

# Fujitsu Arm-based Processor FUJITSU-MONAKA

ISC High Performance 2025

Vendor Showdown

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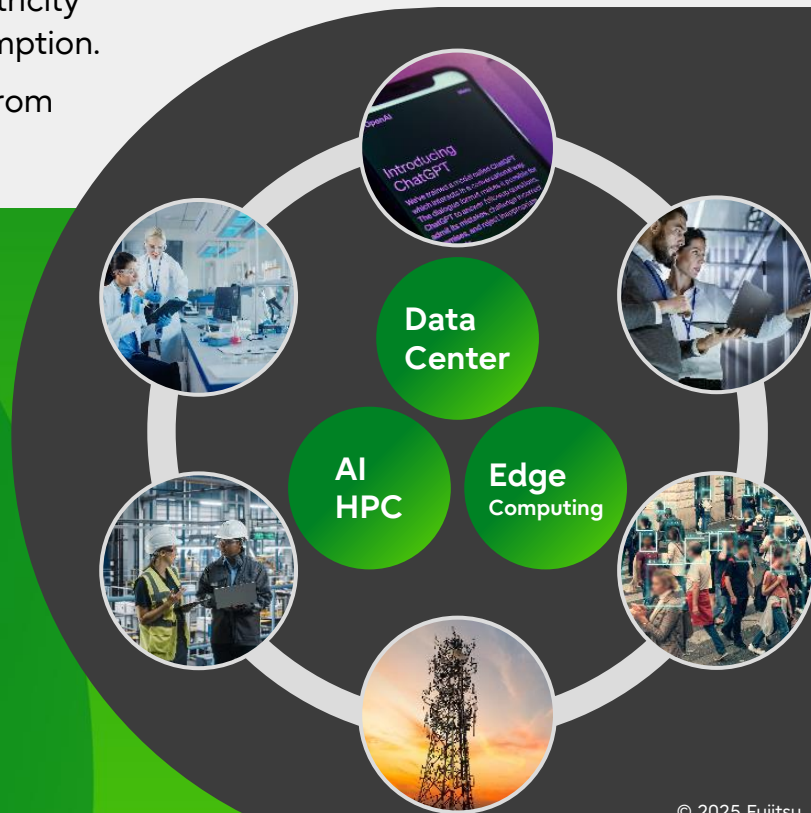
# Energy-efficient Processing for the AI Era

By 2030, data centers are projected to consume 9% of global electricity generation, with servers accounting for 60% of that energy consumption.

The expansion of AI is driving this demand, impacting everything from operational expenses to global sustainability efforts.

Fujitsu, leveraging its extensive history of processor development, has consistently addressed these challenges as demonstrated by the world-leading supercomputer “Fugaku.”

Building on this proven track record, we are developing “FUJITSU-MONAKA,” a new Arm-based processor designed for a wide range of HPC and AI applications from data centers to edge computing



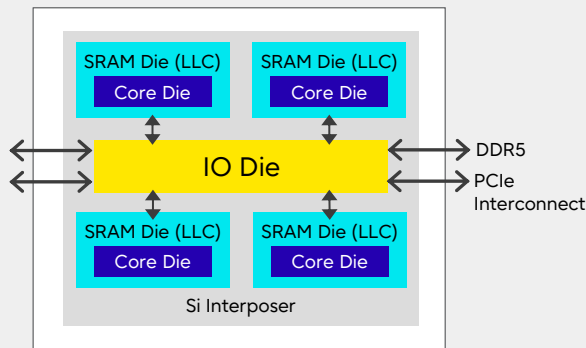
# FUJITSU-MONAKA



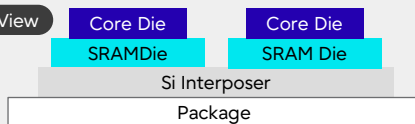
- CPUs and servers with a comprehensive software ecosystem, leveraging Fujitsu's HPC expertise
- Generally available in 2027 through Fujitsu and partners

## CPU: FUJITSU-MONAKA

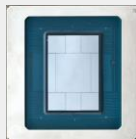
Top View



Side View



Armv9-A Architecture  
- SVE2 for AI and HPC  
- Confidential Computing  
144 cores x 2 sockets  
(288 cores per node)  
Ultra low voltage for energy-efficiency  
3D chiplet  
- Core die: 2nm  
- SRAM die/IO die: 5nm  
DDR5 12 channels  
PCI Express 6.0 (CXL3.0)  
Air cooling / Water cooling



## Air cooled server

Air Cooling  
Easy Deployment  
High Expandability  
Arm SystemReady SR  
InfiniBand/Ethernet



These images are for illustrative purpose only.

## Water cooled server

Water Cooling  
High Performance  
High Density  
Arm SystemReady SR  
InfiniBand/Ethernet



## Software and tools

OS/Distributions: RHEL, SLES, Ubuntu...  
Middleware: Slurm, Lustre, OpenMPI, LLVM, AI Frameworks...  
Development Tools: Compilers, Libraries, Profilers...  
Operations Management: Configuration, Monitoring, RAS...

# Fujitsu Computing Direction



- FUJITSU-MONAKA promises to improve AI and HPC performance and energy efficiency across data centers and the edge
- Looking beyond FUJITSU-MONAKA, Fujitsu is committed to a long-term roadmap that accelerates advancements in HPC and AI, contributing to a sustainable future



## FUJITSU-MONAKA

HPC x AI across data center and edge

## Next-Generation CPU

Feasibility Studies on Next-Generation Supercomputing Infrastructures

arm

linaro™

UXL  
Unified Acceleration Foundation



AMD

**Thank you**

