

SNIA & OCP

Driving Open Storage and Networking

SDC 2025

James Kelly

OCP Foundation, VP Market Intelligence & Innovation

Community-driven hyperscale innovation for all



OPEN
Compute
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Meeting the Market and Shaping the Future

COMMUNITY

(International)

Hyperscale Centric



OPEN INNOVATION

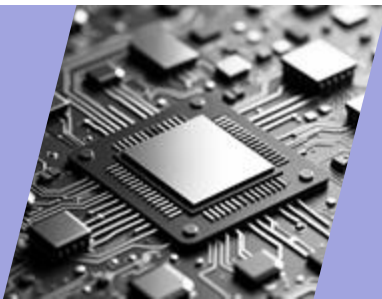
- Hyperscale-proven designs
- Trusted IP model
- Specs, best practices
- Rapid technology adoption
- Multi-vendor ecosystems
- Future technologies

Impacting Data Center IT and Facilities

From hyperscale to distributed edge data center technologies



From silicon to systems to physical facilities



OCP's 14+ Year Journey



2011

- 5 founding members
- 200+ people at first summit
- Facebook open-sources initial hardware specs



2014

- 150+ members
- 2500+ at all Summits
- Adds: DC full stack, network, storage, rack, silicon/GPUs
- Facebook claims saving \$2B over 3y thanks to OCP open source



2018

- 200+ members
- 3800+ at all Summits
- Adds to physical facilities, cooling environments, security FTS, OCP Ready
- ~ \$11B OCP-recognized equipment revenue



2022

- 300+ members
- 3500+ at OCP Summit
- Adds: Open Chiplet Economy, photonics, OCP Experience Centers, FTI
- ~\$27B OCP-recognized equipment revenue



2025

- 450+ members
- 18,500+ est. at all Summits
- ~ \$107B OCP-recognized equipment revenue
- Open Systems for AI strategic initiative growing OCP as the premiere AI infra community

Sample of OCP's Diverse Membership

Cloud



Neocloud / AI



Co-location



System Integrators



DC Equipment



DC Cooling



IT Systems



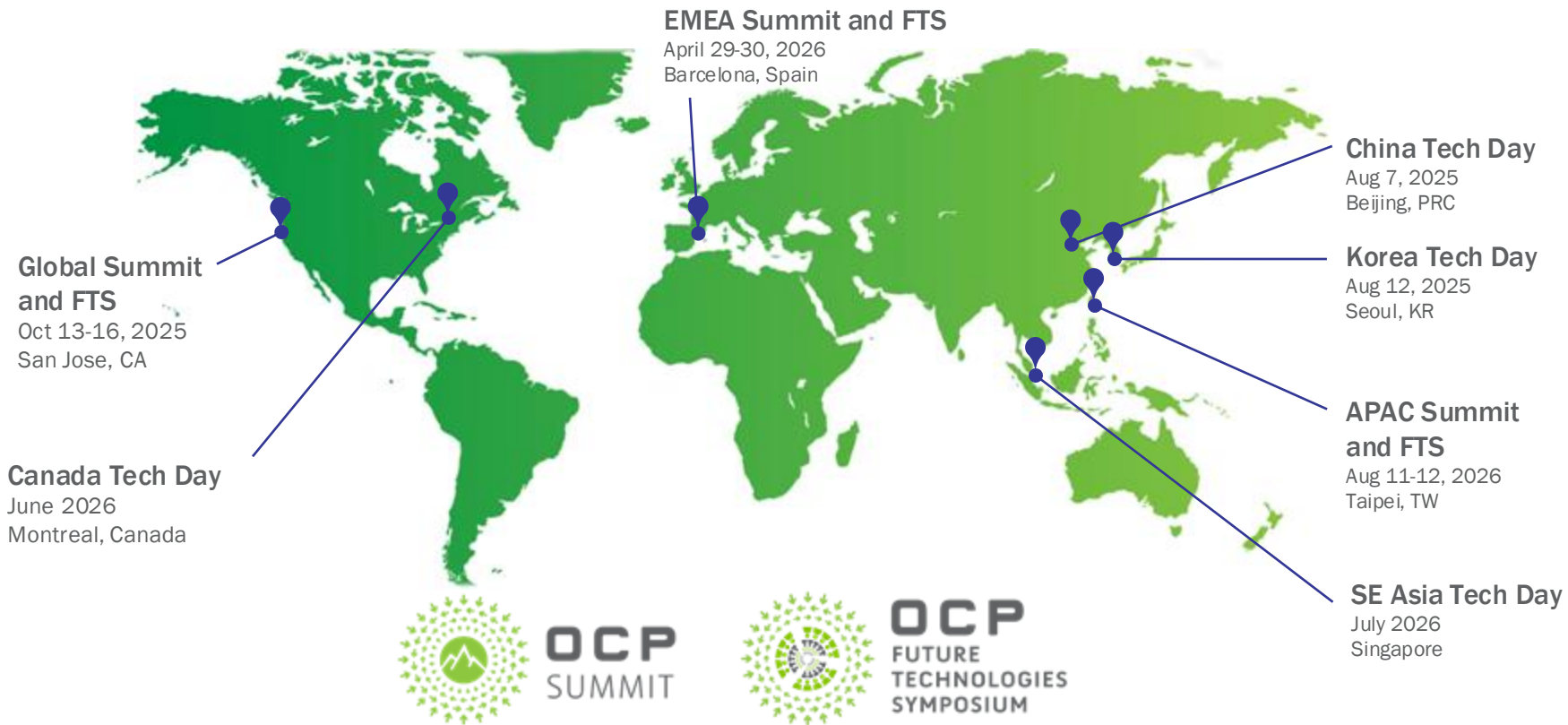
IT Component



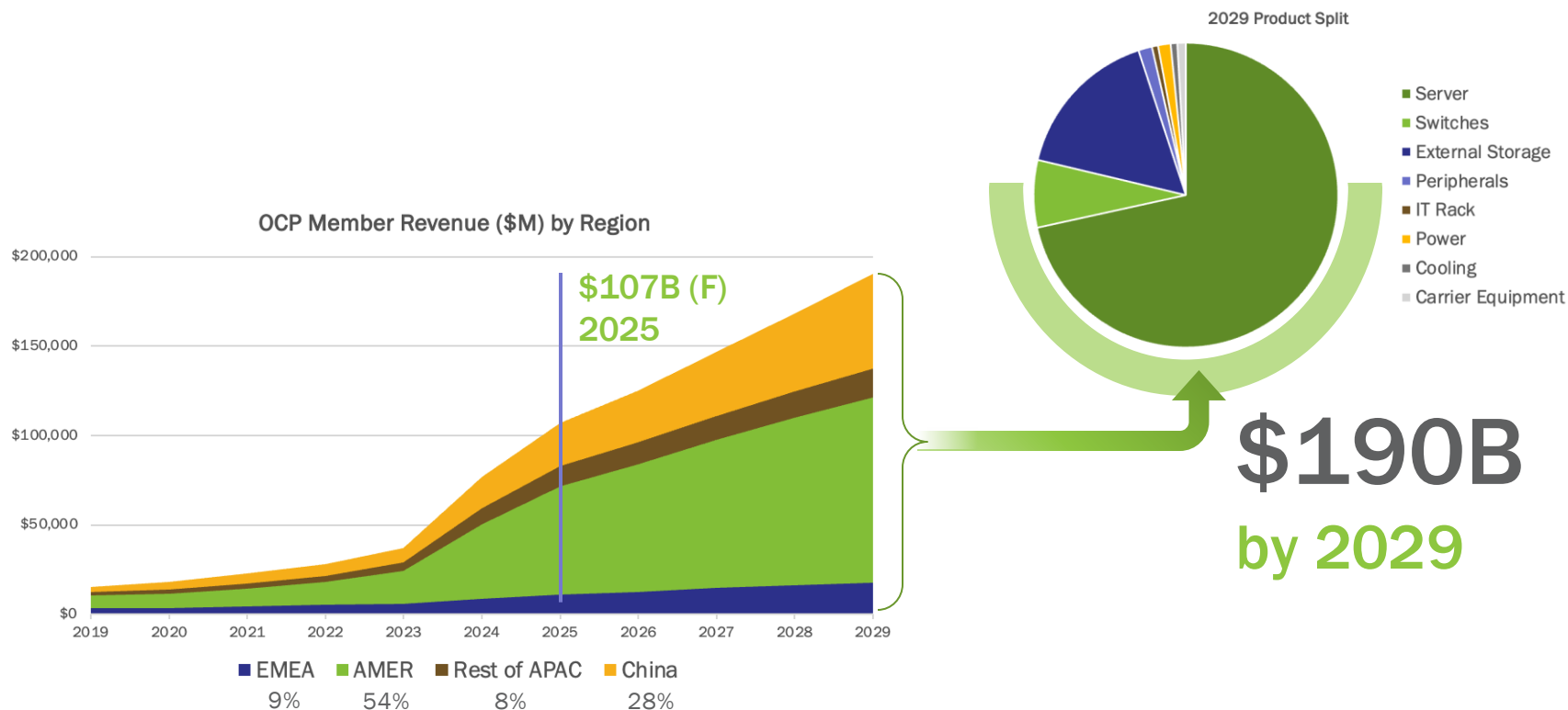
Startups



OCP Major Events

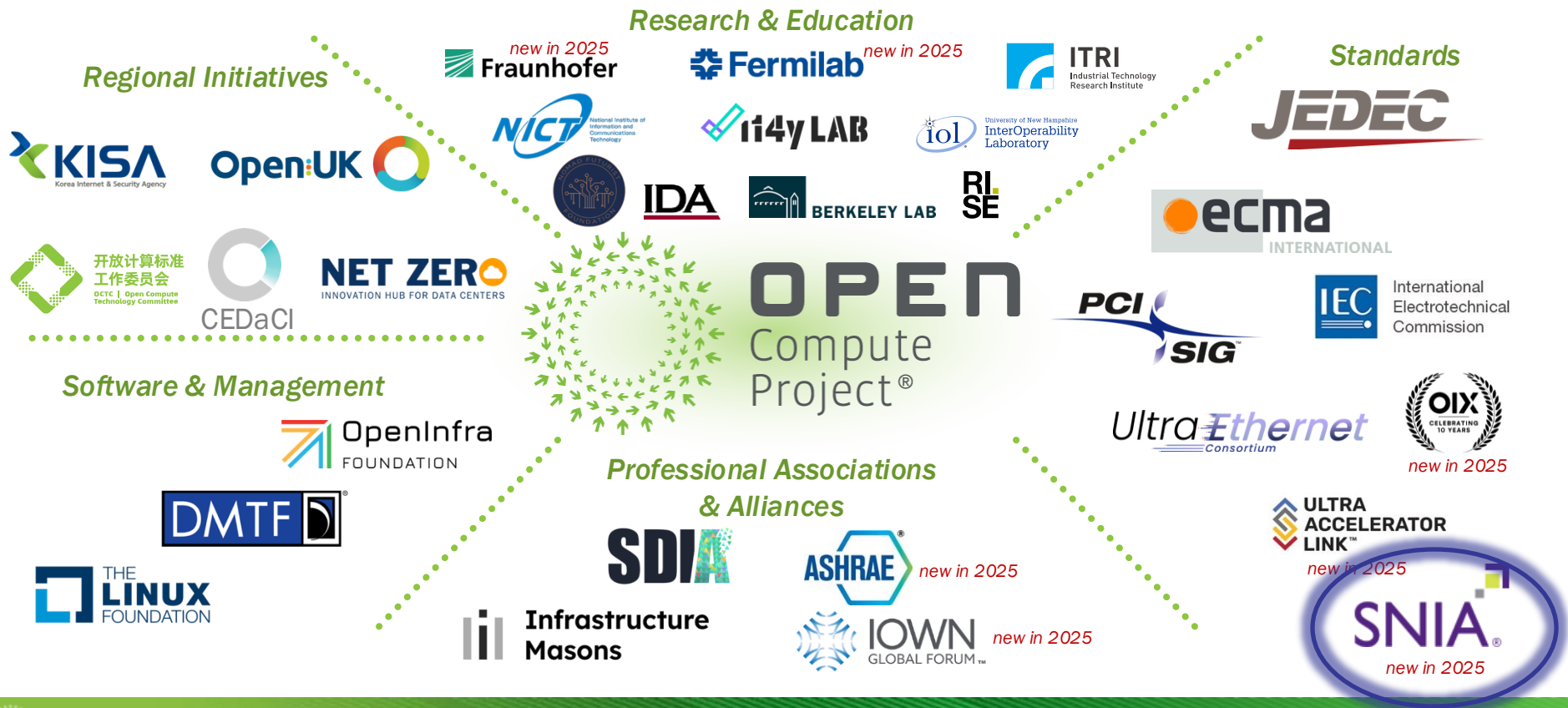


OCP Market Impact by Revenue



* Independent Market Study by IDC

Amplifying OCP Reach Through Alliances





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OCP & SNIA

OCP Points of Alignment with SNIA

- OCP's Storage top-level project
 - Workstreams: Thermal Sim Methodology, NVMe HDD, HDD Dynamics
- OCP Security top-level project
 - Especially OCP S.A.F.E and OCP L.O.C.K.
- OCP's Composable Memory Systems (CMS) subproject
- OCP's Networking top-level project
- OCP FTI Data-centric Computing (Comp. Storage, PIM, DPUs, etc.)
- Other areas of interest may include:
 - Hardware Management (e.g. Redfish/Swordfish profiles and SNIA Mgmt TWG)
 - Cooling and Sustainability (e.g. SNIA Green Storage TWG)
 - Open Systems for AI and Open Cluster Designs for AI (e.g. SNIA Storage.AI)

Recent Storage Contributions

+ Annual OCP Storage Tech Talk Days and OCP Summit Breakouts

2023

NVMe HDD rev 1.0

Microsoft, Seagate, WD

Datacenter SAS-SATA Device rev 1.0

HPE, Meta, Microsoft

Datacenter NVMe SSD rev 2.5

Dell, Google, HPE, Meta, Microsoft

NVMe Telemetry Scripts

Samsung

SSD Test Framework/Cases

Meta, Google

PCIe Gen5 EDSFF NVMe SSD Reference Designs

ScaleFlux

2024

Datacenter NVMe SSD rev 2.6

Dell, Google, HPE, Meta, Microsoft

L.O.C.K. rev 0.5

Google, Kioxia, Microsoft, Samsung, Solidigm

HDD Dynamics Common Language and Tools Phase 2

Dell, IEIT, Lenovo, Seagate, WD, ZT Systems

HDD Dynamics Combined Acoustic & Vibration Surrogate

Dell, IEIT, Lenovo, Seagate, WD, ZT Systems

2025

Datacenter SAS-SATA Device rev 1.5

Dell, HPE, Meta, Microsoft

Datacenter NVMe SSD rev 2.7

Dell, Google, HPE, Meta, Microsoft

L.O.C.K. rev 0.8.1 (1.0 soon)

Google, Kioxia, Microsoft, Samsung, Solidigm

Points of collaboration with SNIA Storage Data Placement/Solid State/IOTTA/Management TWGs

OCP S.A.F.E and L.O.C.K.

OCP
L.O.C.K.

Layered Open-source Cryptographic Key management

- Scoped specifically to storage devices
- Provides key management services to the drive and host
- An open implementation at CHIPS Alliance, coupled with new storage APIs defined by TCG (Trusted Computing Group)
- Addresses:
 1. encryption implementation quality
 2. data authorization access
 3. auditing of cryptographic purge



OCP
S.A.F.E.

Security Appraisal Framework & Enablement

- Reduce overhead/redundancy of firmware security audits
- Centralized framework to ensure conformance and reliability for device consumers
- Badge and marketplace of conformance assurance to device consumers



Point of collaboration with SNIA Security TWG

SNIA Storage.AI and OCP Open Systems for AI

Possible collaborations on solving data-centric challenges in AI clusters:

- Share developments between the two communities such as at events or through OCP mailing lists and calls
- OCP specs are refined and hardened as SNIA standards
- OCP Product/component specs incorporate SNIA standards
 - Can also be listed on the OCP Marketplace

Open Systems for AI

Open Systems for AI – an umbrella OCP Strategic Initiative

WORK AREAS

Systems Management

DC IT Infrastructure

DC Physical Infrastructure

+ OCP Future
Technologies Initiative

COMMUNITY WORK

Execution in
OCP Project workstreams

Contributions in OCP database

ADOPTION & ECONOMY

OCP Marketplace:
AI, chiplets, products, solutions,
OCP Ready facilities,
OCP Experience Centers for AI

opencompute.org/ai

Open Systems for AI in 2025

Expanded Reach and Impact in 2025

CONTRIBUTIONS

Whitepaper and training

GB200NVL72 & Catalina Racks



Mt. Diablo



Google Deschutes CDU



Scale-up Ethernet

COMMUNITY WORK

Hosting many workshops
across the
3 main work areas

100+ AI sessions at
OCP Summits and Tech Days

ALLIANCES & EVENTS

UltraEthernet
Consortium

UALink and SNIA new alliances in 2025



Key 3rd-party event participation



Get Involved!

Join

- Project Mailing Lists
- Project Calls
- Open Systems for AI Initiative

Drive

- Project Focus
- Thought Leadership

Run

- Projects and Workstreams
- Technical Steering Committee

Contribute

- Effort
- Specifications
- Products and Facilities

Attend

- OCP Summits
- OCP Panels
- Engineering Workshops
- OCP Webinars
- 3rd Party Events



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THANK YOU

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