Advanced Compute Platforms

ANMD-MRS24-235 · Quantum & Advanced Computing

A Global Sustainability Due Diligence & Market Research Study

History 2020–2024 · Base Year 2025 · Forecast 2025–2032 · Outlooks 2035 / 2040 / 2050 · Currency US$

WHY THIS REPORT

Advanced compute platforms deliver AI supercomputing, cloud HPC and composable infrastructure as a service — the cloud and neocloud layer that turns scarce accelerators into on-demand capacity for AI/ML training, scientific simulation and data analytics. As sustainability becomes a buying criterion, renewable-powered, liquid-cooled and carbon-aware platforms gain share. This decision-grade study sizes the global market three ways — value, platform seats/capacity and compute hours — across segmentation, seven regions and four scenarios to 2032, with outlooks to 2050.

SUSTAINABILITY & SDG IMPACT — THE ANMD LENS

The sustainability case is the report's backbone. Advanced compute is among the fastest-growing sources of data-centre energy and water demand, which renewable siting, liquid cooling, heat reuse and carbon-aware scheduling can materially reduce. The analysis applies double materiality, maps outcomes to GRI, SASB, ISSB, TCFD, TNFD, CSRD and the EU Taxonomy, and Grid impact, water use, embodied carbon and energy-equity are treated as material risks — with greenwashing and SDG-washing screens applied throughout.

Mapped Sustainable Development Goals:

SDG 9	SDG 13	SDG 7
Industry & Infrastructure	Climate Action	Affordable & Clean Energy

Measurable sustainability outcomes assessed:

- Elastic, efficient access to accelerated compute
- Lower-barrier AI and research capability
- Higher utilisation and efficiency per workload
- Energy and water use and concentration risk as material risks

Framework alignment: Double materiality mapped to GRI, SASB, ISSB, TCFD, TNFD, CSRD and the EU Taxonomy, with greenwashing and SDG-washing screens applied throughout.

WHAT'S INSIDE AT A GLANCE

53 Chapters	**9** Report Parts	**7** Regions Covered	**40+** Country Markets
2025–32 Forecast Horizon	**4** Forward Scenarios	**25+** Companies Profiled	**3** SDGs Mapped

REPORT COVERAGE

Geographic scope: North America, Europe, Asia Pacific, Latin America, Africa, Middle East and Rest of World — with named country intelligence. North America leads hyperscale and GPU-cloud platforms; Europe drives sovereign-cloud demand; Asia Pacific scales capacity; other regions on their own merits.

MARKET OVERVIEW

From owned infrastructure to elastic, accelerator-rich compute platforms.

Advanced compute platforms are the commercial front-end of the AI compute boom. Demand is driven by generative-AI training, enterprise inference, scientific workloads and the rise of specialised “neocloud” providers. The market is read three ways — value, platform seats/capacity and compute hours — and forecast under four scenarios (conservative, base, accelerated and disruption), each region reported separately.

- **North America leads capacity** — anchored by the United States, where AWS, Microsoft Azure, Google Cloud, CoreWeave, Lambda and Crusoe concentrate AI-compute supply.
- **Europe pursues sovereign cloud** — with the Netherlands and Germany advancing Nebius and Northern Data under digital-sovereignty and green-energy mandates.
- **Asia Pacific scales regional clouds** — as India and Singapore combine Yotta, E2E Networks and Sustainable Metal Cloud with fast-growing demand.
- **Platform type and sustainability profile segment the value** — across cloud HPC, AI supercomputing and composable infrastructure, and renewable-powered, liquid-cooled and carbon-aware tiers.

REGIONAL OUTLOOK

Across seven reporting regions, the report separates commercialisation and supply leaders from high-growth and emerging markets — each profiled in full rather than aggregated into Rest of World.

Region	Stage	Lead Markets & Drivers
Europe	Strong contender	Netherlands, Germany, Iceland — Nebius, Northern Data, Verne Global
North America	Market leader	United States, Canada — AWS, Azure, Google Cloud, CoreWeave, Lambda
Asia Pacific	Scale engine	India, Singapore — Yotta, E2E Networks, Sustainable Metal Cloud
Latin America	Emerging	Brazil, Chile — renewable-powered AI capacity
Africa	Frontier	South Africa, Kenya — emerging cloud capacity, connectivity
Middle East	Frontier	Saudi Arabia, UAE — sovereign-AI cloud, green-energy siting

KEY MARKET DRIVERS & RESTRAINTS

Drivers	Restraints
• Generative-AI training & inference demand • Neocloud & GPU-as-a-service expansion • Enterprise & sovereign-AI adoption • Renewable siting & carbon-aware scheduling • Composable / disaggregated efficiency gains	• Accelerator scarcity & allocation risk • Power-availability & interconnection delays • Price volatility & utilisation risk • Carbon & water scrutiny of AI compute • Concentration & vendor lock-in concerns

SEGMENTATION SNAPSHOT

By Platform Type	Cloud HPC · AI supercomputing · composable / disaggregated
By Sustainability Profile	Renewable-powered · liquid-cooled · carbon-aware · standard
By Application	AI / ML training · scientific simulation · data analytics
By End User	AI labs · enterprises · research · government / sovereign
By Business Model	On-demand · reserved · dedicated / private cloud
By Deployment	Public cloud · neocloud · hybrid / colocation

TABLE OF CONTENTS — PARTS & CHAPTERS

The full report is organised into nine parts across 53 chapters, listed below. Detailed sub-headings, country tables and directories are provided in the full report.

COMPETITIVE & INVESTMENT SNAPSHOT

The competitive field spans hyperscalers, neoclouds and sustainable-infrastructure specialists.

Representative players profiled in the full report:

Amazon Web Services, Inc. (Amazon.com, Inc.) · Microsoft Corporation (Azure) · Google LLC (Alphabet Inc.) · NVIDIA Corporation · CoreWeave, Inc. · and 20+ further profiled players across hyperscale, GPU-cloud and accelerated-compute innovators.

Investment intelligence: venture, infrastructure, development, climate and blended finance, green bonds and sustainability-linked loans — culminating in a bankability assessment and a clear, decision-ready investment verdict.

KEY QUESTIONS THIS REPORT ANSWERS

? How large is the global advanced compute platforms market, and how fast will it grow to 2032?
? Which regions, countries and segments offer the strongest risk-adjusted opportunity?
? How does elastic accelerator access change compute value versus owned infrastructure?
? Who leads, and where is the competitive and patent white space?
? Is the investment case bankable — and under what conditions?
? How does the category align with the SDGs, circular-economy and resource-security and disclosure regulation?

WHY ANMD — THE DIFFERENCE

Most market studies stop at units and revenue. This report is built as a sustainability due diligence instrument — fusing market sizing with ESG, SDG, climate, water and natural-capital intelligence and a decision-ready bankability verdict in a single architecture.

- **Triangulated sizing** — every market read three ways (value, platform seats/capacity and compute hours) so value-led and volume-led views reconcile rather than conflict.
- **Region-honest forecasting** — Latin America, Africa and the Middle East reported in full, never hidden inside Rest of World, every forecast resolved to the 2025 base year.
- **Integrated evidence base** — company, patent and project databases linked to the analysis, with published-filing patents and FTO treated as an indicator, not a legal conclusion.
- **No-fabrication discipline** — every estimate carries a data-confidence rating and disclosed sources; gaps are flagged for further diligence, never filled with invented numbers.
- **Anti-greenwashing rigour** — SDG-washing and greenwashing screens plus claim-substantiation checks built into the ESG and project analysis.
- **Decision-first structure** — 9 Parts and 53 Chapters culminating in stakeholder playbooks and a clear, decision-ready investment verdict.

WHO SHOULD BUY THIS REPORT

Investors and infrastructure / PE funds, hyperscalers and cloud providers, AI and research enterprises, OEMs and integrators, regulators and lenders, and strategic corporate planners and decision-makers.

Access the Full Report

The complete report delivers all 53 chapters in full, with every sub-heading, country table, company and patent directory, forecast model and due diligence checklist.

Purchase at **www.anewmarketdynamics.com** · Standard & Premium licences · Single-Site (SSL) and Global-Site (GSL) options at checkout.

Want the Complete Detailed Table of Contents?

This prospectus lists the nine parts and 53 chapters. The complete detailed table of contents — every sub-heading, country table, exhibit, company and patent directory and annex — is available on request to registered users. To receive it, register with your official company email at **www.anewmarketdynamics.com**. The full detailed table of contents will be sent directly to your registered company email address.