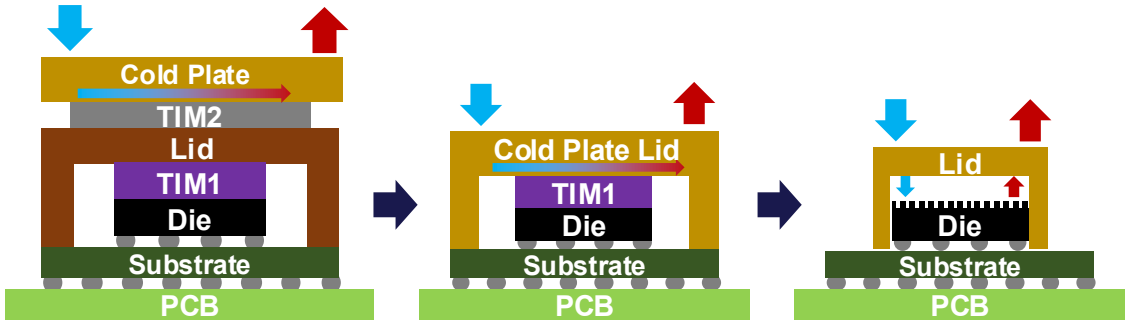


Integrating power and cooling into one thinner, more efficient design — delivering higher density and lower power loss.

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Thermal Innovations: Scaling AI Compute Beyond the Power Limit

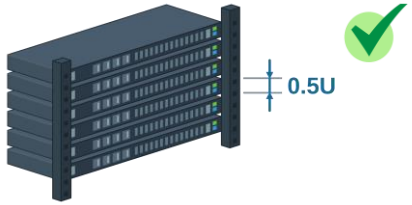
Cooling Trend: Shortening the Thermal Path Between Coolant and Chip



Cold Plate | Cold Plate Lid | On-chip Cooling



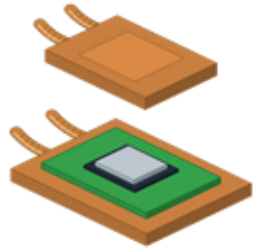
High-Power Cooling to Support Next-Generation AI



Increase Rack Density to Support More AI Chips

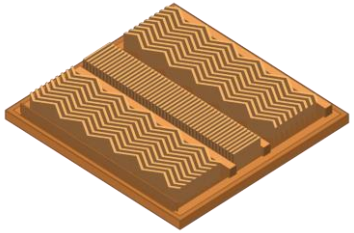
Wiwynn Innovations

Double Sided Cold Plates



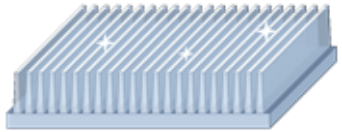
Direct Dual-Sided Cooling for VPD Applications

3D-Printed Micro-channels



Precision Flow-Channel Design to Improve Cooling Efficiency

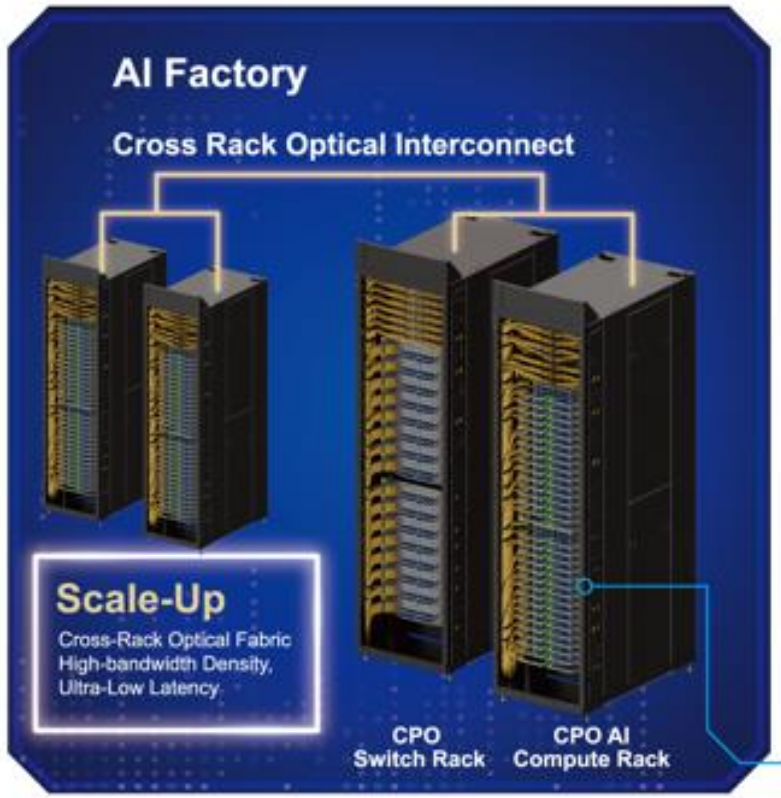
Diamond-Based Materials

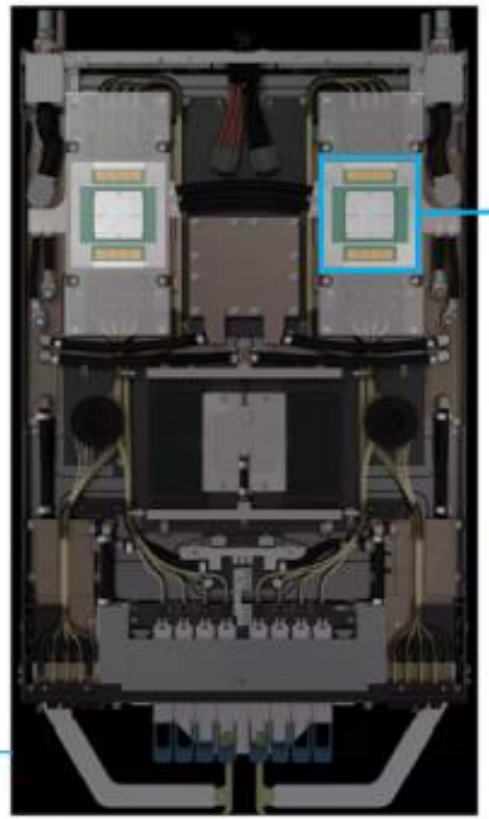


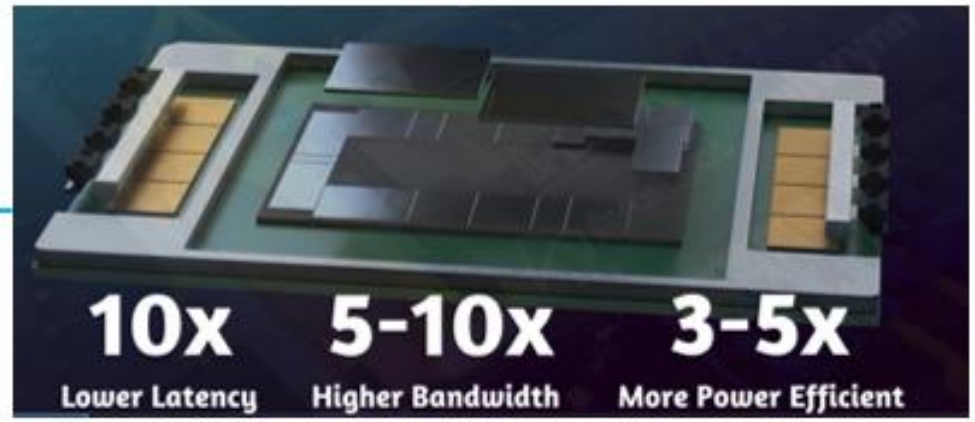
Improve Thermal Conductivity and Eliminate TIM

Connectivity: Scaling the AI Factory with CPO

Scaling ASIC optical I/O to system-ready solutions.
Enabling deployable AI infrastructure for hyperscale workloads.







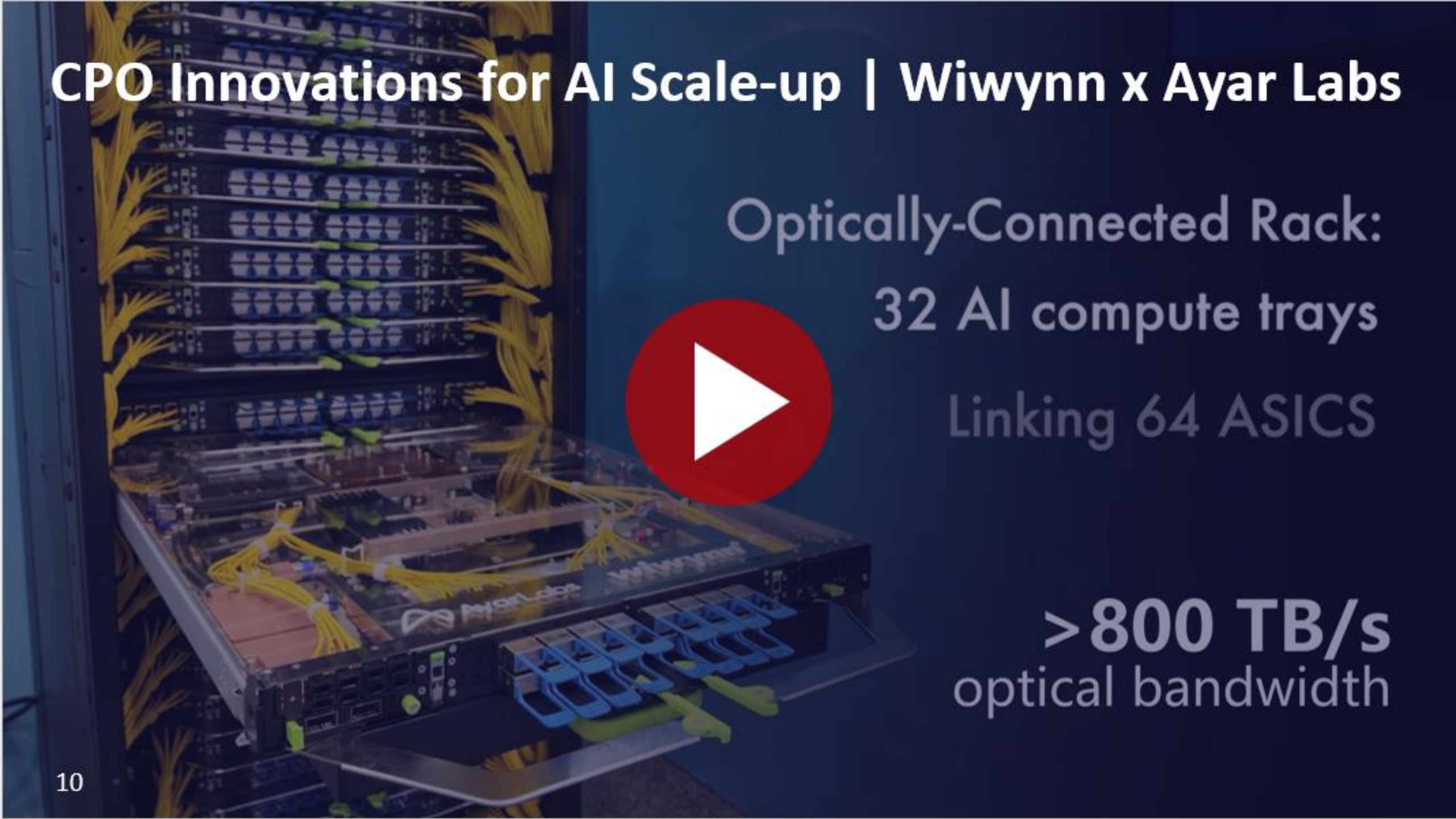
CPO AI Accelerator (OE + ASIC)

OPEN CPO AI Compute Rack

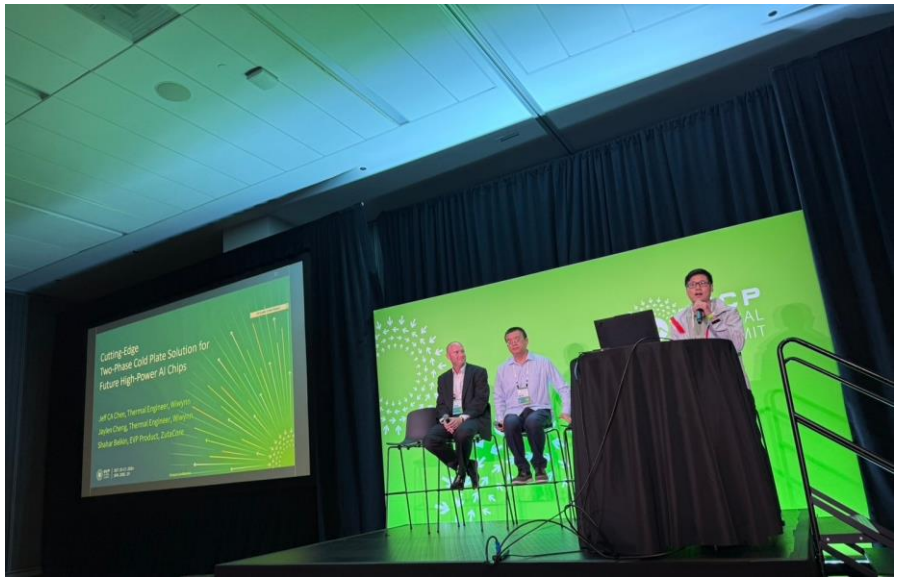
- 64x AI CPO XPUs per Rack
- >800 TB/s Optical Bandwidth
- 100% Liquid-cooled

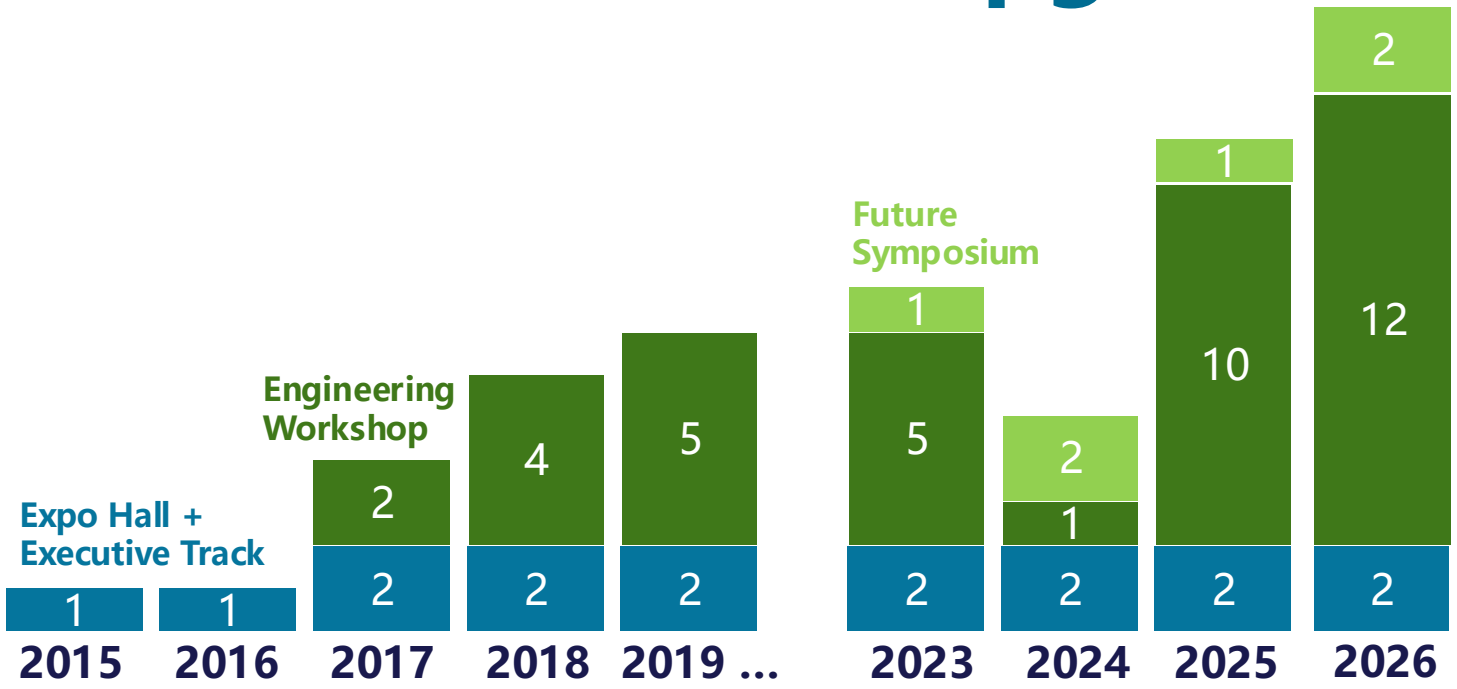
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CPO Innovations for AI Scale-up | Wiwynn x Ayar Labs



Empowering Talent to Fuel Technical Upgrades



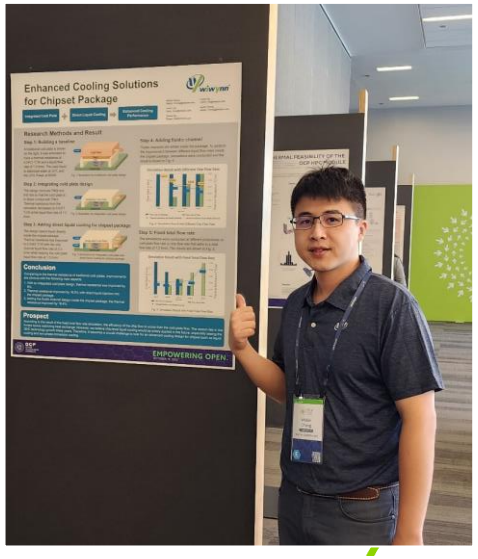


12 Consecutive Years at OCP Summits

60+ Workshop speeches

17 Workstream participations

40+ Whitepaper publications



Speeches

CREATE AI BEYOND LIMITS

OCP GLOBAL SUMMIT | October 12-15, 2026 San Jose, California

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Monday, Oct 12

Executive Track

12:25pm - 12:45pm

Building the AI Factory:
Overcoming the Infrastructure Challenges of AI at Scale

Wiwynn Tony Wen, Vice President

LL20BCD

Tuesday Oct 13

Expo Hall Talk

02:10pm - 02:25pm

Powering AI Infrastructure:
Innovations in Compute, Power, Connectivity and Cooling

Wiwynn Lentis Pai, Senior Director

Expo Hall

Wednesday, Oct 14

FTS: Data Center Sustainability

10:20am - 10:35am

Investigation of Diamond-Based Materials for Direct Liquid Cooling of Next-Generation AI Chips

Wiwynn
Nick Liu, Thermal Engineer
Jake Hsieh, Assistant Technical Manager

LL20BCD

Wednesday, Oct 14

Cooling Environments

10:25am - 10:40am

Rack-Scale Weight Reduction and Reliability Validation for Liquid-Cooled Server Systems Using Lightweight Materials

Wiwynn Shawn Ma, Sr. Manager ; Jeff CA Chen, Technical Supervisor

220C

Server

10:50am - 11:10am

Accelerating High-Power Server Design Through Board-Level Electro-Thermal Co-Simulation of VRMs and PDNs

Wiwynn Steven Chien, Technical Supervisor
Microsoft Zi Ping Wu, Sr. Quality and Reliability Engineer

LL21BC

FTI Workshop: Short Reach Optical Interconnects

1:10pm - 1:23pm

Rack-Ready High-Power ELSFPs: A Co-Development to Support CPO Deployment in AI Scale-Up and Scale-Out Datacenters

Wiwynn Willie Chen, Technical Supervisor
Ayar Labs Nandita Aggarwal, Sr. Staff Laser Product Developer

LL21BC

Wednesday, Oct 14

FTI Workshop: Short Reach Optical Interconnects

3:15pm - 3:28pm

Open Rack-Scale Optical Infrastructure for AI Scale-Up with Co-Packaged Optics

Wiwynn Kinny Chen, Senior Manager
Ayar Labs Vishal Chandrasekar, Director of Product Management

LL21BC

Thursday, Oct 15

Cooling: Cold Plate

01:05pm - 01:40pm

Reducing Operational Complexity Through Standardized Two-Phase Liquid Cooling for AI Infrastructure

Wiwynn Jake Hsieh, Assistant Technical Manager
ZutaCore Ltd. My Truong, Chief Product and Technology Officer
Meta Jiu Xu, Thermal Engineer

220C

02:10pm - 02:30pm

System-level Challenges and Considerations in Transitioning from Single-Phase to Two-Phase Cooling

Wiwynn
Jake Hsieh, Assistant Technical Manager
Yuzhou Lin, Senior Thermal Engineer

220C

Demonstrate Wiwynn’s Technology on Rack, System and Components Level

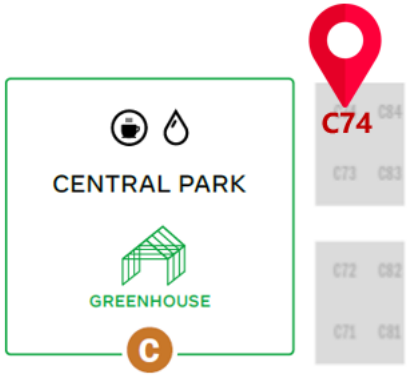
Innovative Thermal Solutions

- Double-sided Cold Plate for VPD + Cavity PCB
- Diamond Microchannel
- On-Chip Cooling
- Lightweight DLC



Rack-Level CPO Solutions

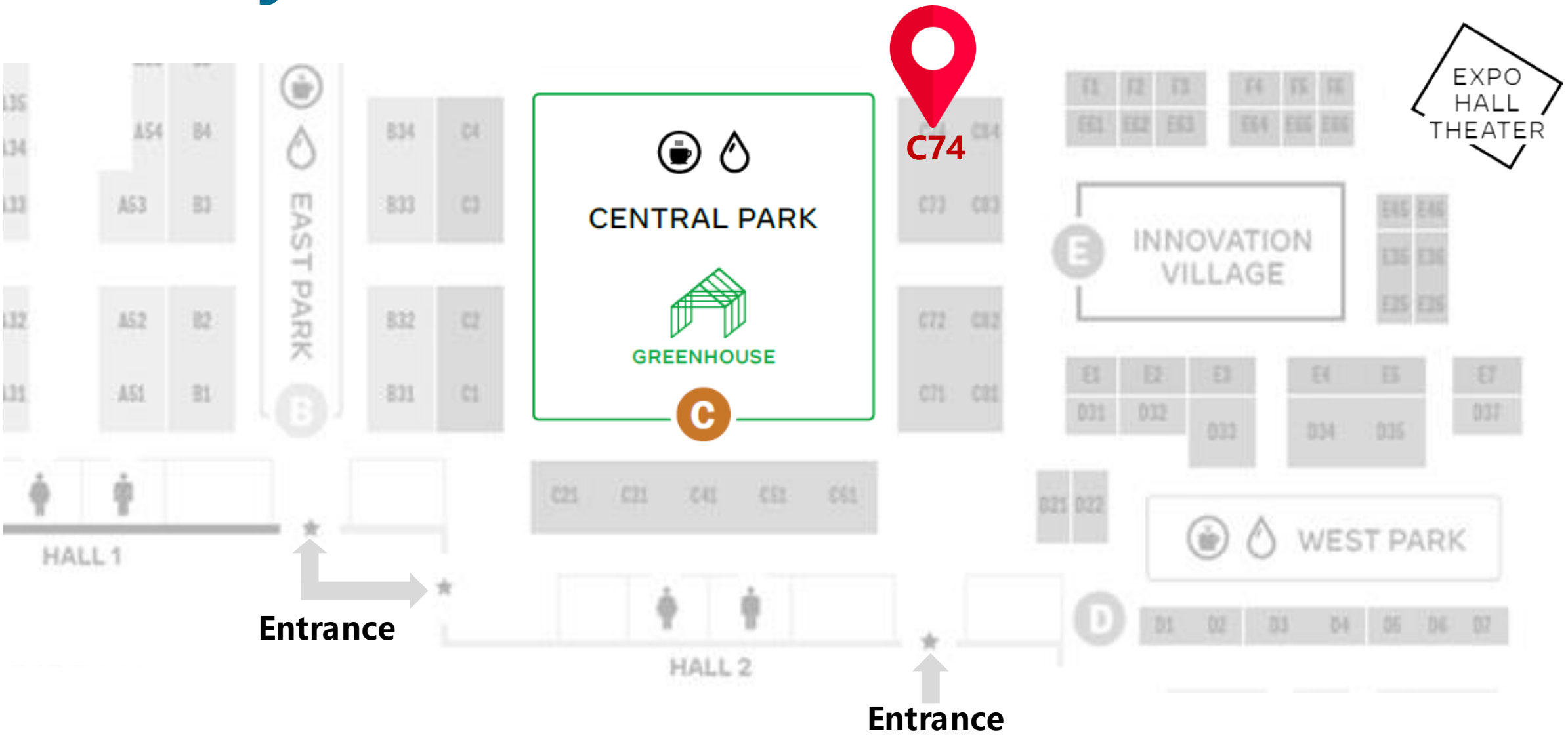
- Rack architecture with ecosystem
- World 1st working TSMC COUPE IC in Tray : LIVE demo



Next-Generation AI Rack Solutions

- NVIDIA Vera Rubin NVL72, AI Factory Solutions
- AMD Helios Rack with Instinct™ MI455X GPUs

Wiwynn Booth at #C74



Call to Action

- Visit Wiwynn at **#C74** to explore the new platforms and technologies
- Join Wiwynn workshop, speeches and future symposium panels.

Wiwynn @ OCP Summit 2026

Wiwynn Whitepapers

- Browse Wiwynn website and download whitepapers


Thank
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GLOBAL
SUMMIT
October 12-15, 2026
San Jose, California