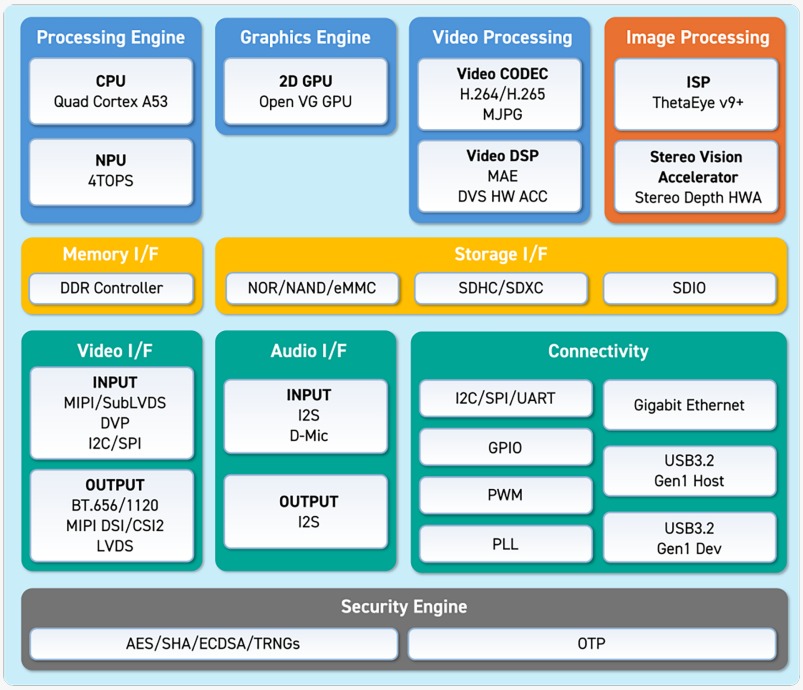
DMP Unveils Next-Gen Edge AI SoC 'Di1' with Advanced AI Inference & Real-Time 3D Ranging Engine at Computex Taipei 2025

TOKYO, SHIBUYA-KU, JAPAN, May 21, 2025 /EINPresswire.com/ -- - Global Debut at Computex Taipei 2025 -

Digital Media Professionals Inc. (DMP) (Head Office: Nakano-ku, Tokyo; Chairman, President & CEO: Tatsuo Yamamoto; hereinafter "DMP") today announced the "Di1," a next-generation Edge AI System on Chip (SoC) featuring advanced functional integration. The Di1 will initially be available in Japan and Taiwan, with a phased global rollout planned. The Di1 is also scheduled to be exhibited at Computex Taipei 2025, starting May 20, 2025.



Di1 Block Diagram

The Di1 integrates DMP's proprietary high-performance AI inference engine (ViT/FP4 support), a hardware-based high-precision real-time 3D ranging engine (Stereo Vision), and a high-performance Image Signal Processor (ISP) from iCatch Technology Inc. (Head Office: Hsinchu City; hereinafter "iCatch"), a leading Taiwanese imaging technology company, all on a single chip. This makes the Di1 a next-generation Edge AI SoC with functions and performance that surpass competing products, especially in advanced image AI applications.

The Di1 is the world's first Edge AI SoC to implement FP4 (4-bit precision ultra-lightweight inference model), enabling efficient execution of cutting-edge AI models. (Note: Based on DMP research).

In recent years, AI technology has evolved remarkably, with cloud AI model learning, particularly centered on NVIDIA GPUs, accelerating. However, "Edge AI," which uses trained models for inference on real-world devices, has faced significant challenges in terms of power consumption,

cost, processing speed, and advanced functional integration.

As a world-leading GPU vendor, DMP has leveraged its cultivated advanced algorithms, software, and hardware technologies, along with its track record and expertise as a fabless SoC vendor, with its corporate purpose of "Making the Image Intelligent" to develop the Di1 to solve these challenges in the growing Edge AI market.

The Di1 consolidates DMP's proprietary 4TOPS NPU (ViT/FP4 support) for low-power, high-efficiency inference of the latest AI models (such as Transformers), DMP's unique high-precision real-time 3D ranging engine, and industry-leading 4K HDR video processing capabilities through iCatch's high-performance ISP, all onto a single chip. This enables dramatic system cost reduction, miniaturization, lower power consumption, and shorter development times for Edge AI devices.

Notably, the Di1's pioneering FP4 support and DMP-provided tools allow for the efficient execution of the latest large-scale AI models, trained on GPUs like NVIDIA Blackwell™, on power and cost-constrained edge devices. This is expected to solidify Di1's position in the rapidly expanding inference market.

Di1 Key Features

AI NPU (ViT/FP4 support)
Real-time 3D Ranging HW

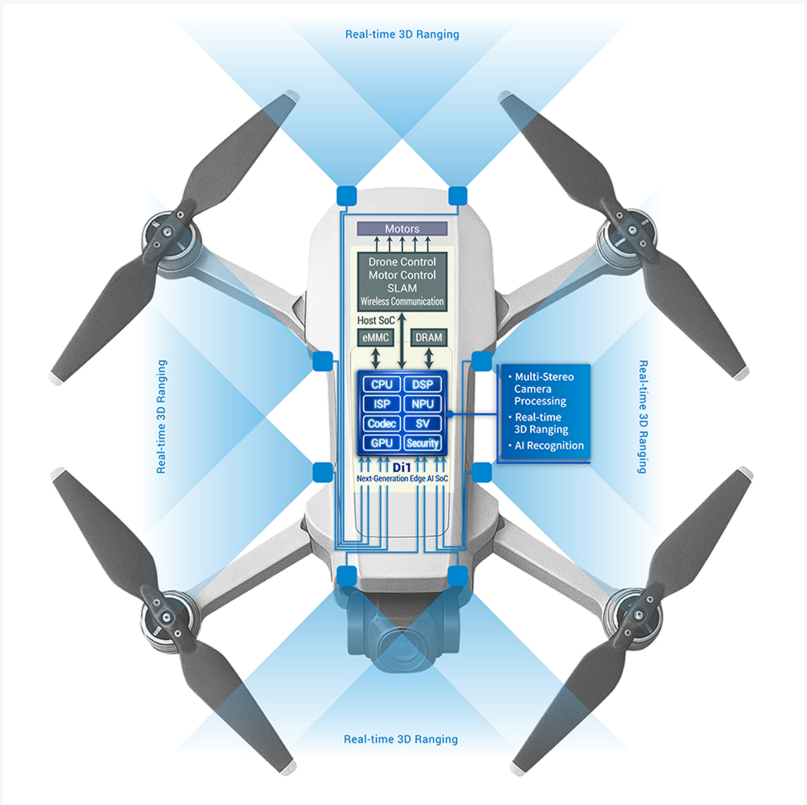


Image: Example of Drone Application

Di1_Logo

4K HDR compatible ISP
H.264/265 Codec
8CH Camera Input
CPU Arm Cortex-A53 Quad Core
GPU 2D Vector Graphics
Security: AES/SHA, etc.
GbE, USB3.2, and various other I/Fs

Di1 Advantages
Integrates advanced functional blocks, previously only available in high-priced SoCs, onto a single chip, enabling challenging Edge AI use cases that were unfeasible due to cost or power limitations.
The combination of real-time 3D ranging, high-quality ISP, and high-performance AI enables advanced visual recognition and AI processing in 3D space, as required by drones and robotics.
Achieves high speed and low power consumption through the implementation of various dedicated HW accelerators, Vision Transformer (ViT), FP4, etc., enabling single-chip system configurations. This leads to system cost reduction and extended operation for battery-powered devices.
Flexible system configuration for diverse product development is possible with up to 8CH camera input, networking, and abundant I/O interfaces.
Robust and secure network construction is possible with high-functionality security hardware implementation.
Enables HMI construction on a single chip by implementing 2D vector graphics hardware.

Target Applications
With its high functional integration, high-quality image processing, and model/data processing efficiency, the Di1 is ideal for a wide range of Edge AI applications, including:

Security Cameras: Drastically improves crime prevention performance by executing AI-based abnormal behavior detection in real-time.
Automotive Equipment (ADAS/DMS): Significantly reduces accident risk through high-quality recording for dashcams, AI-based danger prediction/driver monitoring, and improved ADAS performance with 3D ranging.
High-Performance Drones: Enables safe and long-duration operation through 360° real-time 3D mapping and AI recognition using multi-stereo cameras.
AMR/Robotics: Supports autonomous movement and work assistance with low-cost, high-efficiency 3D AI vision that can replace or supplement LiDAR.
Interactive Terminals: Enables contactless UI through (optional) high-precision 3D gesture recognition for kiosk terminals, and advanced UI/UX with AI and GPU.

Strategic Partnership with iCatch Technology
The Di1 platform reflects the close collaboration between DMP and iCatch, combining DMP's advanced AI and 3D IP technologies with iCatch's proven SoC design expertise and ThetaEye AI

imaging platform. The Di1 has been incorporated into iCatch's V9 product family, supporting a wide range of edge AI applications such as smart security, drones, AMR/robotics, and ADAS.

In Taiwan and other designated regions, iCatch will provide localized sales and technical support through its V9 platform offering.

Tatsuo Yamamoto, President and CEO, DMP, comments, "The Di1 is truly a game-changing SoC that breaks down the barriers of performance, power consumption, and cost that Edge AI faces. By combining DMP's long-cultivated AI and 3D technologies with iCatch's high-performance ISP technology, we have achieved an unprecedented level of integration and efficiency. In particular, the ability to seamlessly and optimally run the latest AI models trained in data centers on the edge, and the technological advancement of being the first Edge AI SoC to support FP4, will bring significant value to our customers' businesses. Through the Di1, we will lead the global intelligent edge market."

Availability
Sample shipments of the Di1 to customers will begin today. Mass production shipments are scheduled to commence in the fourth quarter of fiscal 2025 ending March 2026 for customers in Japan and Taiwan, with a subsequent phased global rollout.

Computex Taipei 2025 Exhibition Information
Venue: Taipei Nangang Exhibition Center, Hall 1
Floor: 4F (Sky Dome Exhibition Hall, 4F)
Booth Number: N1002 (Within the Egis Group, iCatch Technology booth)
Dates: May 20, 2025 – May 23, 2025
Exhibits:
Live demonstration of the Di1 (V9) system

Demonstration of stereo depth applications specifically targeted for drones and robotics.

About Digital Media Professionals Inc. (DMP)
DMP is a research and development-oriented company that provides IP licenses and products such as SoCs and modules that contribute to enhancing customer product competitiveness, centered on its unique core technologies in the GPU and AI fields.

For more information, please visit https://www.dmprof.com/en/

About iCatch Technology Inc.
iCatch Technology is a fabless semiconductor company specializing in imaging and video technology. It provides high-performance image signal processors (ISPs) and SoC solutions for dashcams, surveillance cameras, drones, smart home devices, and more. For more information, please visit https://www.icatchtek.com/

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