



# A POWERFUL NEW PERFORMANCE STANDARD FOR AI & HPC APPLICATIONS

Oil and gas companies know the right technology delivers smarter ways to discover and produce.

As problems and opportunities get bigger and more complex, oil and gas applications require heavy-duty compute capable of regularly handling multi-TB files and massive calculation demands. They need exascale-level compute acceleration delivered with rack-scale simplicity.

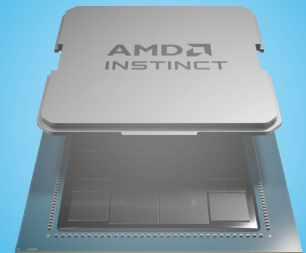
Over **529K** patents in oil and gas technology have been filed in just the **last three years**<sup>1</sup>

AI-driven exploration analysis beats traditional methods for accuracy by **10x**<sup>2</sup>

**92%** of oil and gas companies worldwide are investing in AI or planning to do so within the next 5 years<sup>3</sup>



Supermicro with AMD Instinct™ MI300A provides a **new standard in HPC and AI compute performance, flexibility, and efficiency** that keeps these workloads moving forward.

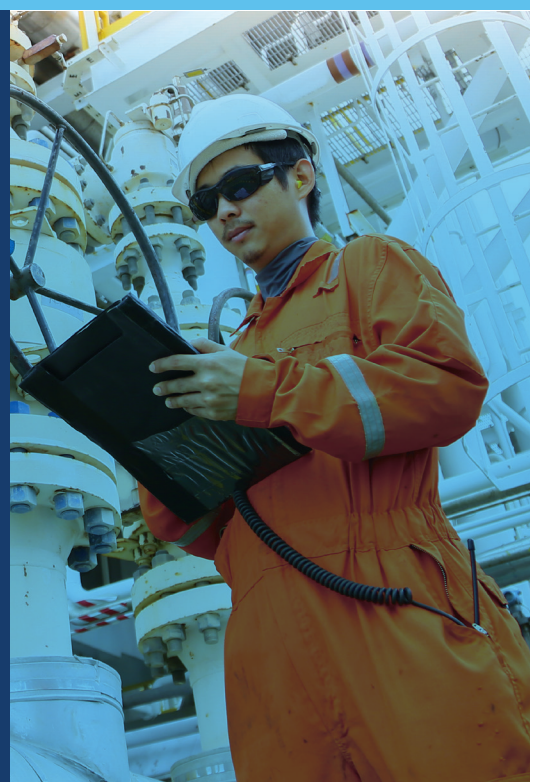


## NEXT-GENERATION PROBLEM SOLVING

Supermicro with AMD Instinct™ MI300A delivers breakthrough performance and acceleration versus last generation.

**Up to 2.6x** the HPC workload performance per watt using FP32 (vs. MI250X model.)<sup>4</sup>

**Up to 5.1x** the AI training workload performance using INT8 (vs. MI250X model)<sup>5</sup>



Supermicro servers with AMD Instinct™ MI300A deliver massive compute and solution choice as well as breakthrough power efficiency.



## PERFORMANCE

**Powerful CPU + GPU** + HBM3 memory accelerates HPC and AI workloads

Unmatched memory capacity with up to **128HBM3 dedicated to GPUs**<sup>6</sup>

Complete solutions ship pre-validated, ready for **day one deployment**—at rack scale

**Double-precision power** can serve up to 122.6 TFLOPS (FP64 HPC performance)<sup>6</sup>



## FLEXIBILITY

**Solution available in both 2U and 4U** form factors (air-cooled and liquid-cooled, respectively)

**Open AI ecosystem with AMD ROCm™** open software and a foundation of heterogeneous portability

**Unified computing platform** with AMD Instinct™ MI300A plus AMD Infinity fabric and infrastructure

**Modular design and build** means faster path to the exact right configuration



## EFFICIENCY

**Industry-leading air- and liquid-cooled innovation** improve power efficiency by up to 40%<sup>7</sup>

**Improved density with 3rd Gen AMD CDNA**, delivering 14,592 stream cores

**Chip-level power intelligence** enables Instinct™ MI300A to deliver outstanding power performance

**Purpose-built silicon design** of the 3rd Gen AMD CDNA combines ultra-efficient 5nm and 6nm fabrication processes

## ARE YOU READY TO POWER YOUR OIL AND GAS DISCOVERIES AT EXASCALE?

For more information:



### SOURCES:

- <sup>1</sup> International Energy Agency, Energy Technology Patent Explorer, 8/14/24 <https://www.iea.org/data-and-statistics/data-tools/energy-technology-patents-data-explorer>
- <sup>2</sup> BP, BP Invests in New Artificial Technology, 1/28/19 <https://www.bp.com/en/global/corporate/news-and-insights/press-releases/bp-invests-in-new-artificial-intelligence-technology.html>
- <sup>3</sup> Journal of Petroleum Technology, AI Drives Transformation of Oil and Gas Operations, 5/1/23, <https://jpt.spe.org/ai-drives-transformation-of-oil-and-gas-operations>
- <sup>4</sup> <https://www.amd.com/en/products/accelerators/instinct/mi300.html>
- <sup>5</sup> <https://www.amd.com/content/dam/amd/en/documents/instinct-tech-docs/data-sheets/amd-instinct-mi300a-data-sheet.pdf>
- <sup>6</sup> <https://www.amd.com/en/legal/claims/instinct.html>
- <sup>7</sup> <https://www.amd.com/content/dam/amd/en/documents/instinct-tech-docs/data-sheets/amd-instinct-mi300a-data-sheet.pdf>

